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VIDEO

I M A G E S

Reference Catalog

1988 - 89

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Solutions Through Superior Customer **Service.**"*

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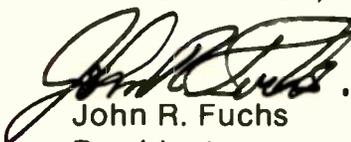
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At Video Images we realize that when you turn to us for professional equipment and services it is the beginning of a partnership; a partnership maintained through performance and value.

This reference catalog is a listing of most major equipment suppliers, many of them represented by Video Images. Please refer to the back cover for a specific listing of the equipment suppliers Video Images represents.

Sincerely,

VIDEO IMAGES, INC.



John R. Fuchs
President

Milwaukee Office
285 North Janacek Rd.
Waukesha, WI 53186
414-785-8998

Madison Office
811 Mayfair Avenue
Madison, WI 53714
608-241-5281

Chicago Office
1121 Tower Lane
Bensenville, IL 60106
312-766-1100

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A42 Video Slide Projector

A compact and reliable digital still store system. With a built-in 5 1/4" Winchester disk drive that provides safe on-line picture storage.

- **Virtual Picture Numbering**

Picture numbering scheme is completely independent of disk storage locations. Pictures are identified by serial numbers ranging from 0 to 9999 regardless of the on-line storage capacity.

- **Backup and Off-Line Storage**

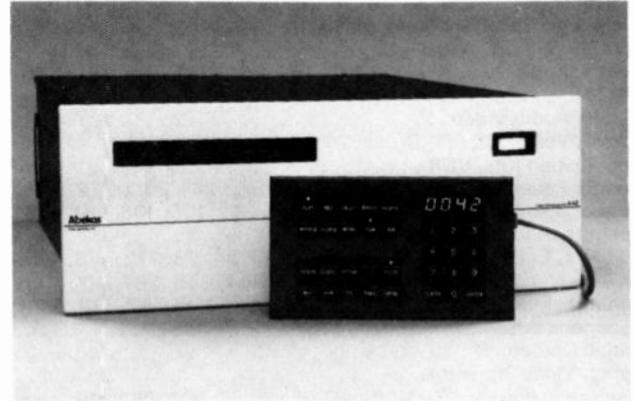
Utilizing a high speed digital streaming tape drive, the A42 stores pictures on a quarter-inch tape cartridge. This facilitates easy transport of pictures from one system to another, or from the studio to the mobile truck. With selective backup, any number of pictures up to 50 frames/100 fields can be transferred to the tape cartridge. Selective restore allows either the entire contents or only selected pictures to be transferred from the cartridge to the disk.

- **Sequence**

Three sequences of 100 pictures each can be created using any of the recorded pictures. A sequence can be edited at any time by inserting, deleting or substituting pictures. A sequence can be temporarily exited to perform other functions.

- **Independent Output Channels**

In the dual channel system, pictures can be recalled to both channels independently. Dissolves or vertical interval cuts can be programmed for on-air transitions between the channels.



A42

- **Graphics Compose**

Optimizes the use of the 2 channels for easy graphics creation. Each layer, or the entire graphic, can be stored on the disk. The A42 makes it possible to recover from mistakes when composing multi-layer graphics.

- **Library System (optional)**

Each still on the A42 can be labeled with a title of more than 60 alphanumeric characters, including an automatic time and date stamp. Flexibility in searching for a picture eliminates the need to set up categories. To group certain pictures together, include a common word anywhere in their titles. For example, if searching with the word '49ers', any picture that includes '49ers' anywhere in its title would be listed on the screen. The library system is compatible with all A42 systems.

A52 Digital Special Effects System

• Picture positioning • Compression to zero • Expansion to 99 times • Variable compression axis • Border of any color and width • Background of any color • Cropping from any or all sides • Full manipulation of cropped pictures • Flips and tumbles • Mosaics • Multi-freeze • Variable aspect ratio • Solarization • Variable duration for each keyframe • Variable time for entire effect • Programmable break or pause • Soft edge key signal • Contact closures for remote operation • A/B video switching

- **Transparent Picture Quality**

The incoming composite signal is digitized to eliminate the analog decoding problems such as drift and complex adjustments. Digitally decoded into 4:2:2 components, it is then processed to ensure signal transparency and long-term stability.

- **The A52 Control System**

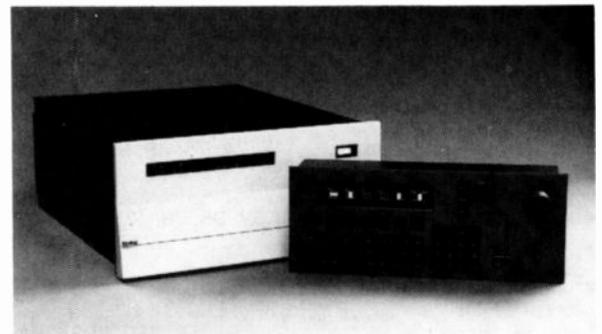
By providing instantaneous access to a large number of effects, it makes on-air operation simple. Precise control over all parameters is provided to satisfy the most demanding requirements.

- **The A52CP (Control Panel)**

The control panel consists of a high-resolution graphics display, a professional 3-axis joystick, numeric keypad, optically encoded fader bar, dedicated keys, the DataKey, and 6 variable "soft keys".

- **Mini Control Panel**

The A52MP mini control panel retains the majority of the A52CP functions. It also consists of a 3-axis joystick, display and the DataKey. Operation of the A52MP is similar to the A52CP, allowing them to be used interchangeably.



A52

- **On-Air Operation**

The A52 provides the user with 36 on-line effects. Twelve frequently used effects are pre-programmed and presented in picture form on the graphics display. These include flips, tumbles and a variety of compressions. The user can modify the pre-programmed effects to meet specific needs. The remaining 24 locations can accommodate simple to complex effects created by the user. The 12 pre-programmed and 18 user-programmable effects are stored in non-volatile memory.

- **External Control**

RS232 and RS422 serial ports are standard. Through these ports, all of the functions of the control panel can be emulated by a computer. For interface to switchers and editors, four contact closure inputs are provided.

- **Digital Interface**

The A52 provides composite digital input and output ports. These digital ports make it possible to interface the A52 to the Abekas A42 digital still store system.

A53-D Digital Special Effects System

The A53-D is a three-dimensional digital special effects system. Benefiting from state-of-the-art architecture, the A53-D performs rotation, translation, perspective and scaling transforms on the incoming video source, thus providing maximum flexibility in three-dimensional manipulation of images.

Signal Processing

The A53-D's outstanding picture quality and extremely smooth motion are the direct result of advanced digital signal processing. The incoming composite video signal processing. The incoming composite video signal is immediately digitized to eliminate the usual analog decoding problems such as drift and complex adjustments. The signal is digitally decoded into 4:2:2 components and processed to ensure long-term stability. Special emphasis has been put on key signal and picture boundary processing in order to completely eliminate jagged edges on keyed pictures.

The Control System

The control panel is simple and uncluttered. A powerful programming tool, the high-resolution menu display and its associated soft-keys are the heart of the control panel. The professional 3-axis joystick provides the tool for freehand-style creativity and the numeric keypad is used to enter exact values for the parameters — for instance, to choose the hue, saturation and luminance of a background color. The fader bar manually runs effects forward or reverse with its position directly corresponding to a given point on the time-line of the effect. This enables precise control when rehearsing any part of the effect. Complementing the control panel is a 3 1/2" floppy disk drive for off-line storage, mounted within the reach of the operator. Each micro floppy disk stores 200 effects, all of which can be 16 keyframes long.

Creating Effects

Effects on the A53-D are made up of keyframes, ranging from 2 to 16 in length. A keyframe is simply a set of parameters, defined by the operator, at a given point in an effect. The system then interpolates the intermediate values allowing the effect to run smoothly and continuously. These parameters could be size, position, border width, background color, perspective or rotation of the picture, etc. To edit an effect, the operator can step through it in forward or reverse direction. Parameters can be modified on one, all, or a group of keyframes saving time. Individual or groups of keyframes can be inserted, deleted, or moved from one part of the effect to another. Complete effects can be copied from one effect location to another or to the workspace.

Post-Production Operation

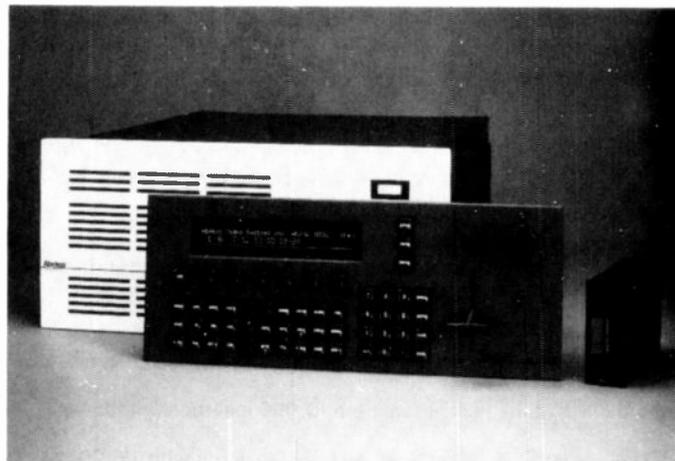
The A53-D is ideal for post-production, each parameter can be programmed with utmost accuracy. Numeric keypad entries allow the exact duplication of parameters making it simple to reconstruct an effect. Matched frame editing can be performed not only at keyframe boundaries, but also at every point between keyframes.

Live Operation

The A53-D provides the broadcaster with 24 on-line effects, each of which can be accessed at a stroke of a key. In addition, a repertoire of off-line effects can be quickly recalled from the disk. The 24 on-line effects are user-programmable and stored in non-volatile memory, protected from power down.

The Mini Control Panel

Ideal for space limited applications, the A53-D Mini Panel retains the majority of the A53-D standard control panel functions. The Mini Panel consists of a 3-axis joystick, a menu display and function keys. Provides 20 on-line effects, each 16 keyframes long. A micro floppy disk drive is provided for off-line effect storage. Operation of the Mini Panel is similar to the A53-D standard panel, allowing them to be used interchangeably.



A53-D

A53-D Create Effects

- True 3-D perspective • 3-D location • Rotation about H, V, Z axes
- Variable rotation axes • Global locate, rotate, axis • Expansion, compression • Variable inside or outside border • Background of any color
- Field and frame freeze • Full manipulation of frozen pictures
- Variable aspect ratio • Strobe • Cropping from any and all sides • Full manipulation of cropped pictures • Solarization/Posterization
- Variable effect time • Programmable pause • Contact closures for remote operations • Built-in A/B video switching • Forced monochrome
- Inverted luminance • Multi-pictures live • Switchable fold-over
- Auto-keying of multi-faceted objects • Cube maker • Timing setup from the control panel • Variable motion types

3-D Features

The A53-D is designed as a true 3-dimensional effects system. The operator can perform simultaneous 3-axis rotations and translations with variable perspective on the input picture. The picture can be reduced or expanded in size and moved to any location in the 3-D space. The system adds the appropriate perspective to the picture, but the operator can add any amount of perspective desired. Rotations can be performed about the picture axes or the H, V, Z axes of the 3-D space. The picture can rotate about its own center or any specified center. With a combination of 3-D controls on the A53-D, any imaginable 3-dimensional move can be applied to the plane of the input picture.

Motion Types

Every effect in the A53-D system can be programmed to have a linear and smooth motion. Manipulating the trajectory can result in an accelerating and decelerating linear motion. This feature can be programmed for any of the H, V, Z axes on a keyframe-by-keyframe basis. Further, the path of a given trajectory can be altered by varying the tension values to obtain a variety of curved paths for the same effect.

Pro-Patch Video Jackfield

PPV-24 MK II

The Pro-Patch Video Jackfield features a 2 x 24 array of ADC switching (self-normalizing) coax jacks wired back to quick and simple BNC connectors on a clutter-free rear panel. Self-normalizing loops internal to the jackfield are color-phase compensated for cross patching. No phase shift occurs between self-normal and patch cord providing a phase coherent patching system.

4-26792-0010 2 x 24 (48 Jacks) \$1750.00

Note: Use only 3' patch cord to preserve phase coherent capability of ADC Pro-Patch Video Jackfield.

Note: Use only 36" patch cords for Pro-Patch units.

Note: When ordering, G denotes gold plating on all contact surfaces, N denotes gold plating on the center conductors/springs only.

PPI Panels

- You can select the SJ3000 in terminating, non-terminating, nickel or gold versions
- The SJ3000 coax jack is rated for 10,000 insertion/withdrawal cycles
- PPI Panels are available in 1 3/4" and 3 1/2" heights with 12, 20, 24 or 26 circuits for greater installation flexibility
- PPI Panels with various hole and spacing configurations are sold separately or loaded with your choice of jacks

Our innovative PPI Panel with SJ3000 switching (self-normalizing) coax jacks makes accessing and connecting video circuits easy.

The PPI is available in several configurations to suit your particular application need.

PPI-2224RS-75N Loaded Panels \$820.00

PPI-2224RS Blank Panels85.00

Standard Size Coaxial Patch Cords

CC1072G	12" (.305m)	. . . . . \$18.09
CC1072N	12" (.305m)	. . . . . 13.72
CC1074G	24" (.609m)	. . . . . 18.09
CC1074N	24" (.609m)	. . . . . 13.72
CC1076G	36" (.914m)	. . . . . 18.09
CC1076N	36" (.914m)	. . . . . 13.72

Pro Patch Audio Jackfields

PPA3-14 MK II N.O. 3" x 14", normals brought out \$705.00

PPA3-18 MK II N.O. 3" x 18", normals brought out 705.00

PPA3-14 MK II N.S. 3" x 14", normals strapped at panel . . . 575.00

PPA3-18 MK II N.S. 3" x 18", normals strapped at panel . . . 575.00

PSP3-14 MK II N.O. 3" x 14", stereo version, normals brought out 725.00

PSP3-18 MK II N.O. 3" x 18" stereo version, normals brought out 725.00

PSP3-14 MK II N.S. 3" x 14" stereo version, normals strapped at panel 595.00

PSP3-18 MK II N.S. 3" x 18" stereo version, normals strapped at panel 595.00

Longframe (1/4") Patch Cords

PJ81 1' length \$12.97

PJ82 2' length 13.66

PJ83 3' length 14.14

PJ84 4' length 14.69

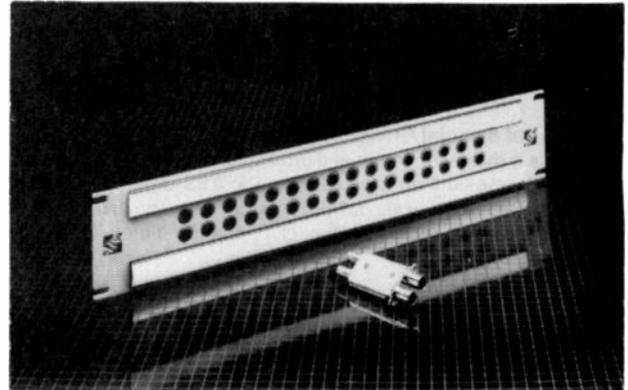
PJ86 6' length 15.76

Bantam Patch Cords

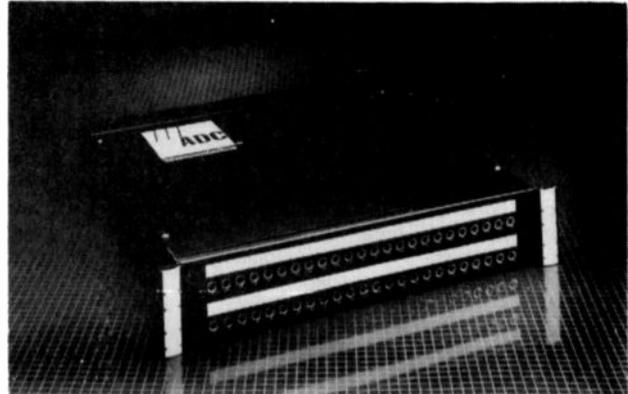
PJ712 12" length \$7.61

PJ713 18" length 7.78

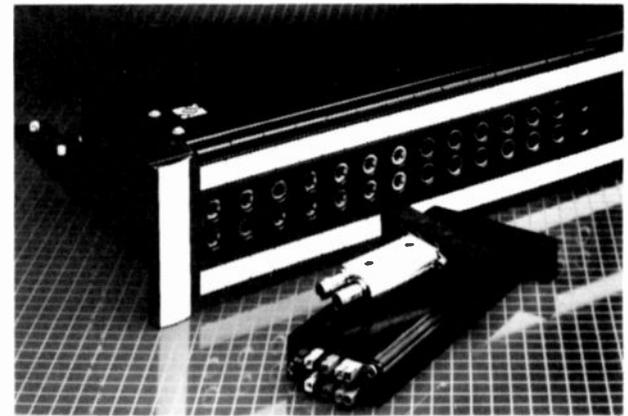
PJ714 24" length 7.96



PPI Panels



Pro Patch Audio



Vamp Patchbay

PJ715	30" length	\$8.11
PJ716	30" length	8.26
PJ718	48" length	8.56
PJ720	60" length	8.89
PJ722	72" length	9.19

VAMP— Video, Audio Modular Patchbay

- Chassis accepts 20 video and audio modules
- Audio module features unique QCP terminations
- Video module comes with the ADC SJ3000 self-normalizing coax jack
- ADC supplies blanks for unused positions to give the appearance of a fully loaded patchbay

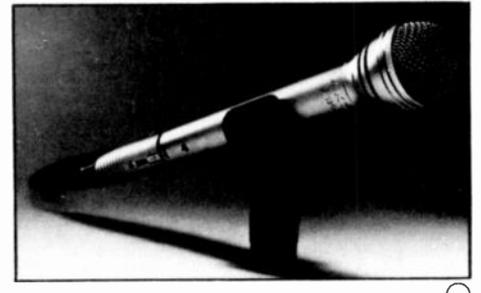
Offers all the flexibility you need in a single bay. Ideal if you have limited or changing patching requirements or need audio and video patching in the same bay.



D-12E Microphone
Large-diaphragm cardioid dynamic microphone with high proximity effect. For miking bass drums and other low-pitched instruments, as well as for general vocal applications. Features shock suspended transducer and fixed wire-mesh windscreen. Integral XLR-type connector in microphone shaft. Includes: SA-40 stand adaptor and case.
Frequency Range: 30-15kHz
Sensitivity at 1kHz: -53dBV
D-12E\$390.00



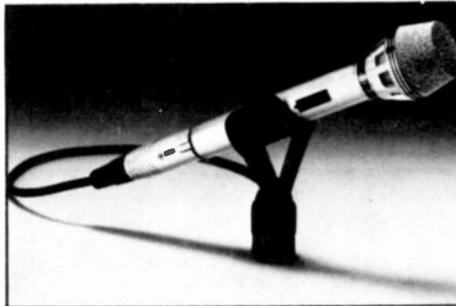
D-112 Microphone
Large-diaphragm cardioid dynamic microphone handles extreme (168dB) Sound Pressure Levels. Excellent on all bass instruments. Rugged construction. Finished in non-reflective dark gray. Includes SA-40 stand adaptor and case.
Frequency Range: 20-17kHz
Sensitivity at 1kHz: -55dBV
D-112\$220.00



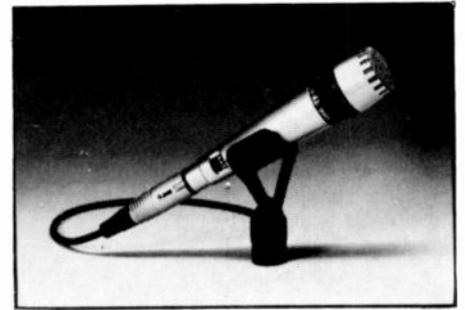
D-125E Microphone
Anti-feedback cardioid dynamic microphone perfect for sound reinforcement. Wire-mesh windscreen and diecast housing assure reliability. Includes: SA-40 stand adaptor and case.
Frequency Range: 100-18kHz
Sensitivity at 1kHz: -54dBV
D-125E\$170.00



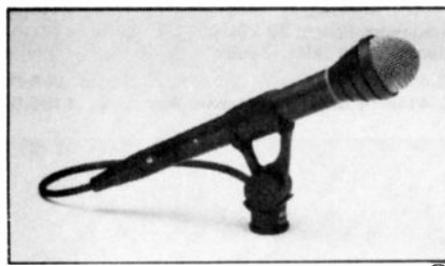
D-130E Microphone
Ruggedized omnidirectional microphone for field broadcast use. Designed for newsmag and ENG applications where durability is of utmost importance. Includes: SA-40 stand adaptor and case.
Frequency Range: 50-13kHz
Sensitivity at 1kHz: -55dBV
D-130E Nickel finish\$135.00
D-130NR in non-reflective dark-gray finish ..150.00



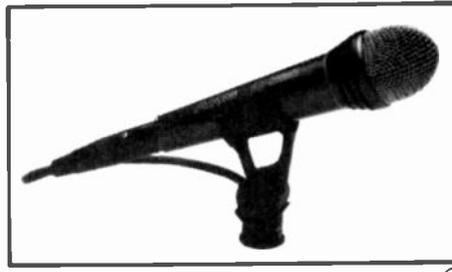
D-190E Microphone
Cardioid dynamic microphone with sintered bronze windscreens/pop filter. Cardioid pattern reduces feedback. Smooth frequency response makes it an excellent speech or music microphone for performing and recording use. Includes: SA-40 stand adaptor and case.
Frequency Range: 30-15kHz
Sensitivity at 1kHz: -53dBV
D-190E\$135.00
D-190ES w/On-Off Switch (shown)155.00



D-1200E Microphone
Rugged cardioid dynamic microphone. Unique B-M-S switch allows for on-mike equalization to adjust sound of mike for almost any application without sacrificing performance. Includes: SA-41 adaptor and case. (Replaces D-1000E).
Frequency Range: 25-17kHz
Sensitivity at 1kHz: -52.8dBV
D-1200E\$250.00



D-310 Microphone
Ruggedized cardioid dynamic microphone for vocal-music coverage in the home or studio. Shock mounted transducer, diecast housing and dual windscreens/pop filter for reliability. Includes: SA-41 stand adaptor and case.
Frequency Range: 80-18kHz
Sensitivity at 1kHz: -58dBV
D-310\$160.00
D-310S w/On-Off Switch175.00
D-310NR Same as D-310S but in non-reflective dark-gray finish (shown) ..165.00

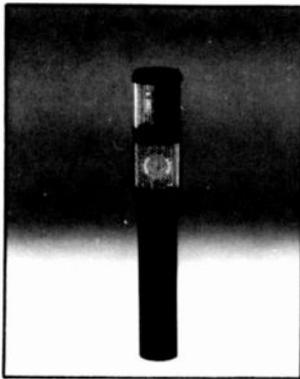


D-321 Microphone
Ultra-rugged hypercardioid dynamic microphone for vocalists on the road. Patented magnet/diaphragm suspension system reduces handling noise. Diecast housing and dual windscreens/pop filter withstands repeated abuse. Captive locking screw to secure cable connector to the microphone. Includes: SA-41 stand adaptor and vinyl case.
Frequency Range: 40-20kHz
Sensitivity at 1kHz: -57dBV
D-321\$210.00
D-321S w/On-Off Switch225.00



D-330BT Microphone
Ultra-rugged feedback-rejecting hypercardioid design demanded by top vocalists. Unsurpassed reliability ensured by shock-mounted plug-in field-replaceable transducer, diecast housing and dual windscreens/pop filter. Two equalizer switches (3-pos. bass rolloff, 3 pos. treble rise) for ultimate flexibility in tailoring response to specific voices and ambient acoustics. Includes: SA-41 stand adaptor and case.
Frequency Range: 50-20kHz
Sensitivity at 1kHz: -58dBV
D-330BT\$250.00
D-330NR in non-reflective dark-gray finish ..265.00

All AKG microphones are low impedance balanced-output units fitted with a standard 3-pin XLR-type connector. Nominal output impedance is 200 ohms and is suitably matched by all low impedance (25-1000 ohms) inputs.



O/A/Q/8

C-34 Stereo Condenser Microphone

Small-diaphragm (CK-1) stereo microphone with FET preamplifier. Nine polar patterns selected via remote control. 9-52V phantom powered. Complete with S-42E remote control, MK-42/20 66' (20m) cable, W-34 windscreens, H-15/6 suspension mount/stand adaptor and foam-lined carrying case.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -47dBV

C-34\$2295.00



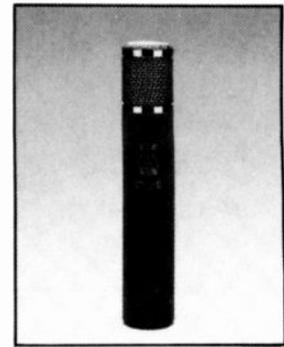
O/A/Q/8

C-422 Stereo Condenser Microphone

Large-diaphragm stereo microphone with FET preamplifier. Nine polar patterns selected via remote control. 0, -10dB, -20dB pre-attenuator. 9-52V phantom powered. Includes unique LED "aiming lights." Complete with S-42E remote control, MK-42/20 66' (20m) cable, W-42 windscreens, H-15/9 suspension mount/stand adaptor and foam lined carrying case.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -44dBV

C-422\$2995.00



O/A/Q/8

AKG-Tube Microphone

Large diaphragm condenser using the low noise 6072 vacuum tube combined with new circuit design provides the classic AKG tube sound. Nine polar patterns and three bass-rolloff positions (flat, 75Hz, 150Hz) selected via remote control. 0, -10, -20dB pre-attenuator. Includes N-tube power supply. H-15T shock-suspension, 30' (10m) connecting cable, W-42 foam windscreens and professional metal flight case.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -41dBV

AKG-Tube\$2295.00



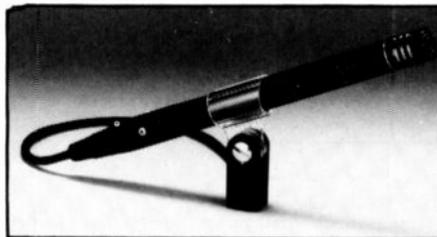
C-460B ULS Microphone Combination

12-52V cardioid condenser-microphone combination. With switchable bass-rolloff, 4 positions: flat, 70Hz, 150Hz and 10dB attenuation. Consists of: C-460B preamplifier and CK-61 cardioid capsule. Satin-black finish; W-32 foam windscreens; SA-40 stand adaptor and foam lined case.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -40dBV

C-460B/CK61 Combo\$550.00
C-460B/CK62 Combo550.00
C-460B/CK63 Combo550.00
C-460B/CK1X Combo775.00
C-460B Black preamp420.00
C-451EB Black preamp335.00
CK-1 Cardioid capsule, black145.00
CK-1X Cardioid capsule, black200.00
CK-2X Omni capsule, black200.00
CK-3X Hypercardioid capsule, black200.00
CK-3 Hypercardioid capsule, black145.00
CK-5 Shock suspended cardioid capsule, black275.00
CK-8 Short shotgun capsule, black260.00
CK-BX Capsule, short shotgun365.00
CK-9 Long shotgun capsule, black320.00
CK-22 Omni capsule, black145.00
CK-61 ULS cardioid capsule, black170.00
CK-62 ULS omni capsule, black170.00
CK-63 ULS hypercardioid capsule, black170.00
A-51 Swivel, black100.00
H-52 Stereo mount for CK-X55.00

A complete range of accessories is available.

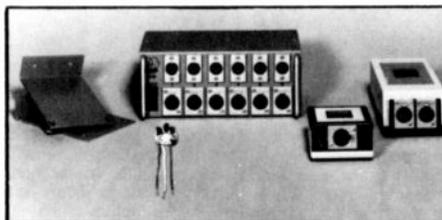


C-451E and C-451EB Microphone Combinations

9-52V Cardioid condenser microphone combination. C-451E has nickel finish while C-451EB has black satin finish and includes 3 position bass-rolloff switch. Modular system utilizes a wide range of capsules, modules, extension tubes, and accessories. Combination includes W-32 windscreens, SA-40 stand adaptor and case.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -40dBV

C-451E Combination (nickel finish)\$400.00
C-451EB Combination (black finish)495.00



Power Supplies For Condenser Microphones

B-9 Two mike, 9V battery\$ 55.00
B-18 Battery 1 mike, 2x9V battery95.00
N62E AC 2 mikes110.00
N62ET AC 2 mikes w/transformers180.00
N66E AC 6 mikes315.00
A-52 Custom module35.00



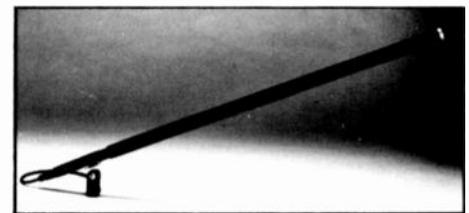
O/A/Q/8

C-414B/ULS Microphone

FET condenser microphone with large diaphragm capsule, providing four selectable patterns (omni, cardioid, hypercardioid, figure eight), with three position bass-rolloff switch (flat, 75Hz, 150Hz) and 0, -10dB, -20dB attenuator switch. For 9-52V low-current drain (~1mA) phantom powering. Complete with W-26 windscreens, SA-18/3 clamp stand adaptor and case.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -38dBV

C-414B/ULS\$ 995.00
C-414B/TL Transformerless version1195.00



C-451EB/CK-9 Microphone

Shotgun condenser-microphone combination. Consists of: C-451EB preamplifier; CK-9 shotgun capsule; B-18E battery power supply; W-19 windscreens; SA-18/3 black stand adaptor; SA-70/3 pistol-grip and boom suspension adaptor; H-7 pistol grip; H-70 boom suspension shock mount; and MC-25 cable. CC-9 foam-lined carrying case included.

Frequency Range: 20-20kHz
Sensitivity at 1kHz: -39dBV

C-451EB/CK-9 Black combination\$1100.00

Pyxis/Pyxis-E Digital Video Production Systems

Common Features

Effects

- Cut (Vertical interval switch between channels) • Dissolve
- Horizontal wipe • Corner wipes • Window • Shutter (R and L edges to center) • Blind (Top and bottom to center) • Fade to black • Vertical wipe

Editor Interface

- GPI connection allows external triggering of selected effect by ground closure

Modifiers

- Midstop • Soft edge (all effects) • Transition speed (16, 24, 32 or 60 frames)

Proc Amp Controls (2 Channels)

- Luminance level • Chroma level • Hue (NTSC only) • Set-up
- H phase • SC phase

Audio Select

- Audio cuts • Audio lead • Stereo production • Audio follow video • Audio hold

Wipes

- Vertical • Horizontal • Four corners • Window, shutter and blind

Sync

- Operates on a stand-alone basis or genlocked

Stereo Audio Mixing

- Audio can be mixed, switched or faded along with the video or locked to the A or B channel using "Audio Hold"

Digital Effects

- Push on • Pull off • Push off • Posterize

Pyxis

- 2-channel TBC • A/B video switcher • Digital video effects
- Audio mixer • 8-bit resolution • Live camera inputs • Editor interface • Dual proc amp picture control

The easy way to move up to professional A/B roll editing. A dual-channel TBC with built-in digital effects and full proc amp control for two video tape sources plus two live cameras. It works with 1/2" and 3/4" VCRs to synchronize timing, correct picture imbalances and provide smooth transitions between scenes...cuts, soft wipes, dissolves and even digital push-ons and pull-offs.

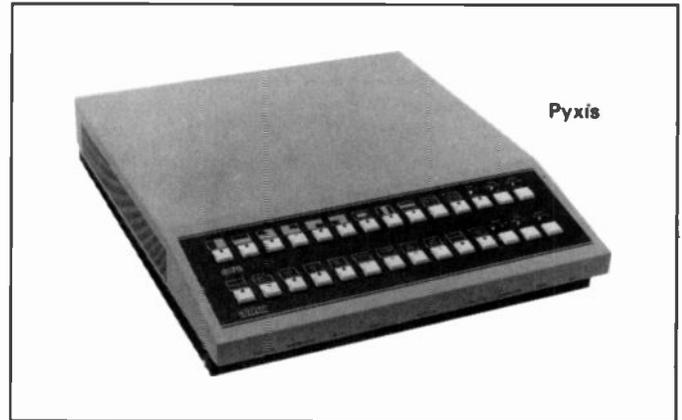
Other features include posterization and selectable source switching. Meets RS-170 broadcast specifications.

Pyxis NTSC\$6250.00
Pyxis PAL6950.00

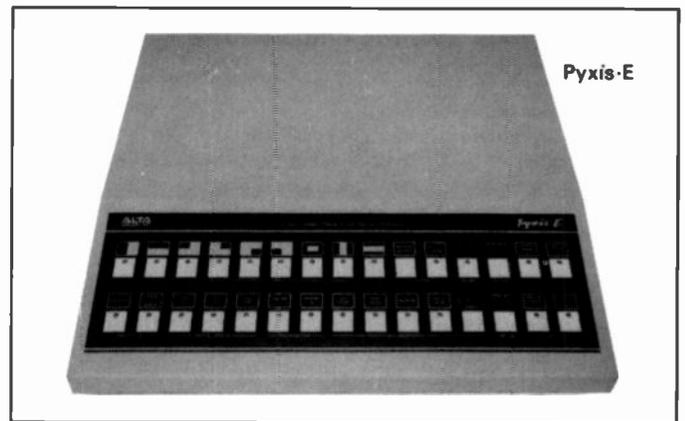
Pyxis-E

- Video channels have independent freeze capability that can be used in field or frame mode • Field mode achieves the clearest image when motion is present • Frame mode delivers the highest resolution for detailed originals and graphics • 8-bit resolution • Built-in dual channel picture freeze • A wide spectrum of special effect possibilities and combinations available • To ensure smooth operation and broadcast quality results, the output is frame synchronous

This is a video production system that incorporates the same A/B roll editing and special effects features found in Pyxis...plus more, with new features and capabilities.



Pyxis



Pyxis-E

For maximum interfacing flexibility, it is designed with dual eight-bit infinite window TBC/Synchronizers. As a result, the system can synchronize video from any source, even consumer equipment, without advance sync or feedback connections. This means that you can employ equipment ranging from video cameras to remote feeds to 8mm VCRs to VTRs.

Pyxis-E NTSC\$8450.00
Pyxis-E PAL9200.00

Celeris Y/C Format Converter

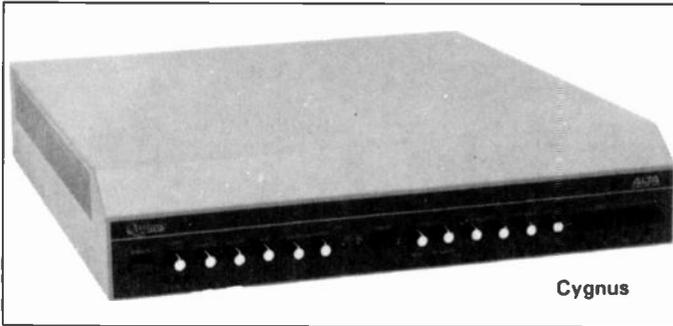
- Interfaces 3/4" U-Matic equipment to S-VHS equipment
- Converts Y/C 688 Dub signals to Y/C 3.58 S-VHS and composite video signals • Converts Y/C 3.58 S-VHS signals to Y/C 688 dub and composite video signals • Maintains full picture quality with 6MHz bandwidth • Unity gain input to output
- Requires no set-up controls or adjustments • Selectable input: Y/C 688 (U-Matic Dub) or Y/C 3.58 (S-VHS) • Provides three simultaneous video outputs: Y/C 688 (U-Matic Dub); Y/C 3.58 (S-VHS); Composite video • 4-pin and 7-pin S-VHS input and output connectors

Celeris\$1150.00

Pictoris Infinite Video Compressor

- Key output • 8-bit resolution • Full 4.2MHz bandwidth
- Compressed image over live background video • Colored borders/matte • Variable crop and position • Four programmable presets • GPI remote control • Auto zoom-in and zoom-out • Freeze • Composite and S-VHS (Y/C 3.58) inputs and outputs

Pictoris\$9500.00



Cygnus

Cygnus Digital Video Production System TBC with Effects and Proc Amp Controls

- "Infinite window" TBC
- Video effects
- H & V image enhance (NTSC)
- 4x1 video and stereo audio routing switcher
- 8-bit resolution

Effects

- Continuously variable picture strobe
- Continuously variable posterization
- Continuously variable colorization
- Digital picture freeze
- 64 levels of mosaic tile
- Cuts (vertical interval switching between channels, audio follows video)

Proc Amp Controls

- Luminance level
- Chroma level
- Hue (NTSC only)
- Setup
- H phase
- SC phase

Cygnus provides an infinite window TBC as well as numerous special effects and 4x1 audio/video switching.

Broadcast television stations, cable stations, corporations, and independent video producers represent a few of the users that have already gained the "Cygnus Advantage."

The system meets broadcast RS-170 specifications.

The system enables you to freeze the video, or achieve stop-action and slow-motion through strobing controls. As a result "Rock Video" effects can be created.

You can artificially colorize or color correct the video, posterize the video and add a mosaic effect. Each effect can be independently adjusted through a variable control.

But the best part is that all effects can be used in any selected combination. This means you can manipulate the video through a virtually endless stream of visual possibilities. Even a frozen screen can be altered through variable colorization, posterization, and mosaic effects.

Cygnus NTSC \$4,990.00
Cygnus PAL 5,600.00

Centaurus Digital Video Production System

- Full 5.5MHz bandwidth
- Y/C 358 and composite input/output
- Full 8-bit video resolution
- Meets broadcast specification RS170A
- Complete remote operation
- Direct connection to numerous editors
- Simple, single key operation
- Dual proc amp controls: Luma, setup, chroma and hue
- Genlock indicator with horizontal and SC phase adjustments
- Built-in disk drive with removable digital video data disk
- Matched frame editing
- S-VHS inputs/outputs
- GPI interface with internal programmable sequence memory (list mode)
- Display monitor shows full system status, edit listing, retrieval sequence and storage information
- Number key utilizes pad for picture storage-retrieval, programmable transition speeds, variable stops, variable background colors and programmable strobing
- Allows inputs and modifier effects to be changed during split screen operation

Centaurus, a wideband Video Production System for A/B roll editing, provides high resolution still storage and retrieval. The system contains dual infinite window TBCs/synchronizers, a video/stereo-audio routing switcher and special effects generators. Other features include an internal downstream keyer, numerous wipes, digital effects and dual channel fully independent digital frame/field freeze.



Centaurus

Pictures, logos, slides and titles can be easily stored and retrieved with either a removable hard disk or an external 500M byte disk drive which stores up to 1000 frames or 2000 fields of video. The entire system features simple key operation, making it ideal for on line operation and post production.

Centaurus NTSC \$16,900.00
Centaurus Without disk drive 13,900.00



Sloped Front Consoles

Standard Order Features

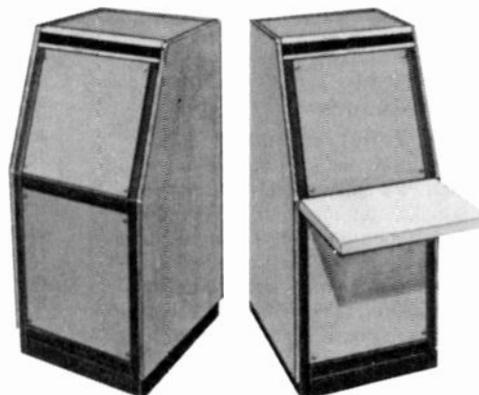
- White writing surface has 1³/₄" drop front, 18¹/₂" depth
- Doors opened from above table are provided flush with right-hand hinge
- Rear doors mounted to inner frame flange, facilitating recessed mounting
- Styled frames have EN53 trim with black horizontal inlay

Optional Features

- DFH left-hand hinged doors, casters, levelers and many other options
- Louvered top panel at additional cost
- Blowers can be ordered

Sloped Front Consoles

With Writing Surface \$522.65 to \$876.00
 Without Writing Surface. \$374.05 to \$727.45



Sloped Front Consoles

Vertical Consoles

5 Vertical Heights

Panel Heights: 21" , 42" , 52¹/₂" , 61¹/₄" , 70"

2 Depths

25¹/₂" or 30"

All 19" Panel Width

Standard Order Features

- Doors are provided flush with right-hand hinge
- Rear door mounted to inner frame flange, facilitating recessed mounting
- Styled frames have EN22 trim with black horizontal inlay

Optional Features

- DFH left-hand hinged doors, casters, levelers and many other options
- Louvered top panel at additional cost
- Blowers can be ordered

Vertical Consoles \$252.85 to \$991.25



Vertical Consoles

Low Silhouette Consoles

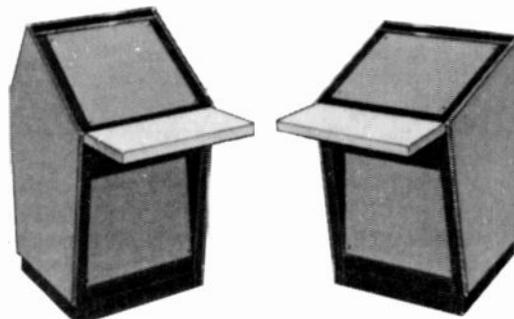
Standard Order Features

- Doors are provided flush with right-hand hinge
- Styled frames have EN59 trim with black horizontal inlay
- Consoles complete with 3¹/₂" drop front white writing surface, 12" depth

Optional Features

- Sloped front turret panels, casters and many other options

Low Silhouette Consoles \$785.15 to \$1051.00



Low Silhouette Consoles

VPR-3 C-Format Video Tape Recorder Turbo (Real-Time) Animation

The VPR-3's speed and accuracy allows it to do animation in a play-speed, real-time relationship. Unlike stationary mode recording, the VPR-3 does not require the complex (and often picture-degrading) pre-processing of the video signal to rearrange the video frequencies before recording. The VPR-3's play-speed recording is purely a video edit. With an 18 frame pre-roll, 3 frame post-roll and a re-cue, the VPR-3 can accomplish a 6 frame animation sequence in only 1.6 seconds (required for 1 cell) plus only a tenth of a second longer to complete the remaining 5 frames.

True Auto-Assembly with Field Accuracy

The combination of a 20ms lock-up time, 500"/sec acceleration, and speed transitions comparable to disk devices allows a 30 second spot to be recued-to-play in < 2 seconds.

The VPR-3 brings to editing the super-fast speeds required for uninterrupted recording of source material. You can perform single-field edits from the front panel or from the serial port.

Edits will be dead-accurate because a built-in Sc/H circuit gives the VTR immediate comparison between the input and the off-tape signal phasing, thereby ensuring perfect frame edits.

When there is a mismatch between input and off-tape signals, the VPR-3's Sc/H phasing control allows the operator to apply an offset for correction. (And to make editing even easier, an indicator just above the Sc/H meter shows the operator that a wrong frame edit is being attempted).

The VPR-3's machine-to-machine editing capability from a single machine control panel eliminates the requirement for an expensive external edit controller in many facilities. The combination of the full-time synchronized transport and the SMPTE communication bus is the basis for this exclusive feature. Even the most complex split edits can be previewed, trimmed, shifted, performed and then reviewed using only the simple, single-function controls on the record VPR-3.

Zeus™ Video Processing

Integrated with the VPR-3, the Zeus Advanced Video Processor provides revolutionary improvements in the quality and production flexibility of videotape recording.

Production and post-production facilities will especially appreciate the superb video processing and greater creative video control capabilities of the Zeus. Its unique ability to extend practical multi-generation limits of Type C recording improves their product, and saves time and money.

Key Features of Zeus Processing

- No compromise 4Fsc, 9-bit digital system
- Drift and adjustment-free velocity compensation dramatically improves compensation accuracy and multi-generation video performance
- Exclusive frame averaging velocity compensator function reduces head impact error visibility
- Superior spatial-averaging dropout compensation
- Exclusive Multi-Gen Setup mode greatly improves multi-generation video performance
- Unique Decode mode allows replay of non-color framed edits with no picture shift
- Video time compression and expansion with no picture bounce or blur
- Full frame storage on command
- Comprehensive interface with VPR-3 menu control system
- Available full-function serial remote control panel

Multi-Gen Setup

Multi-Gen Setup is accomplished through a series of play-record-play-record recirculations through the VPR-3 and Zeus processor. From pre-recorded 1st generation reference material (i.e., color bars) the VPR-3/Zeus system generates and displays, in real-time, a sequence that quickly duplicates 10 tape generations. This 10-generation sequence is continuously repeated, so that errors are clearly displayed, and can be quickly corrected by proper system adjustment.

Multi-Gen Setup supports an increase in both the number of tape generations routinely used, and the quality of the finished video product.

Professional Audio Quality

The VPR-3's audio system provides phase compensated electronics to improve stereo broadcast performance, and automatic computer set-up of all record parameters by means of a built-in audio test oscillator, audio distortion, analyzer, and digital voltmeter. This allows quick optimization for different tape types, and three complete set-ups can be stored for immediate re-call.

Field-Accurate Automatic Scan Tracking (AST™) System

Taking a precision reference from the direct-coupled capstan tachometer, the VPR-3's AST system knows exact tape position under all conditions and applies the necessary correction factors to produce a stable, disturbance-free picture. In the time compression and expansion modes, this system allows speed variations as small as one second per hour (up to ± 15%) to be entered.

Field Rate Color-Framer

An integral part of the video signal system is a field rate color-framer which determines the precise parking position when the tape transport is stopped. This color-framer is designed to separate one field out of four in the NTSC system or one field out of eight in the PAL system. This permits the machine, even with its "instant" start capability to operate in a fully synchronous mode at all times.



VPR-3

Microprocessor-Based Control

The VPR-3 control system is based on dual Z80 microprocessors. One of these processors is responsible for system control and the second controls the various input/output functions. The dual RS-422A serial communications ports allow control interface of the VPR-3 to a variety of serial machine controllers, including the Ampex ACE series editors and the VRC-2.

Status-At-A-Glance™ Displays

As a further enhancement of the VPR-3's operational interface, its Status-At-A-Glance system provides a summary, one page, English language video character display of all critical VTR operational status parameters. A second page displays all major Zeus operational parameters. Either page may be easily selected for display on the VTR video monitor.

Accessories

Sync Channel

An option to permit all vertical sync information to be recorded according to the SMPTE/EBU Type C formats.

Four Channel Audio

This EBU option provides a fourth high quality audio channel in the track space normally allotted to the sync channel.

Mounting Configurations

The VPR-3 is available in a variety of physical configurations to suit individual facility requirements.

VPR-6 Type-C Video Tape Recorder

- All machine operational configuration from control panel
- Status-At-A-Glance display enhances human interface and speeds operation
- Full range variable play speeds (-1 to +3X play)
- Automatic Scan Tracking™ (AST) with True Frame is standard
- Zeus™ decode mode allows replay of non-color framed edits without picture shifts
- Multi-Gen setup and Zeus video processor dramatically improve multi-generation video performance
- Shuttle speeds approach 500 ips with viewable picture
- Gentle tape handling for reel sizes from spot to two hours
- Video and audio record confidence playback
- Optional sync channel
- Optional fourth audio channel (EBU systems)
- Extensive non-standard and fault condition detection and reporting system

The VPR-6 makes "stand-up" 2-machine editing simple. Built-in machine intelligence guides the operator through the editing process and alerts the operator to any conditions which will detract from the quality of the editing program. The editing features of the VPR-6 include:

- Pushbutton selection of insert or assemble modes
- Auto-Edit permits editing from preselected cues
- Edit optimize mode automatically rephases scanner tach to on-tape video signal for perfect interchange edits
- Pushbutton selection of entrance and exit edit points off tape
- Keypad entry of edit points and edit duration
- Pushbutton display of edit duration
- Auto tag feature transfers old exit point to new entrance point and recomputes duration
- "Split" button allows audio and video channels to be edited separately
- "XFR" button allows contents of any edit point register to be quickly transferred to another register
- Preview mode permits rehearsal of video and audio edits prior to edit recording
- "+/-" buttons permit edit point to be trimmed by any number of frames
- "Jog" buttons allow single frame jog in either direction for precise pinpointing of edit points
- Continuous diagnostic system warns of many nonstandard conditions which can affect edit, such as: "not color framed; excessive edit phase error; auto record—edit off; exit before enter; cue point not found; not cued"

Status-At-A-Glance

The Status-At-A-Glance display provides a simple 2-page English language video character display of all VPR-6 operational setup parameters, and a simple interactive menuing system that allows the operator to change setup parameters.

The Status-At-A-Glance feature also displays VPR-6 Servo, System and Machine fault messages as concise English language messages inserted into the VTR monitor video feed.

Multi-Gen Setup

Multi-Generation video performance degradation only significantly exhibits itself after it's too late to correct it. The VPR-6, when equipped with the Zeus Advanced Video Processor, provides an exclusive Multi-Gen Setup mode which helps eliminate operational setup errors—the major contributors to multi-generation performance degradation.

Superior Audio

The VPR-6 Audio System is designed to meet the needs of broadcasting, production and post-production environments. Features include:

- Full audio confidence on all longitudinal tracks
- Optional EBU fourth audio channel
- Dual channel stereo monitoring
- Adjustable azimuth alignment for stereo playback
- Excellent crosstalk performance
- Selectable peak or VU metering response
- Audio processing ports for interface with noise reduction or compression/expansion devices
- Integral speaker and headphone jack

Options and Accessories

A number of options and accessories are available to expand the operational capabilities of the VPR-6. These may be purchased with the machine or added after as operational needs change.

Sync Channel. Permits all vertical sync information to be recorded according to the SMPTE/EBU Type-C formats.



VPR-6

4-Channel Audio. Provides a fourth high quality audio channel in the track space normally allotted to the sync channel.

Time Code Generator/Reader and Character Display with Status-At-A-Glance. Adds longitudinal time code generation and reading, character display and Status-At-A-Glance capabilities to the VPR-6. Total control of these features is available at the control panel.

Vertical Interval Time Code. Adds VITC capabilities to the time code generator/reader and character display accessory.

Parallel Remote Interface. Provides comprehensive, 75-pin connector, parallel remote control pin—compatible with Ampex VPR-2Bs and VPR-80s.

Serial Remote Interface. Provides RS-422A compatible connection to the serial control bus of serial machine controllers such as Ampex ACE Editors and the VRC-2.

Diagnostic Probe. Standard diagnostics capability in the VPR-6, consisting of wake-up and background tests, can identify system malfunctions to assembly or subassembly level. The accessory diagnostic probe allows the maintenance engineer to diagnose all of the integrated circuits which are in communication with the microprocessor.

VRC-2. The VRC-2 is a flexible machine controller that uses RS-422A serial communications to remotely control a combination of up to four VTRs.

Mounting Configurations. The VPR-6 is available in a variety of physical configurations to suit individual facility requirements.

VPR-80 C-Format Video Tape Recorder

The VPR-80/TBC-6 Package

The VPR-80 and its digital time base corrector, the TBC-6, were designed to make your production and editing easier and faster.

Automatic Scan Tracking™ (AST) is a standard feature on the VPR-80. The AST system insures tracking and allows you to vary playback speed from still frame through slow motion to 1 1/2 times play speed—with no picture breakup and no need to adjust.

A complete editing package is standard, too. It's easy to understand, fast and simple to operate, and frame-accurate. It even lets you preview and trim your edits prior to recording.

The exclusive AST tracking system enables the VPR-80 to deliver broadcast quality pictures at any play speed—from stop through slow motion to 1 1/2 times normal forward speed. By providing accurate auto tracking at all tape speeds, AST insures stable, perfect pictures. And, the AST system further improves the quality of your normal playback by automatically servoing the video head to the exact center of the video track.

Gentle Tape Handling, Even at 30X Play Speed

Whether you need two hours of recording and playback time, or just enough tape for a 30 sec. spot, the VPR-80's "intelligent," high-response servo system gently handles reels of any size from 11 3/4" down to the smallest, lightest spot reel.

Sophisticated Electronics Let You Work Fast and Efficiently

Dual microprocessors are the key to the VPR-80's power and operating simplicity. By dividing the workload, the VPR-80 can respond faster and more efficiently.

One microprocessor manages the VTR control system while the other is dedicated to all the servo subsystems. The result is accurate, dependable performance of all the machine's operations—and instantaneous response to your commands.

All this power has an additional benefit; it makes the VPR-80 simple to operate. Everything from setup to servicing can be done with a minimum of technical skill.

Power Failures Won't End Your Day

If the power fails, a backup battery and voltage regulator system continue to power your machine's memory. Tape time, control panel setup and edit functions are all held until power is restored.

Sophisticated Editing

Sophisticated editing is simple, fast and frame accurate. And, built-in machine intelligence helps guide you through the process.

- Insert and Assemble can be selected by pushbutton
- Auto-Edit permits automatic editing from preselected cues
- Entry and Exit edit points can be selected by pushbutton
- Your edits can be trimmed, frame by frame, on the keypad or by jogging the tape
- Both audio and video edits can be previewed prior to final recording
- A transfer feature automatically sets the next scene's edit entrance point

"No-Fault" Operation Standard on this Machine

The VPR-80 advises you of any system faults or non-standard conditions that could affect machine performance. Status verification and diagnostic routines are performed automatically when the machine is turned on.

The VPR-80 checks for power failure in any of the subsystems, scanner stall, over-heating or absence of control track. It even lets you know when an editing procedure is incorrect—or when there's no video input.

If a fault or non-standard condition is detected, you're immediately alerted. And, the VPR-80 pinpoints the problem and indicates it, specifically, on the control panel display. If the problem could cause tape damage, the machine automatically shuts down.



VPR-80

Audio

There are three fully independent audio channels on the VPR-80. Channels 1 and 2 are optimized for use as a stereo pair, and channel 3 has wideband capability for time code.

Individual level meters are standard, and separate level controls are provided for audio record and playback.

Flexible System Interface

A simple five function remote control interface lets you run your VPR-80 from up to 100' away. For 2-machine editing, there's a single, plug-in connector. There's even a monitor jack that lets you keep an eye on critical video and control waveforms. And, parallel remote and serial remote PWAs are optionally available to give your VPR-80 even more flexibility.

The VPR-80 can also be teamed with our ADO™ effects, PictureMaker 3D animation, ACE™ and ACE Micro editors and Ampex switchers in a complete post-production editing system.

In order to provide consistent performance over a wide range of time base error inputs, we've packaged the VPR-80 with the TBC-6 digital time base corrector.

The 28-line correction window in the TBC-6 will handle the wildest gyroscopic errors you can throw at it. And in shuttle, its circuitry provides viewable pictures at 30X play speed, in forward and reverse.

Full color dropout compensation and velocity error correction are built in. And, the SCH phased sync generator includes fully adjustable horizontal and vertical blanking circuitry.

You're in full control of composite video signal adjustments on the TBC-6, with independent video and chroma gain controls, as well as chroma gain controls, as well as chroma phase, subcarrier phase, horizontal phase and black level controls. And primary controls are all remotable via an optional TBC-6 remote control panel.

You can even time share your TBC-6. It's designed to operate with heterodyne recorders, so you get maximum service out of a single piece of equipment.

For applications that don't require the broadcast quality variable speed capabilities of the TBC-6, the low cost TBC-40 is available.

Like the TBC-6, the TBC-40 will time share with other VTRs. It provides all the video signal control of the TBC-6 and, if ever needed, can be easily upgraded to TBC-6 performance specs.

VPR-300 D2 Composite Digital VTR

The Ampex VPR-300. It Makes Sense Right Now.

D2 Composite Digital provides all the benefits you'd expect from a digital format: better picture, better sound, easier operation, higher reliability.

But there's another reason the format makes so much sense.

Compatibility. All it takes to put a VPR-300 on line in your composite analog facility are the BNC video and XLR audio cables you already have in place.

An easy operation, but with a major impact.

The improvement in picture quality will be instantly obvious. Velocity errors, impact errors and moire are eliminated. Chroma noise is imperceptible, and other VTR color errors are eliminated entirely.

And no one has to tell you what digital recording will do for your multi-generation work. With a VPR-300, you can count on twenty transparent generations. Which makes post-production, especially compositing, significantly faster—while tying up fewer machines.

Superb Sound: Four Digital Audio Channels.

The 48kHz digital audio sampling frequency used by the VPR-300 is actually higher than the digital sampling rate used for compact disc mastering. There are four 16 bit digital audio channels with totally independent editing on each track. So you'll be able to do more of your audio work right on the VPR-300, instead of going off-line.

And when you layback sound using the digital interface, the integrity of your work is perfectly preserved.

The VPR-300 will record and play back on 32, 94 or 227 minute cassettes.

Digital Technology Makes the VPR-300 Inherently Easier to Operate.

Compatibility and performance are not the only benefits. The VPR-300 is also easier to operate. Since it's a cassette machine, tape is automatically threaded. Since the digital electronics are drift-free, no time-consuming set-up is required.

Controls on the VPR-300 are simple and straightforward and they afford you the uncompromising flexibility your kind of work demands.

And to make operation easy, a large status display provides comprehensive operational information, in plain English.

This remarkable display helps eliminate human error by leading you step-by-step through operational procedures.

But more importantly, it allows you to take full advantage of all the machine's capabilities.

If Time is Money, Spend a Moment with these Specifications.

The VPR-300 will load and thread a cassette, ready for record or playback, in under four seconds. It will recue a thirty-second spot in under 3.5 seconds. And playback lock-up time with scanner up to speed is under 20ms.

The machine's high speed pinchrollerless transport is a descendant of our Emmy Award winning VPR-3. It uses air guide technology to deliver unmatched speeds, gentle tape handling, and durability that's measured in years, rather than in hours.



VPR-300

Full Featured Editing, and Flexible Machine Interface.

As an editing tool, the VPR-300 interfaces with major professional editing systems, as well as other analog and composite digital VTRs.

The VPR-300 will search to a field, jog field by field, and run at 60X play speed with viewable color pictures.

And the automatic and manual assemble, insert, and animate editing modes are engineered to ease your most complex editing tasks.

If your work involves time-compression/expansion or fit/fill, an AST™ automatic tracking system lets you vary play speed continuously from -1 to +3X normal.

Picture bounce and blur are precluded by digital signal processing.

And a computer monitors the machine's operation and reports on status and trends. So you can optimize performance, schedule maintenance, and eliminate costly downtime.

We've Made No Compromises.

The VPR-300 is an exquisitely crafted, high end, no nonsense machine. and it's backed by the most professional service and support organizations in the industry.

Get All the Performance the Format Has to Offer.

The D2 Composite Digital format was developed by Ampex. So we had a head start when it came to developing a digital video tape that could consistently deliver outstanding video quality and reliable performance.

Designed specially for D2, our new cassettes use metal particle tape. So you get higher signal output, better SNR, and shorter wavelength response.

To help prevent dropouts, the cassette shells are molded in special anti-static plastics that reduce the attraction of dust. We combined state-of-the-art plastics technology with our patented low friction hub design to create debris-free precision hub-bearing surfaces. And clamshell door completely protects the tape outside the machine.

ADO-1000/2000/3000 Digital Effects Systems

Common Features and Effects

- A/B video inputs • Continuously variable compression and expansion • Variable aspect ratio
- Horizontal and vertical mirrors • GPI control input • Independent picture and key cropping
- Highly adjustable mosaics • Posterization and solarization • Luma and chroma reversal • Picture blur • Field or frame freeze • Adjustable soft key border edges • Multi-panel, multi-channel software • Logical keyframe programming
- Straightforward numerical programming • Comprehensive CRT display • Channel identification • Global motion control • Auto cube mode • Selectable motion types
- Forward/reverse run modes • Alphanumeric effect storage • Disk copy function • Serial editor interface • Frame-based processing for highest possible performance (ADO-2000 and 3000 only) • 30 on-line effects with one or two button execution (ADO-1000 and 2000 only) • Serial switcher interface (ADO-1000 and 2000 only) • Color border generator (ADO-2000 and 3000 only) • Full-frame manipulation of frozen video (ADO-1000 only)

All three ADO systems share many of the same basic features, but there are also some significant differences.

The right ADO model depends on your application. And what level of signal performance best matches your system.

Do you plan on using your ADO system live, on-air?

Do you need a 3D system with rotation and perspective? Or will a 2D model meet your needs?

The ADO-1000 is designed for broadcast and production facilities that want award-winning effects—on a budget.

By combining field-based processing for moving video with frame-based processing for frozen images, we were able to keep the ADO-1000 system affordable. And since it employs all the other unique signal processing techniques of the 2000 and 3000, its picture is superior to systems costing much more.

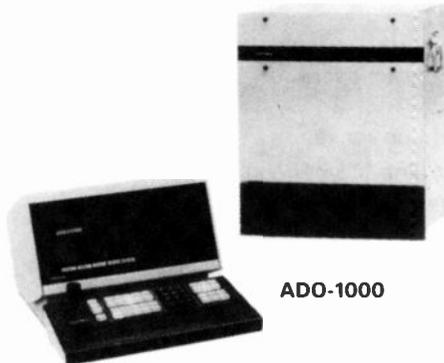
Even the basic ADO-1000 model has a wide range of standard features. Since it stores 30 pre-programmed effects for instant recall, it's ideal for on-air use. And with upgrades like 3D rotation and perspective, Digi-Trail and Digi-Matte, it can be a great production tool.

The ADO-2000 combines frame-based processing with the unique ADO architecture and filtering to deliver the finest picture in the industry.

The 2000 model provides the same superior picture quality the ADO-3000 system provides.

With both the ADO-1000 and 2000 systems operators can incorporate zooms, flips and tumbles into live programming with a single key stroke.

There are also some features on-air producers will really appreciate.



ADO-1000



ADO-2000

Like the ADO-1000 system, the 2000 stores 30 on-line pre-programmed effects for instant recall.

Operators can build their own effects, then store them on inexpensive floppy disks for use on-air.

The ADO Combiner digitally combines signals from multiple channels.

An option for ADO-1000 and 2000 models, the Combiner is available for either two or four-channel systems. It digitally combines channels, then routes a single output back to your switcher, so only one keyer is used.

Channel priorities can be set either manually, or automatically positioned properly in 3D space.

The ADO-3000: combines superior features and picture quality with optional capability and effects that no other system can match.

The Concentrator: digitally combines channels for the ADO-3000 system.

A Concentrator digitally combines and prioritizes multiple channels like the ADO Combiner, but with some important additional features.

Transparency/opacity of each channel is independently variable while a programmable light source adds an illusion of depth to your effects.

With its ability to do unity gain linear keys and digital dissolves, the Concentrator functions like a digital switcher—providing super clean keys, especially with graphics.

Infinity™: it lets you pass frames, planes or objects through each other.

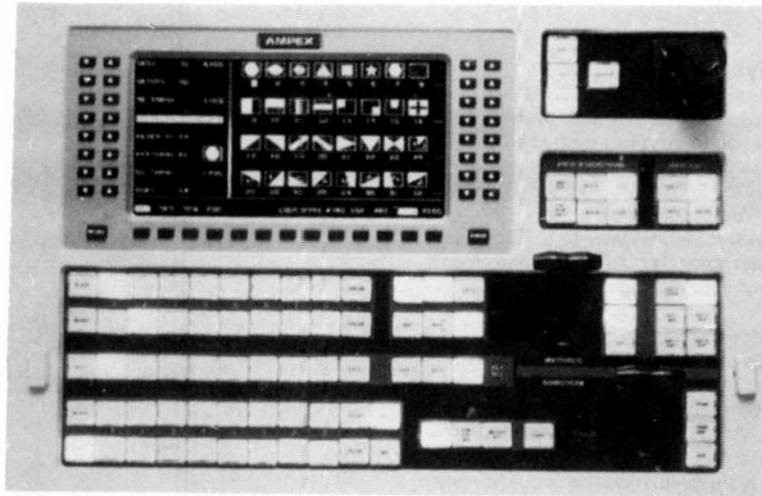
And as these planes and objects are flown through space, rotation and other effects can be simultaneously incorporated.

Swirls, trails and sparkles—with or without decay—are also included in the package.

By keeping track of all pixels in X, Y and Z space, the Infinity option is able to do effects that previously could only be done on film—optical effects that draw production customers, and give your station a sophisticated on-air "look".

Optional Features and Effects

	ADO-1000	ADO-2000	ADO-3000
True 3D Rotation and Perspective	X	X	X
Digi-Matte™ Key Processing	X	X	X
Digi-Trail™ Target Framestore	X	X	
Component Analog (RGB, YUV) Kit	X	X	X
SMPTE/EBU CCIR-601 (4:2:2) Digital Interface	X	X	X
Up to 8 Control Panels	X	X	X
Up to 4 Signal Systems	X	X	X
Digital Combiner	X	X	
Digital Concentrator for Mixing, Keying in Digital Domain			X
Infinity Special Effects Package for Concentrator			X



AVC Vista™ Series Compact Switchers

Standard Features

- 10 or 18 inputs including Color, Black and Color Background
- Powerful Mix/Effects unit
- Downstream mixer keyer with Master Fade-to-Black
- Flip-Flop operating format
- Integrated Switcher Status Display
- 5 independent matte generators
- 4 auxiliary buses (2 with full re-entries)
- Available in NTSC, PAL or PAL-M video standards
- Powerful Preview System will even preview patterns

Keying

- Three linear keyers capable of Luminance, RGB Chroma, Composite Chroma and ISO keys
- Key Memory System stores setups for each source, recalls to any keyer
- Unikey™ additional DSK external linear gain key
- Key Masking System
- Optional Spectrakey™ advanced Chroma Key System
- Optional flexible borders: 4 shadow styles and border-modify

Patterns

- 32 patterns including rotary wipes and random pixel dissolve
- Full screen adjustable borders
- 4 pattern border types (hard, soft, soft halo and half halo)
- Border width can track pattern size
- Pattern can be positioned with Auto-Panning capability

Microprocessor Features

- Panel Memory with event transition and automatic sequencing
- RS-232, RS-422 and GPI control ports
- AVC audio system compatibility
- User-programmable switcher configuration

Options

- RGB Chroma keyer/ISOLated key input matrix
- Analog key border generator
- Digital effects interface
- AVC Audio System
- Assignable auxiliary bus controllers
- Extended Panel Memory System

AVC Vista Series switchers are available in ten or eighteen input configurations (including black and color background).

The Mix/Effects system is capable of virtually any combination of transitions involving two keys and two backgrounds. Both keyers can do every type of key—they each have full length, independent source buses as well as operator-assignable automatic isolated hole cutting. Keys may appear over the A or B bus, both buses, or in any combination. And key transitions are selectable at any time as part of—or independent of—the transition system.

A full function downstream system provides two additional levels of keying (one full capability, one ISO only) as well as mix and fade capabilities.

A versatile preview system quickly and easily monitors the video available at any point in the switcher, and even allows pattern previews without tying up the M/E.

The Vista is ideal for small production facilities, editing suites, mobile applications, or any broadcast or post production situation where space is at a premium. The console measures 12¹/₄" tall, while the electronics require only 14" of rack space. Since communications between the two are serial, a simple dual twisted-pair cable is all it takes.

A unique electro-luminescent display shows operating status of transition times, memory set-ups, diagnostics and other essential operational information—so you always know where you are.

The Vista's up-down controls require less space, are more precise, and are more suited to modern, memory driven switchers than potentiometers. And they won't drift or get noisy over time.

Vista will store and recall 24 switcher set-ups, as well as eight different sequences involving any combination of the 24. Sequences can call other sequences, loop, or be paused at any time.

You can design any transition between set-ups, then automatically execute the sequence linearly, or in a variety of non-linear transitions.

Auto transitions can be specified in seconds, tenths of seconds, or frames. And an optional extended memory system lets you save it all on disk.

The Spectrakey chroma keyer lets you chroma key from any color, as well as smoke, glass and transparent objects.

The Spectrakey system is an exceptionally high quality RGB system that uses a patented chroma-nulling process. Its low noise edges make chroma keyed scenes difficult to distinguish from the real thing.

The Spectrakey system is fully integrated into the switcher, so it eliminates the cumbersome problems of external timing compensation or signal routing, and all Spectrakey setups can be stored in the Vista switcher's memory.

The Vista switcher's virtually transparent digital effects interface provides you full-scale creative potential.

A unique digital effects loop has been designed into Vista that allows Ampex ADO™ or other digital effects to be inserted into the video path of the key or bus row, without the need for auxiliary switching. ADO effects can be selected and run from the Vista control panel, saving both time and space.

ACE™ Computerized Editing Systems

The ACE Editor is both software-based and modular. Software enhancements improve the system's capabilities without making the hardware obsolete. Modularity allows you to start out with exactly the system you need, and add capability as your business grows.

Lets You Choose the Best System for Your Application

From a very affordable interformat system, all the way to a 16-device control system with 6000-line edit list capacity, ACE Computerized Editors are designed to fit almost any of your editing requirements.

A Systems Approach to Post-Production

When an ACE Editor is the centerpiece of a system in which the major components are Ampex products, you're in charge of a Creative Command Center™. Within the Creative Command Center, ACE has superb control of Ampex switchers, VTRs, Ampex Zeus™ advanced video processors, and even ADO™ special effects systems. RS-422 serial communications and compatible software make machine interfacing a smooth road.

The Creative Command Center offers enough flexibility to satisfy any post-production requirement. Select your switcher from the Ampex 4100 Series, or from the Ampex AVC Series, including the powerful AVC Century or the compact Vista™ switchers. Choose from Ampex's complete line of Type C VTRs. For small format work, Ampex offers a selection of Betacam and Betacam SP™ VCRs. Choose from three versions of ADO systems for digital effects. ACE Editors control them all.

ACE interfaces with products from other manufacturers, too. RS-422 compatibility, general purpose interface (GPI), superb disk input/output capabilities, and ACE's Trigger Screens help make ACE the right choice for any equipment configuration.

Dedicated Keyboard: Soft Key Superiority

The ACE system offers a choice of human interfaces. The first is the ACE dedicated keyboard, featuring a logical, uncluttered layout that positions clusters of keys according to function and frequency of use.

The true power of the ACE Editor is contained within eight soft keys, grouped at the top of the keyboard. These soft keys provide direct access to the powerful software features ACE Editors offer.

The Second Interface Choice is TouchScreen: Silent Lightning

The TouchScreen: silent, efficient, powerful, and extremely rapid. Instead of keyboarding your inputs, you merely point your finger at an entry on the menu monitor. It provides the editor all the power and features of a keyboard, but allows greater operating comfort and speed.

ACE Software: The Power Behind the Screen

One of the unique features of ACE software is the ability to configure menus to an editor's preference. You can display as little or as much data as desired on your Edit Construction List (ECL) or Edit Decision List (EDL). Simplify the menu for a "cuts-only" session, or add important switcher data for a challenging multiple M/E session. ACE does not impose its menus on the user. It lets you custom tailor the display to match your creativity and style.

ACE Provides Four Unique Trigger Types: EIPI, Multiple M/E, Zeus, and Panel Memory

All triggers are indented from the program line for an easy visual cue, with concise titles heading the four information columns. Triggers are fully listed in the EDL—easy to read and easy to modify.

GPIs can be triggered at entry plus, entry minus, or record absolute, with variable pulse durations easily set.

Joystick Control

The multi-function joystick is standard with many ACE models and complements both TouchScreen and keyboard operation. This is no ordinary joystick, but rather a key element in the synergy of a Creative Command Center. The Joystick not only controls transports, but also controls the EDL, and the switcher fader arm.



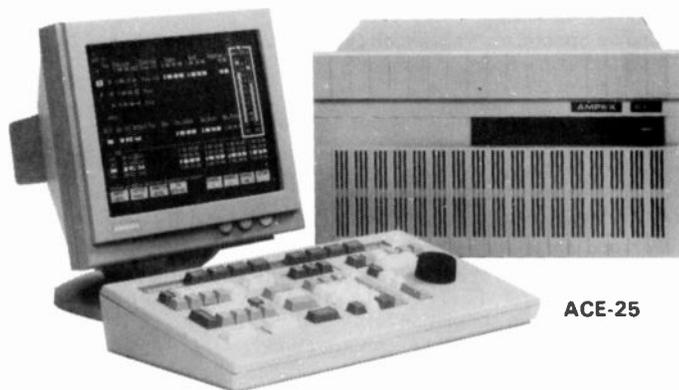
ACE

ACE 200 Editor

ACE 200 is an NTSC, PAL, and PAL-M compatible distributed processing electronic editor which controls up to 20 GPIs and 16 devices, including VTRs, ATRs, Ampex Zeus advanced video processors, Ampex switchers, ADO special effects systems, as well as equipment from other manufacturers.

ACE Micro Editor

The ACE Micro Editor is an NTSC, PAL, and PAL-M compatible distributed processing electronic editor which provides full computing power and editing versatility at an affordable price. ACE Micro Editors have excellent functionality in broadcast, industrial, interformat, and second suite applications. ACE Micro controls one video switcher, and up to 4 GPIs and 4 VTRs, including Type C, 3/4", Betacam and Betacam SP. A printer and one human interface are also supported.



ACE-25

ACE-25 Computerized Editing System

- 80286 CPU • 1M byte of on-board RAM • 1000 line SMPTE EDL, battery-backed • Dedicated keyboard with multi-function rotary knob
- Two 3.5" disk drives • Floppy disk controller • Monochrome Display Adaptor (MDA), high resolution • 8-channel Intelligent Line Controller (ILC) • Color framer with GPI • Extender board • Internal audio and video switcher capability • 4 GPI output ports • On-screen VU meters and EQ bar-graphs with internal audio switcher • Auto-Assembly and List Management

ACE 25 is an NTSC, PAL, and PAL-M computer-based editor, which controls up to 4 VTRs (3 source and 1 record), and 3 GPI's. ACE-25 is a modular editing system: the standard chassis provides slots for optional internal switchers, 1 audio, 1 video.

CVR-505 Betacam SP ENG Camcorder

- Combines all the benefits of a full featured CCD camera with a portable VTR capable of studio quality video and audio
- Consists of the CVC-5 CCD Camera and the CVR-5 Video Tape Recorder
- Rugged, reliable and operates under conditions that are difficult or impossible for other camera types
- Compact, versatile and can be used in a number of composite and component configurations
- Records and plays both Betacam and Betacam SP formats
- Ideal for a wide range of ENG applications

The CVC-5 Camera

- Superior picture quality
- Switchable Dynamic Contrast Control
- CCD technology eliminates lag, burn-in and microphonic noise while delivering excellent resolution and exceptional sensitivity
- Highly resistant to EMI
- CCD image geometry eliminates the need for registration adjustments
- Automatic iris control
- Automatic white/black balance
- 2 white balance memories for each filter position
- Linear matrix
- 2H delay image enhancement
- Shading compensation for lens extender
- Built-in effects microphone
- Automatic white level compression
- 3200° white preset
- Viewfinder displays provide: record status, filter position, video level, audio level and control (CH1), gain setting, white/black balance status, battery status, tape remaining
- Stand-alone versatility when combined with a CA-3A adaptor
- Compact, lightweight, diecast magnesium alloy frame

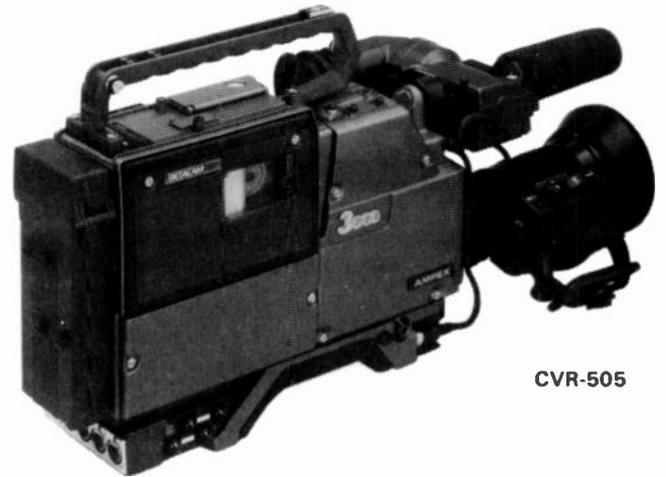
CVR-5 Portable VTR

The CVR-5 can be configured as an integral part of an Ampex Betacam SP Camcorder, or operated as a stand alone recorder.

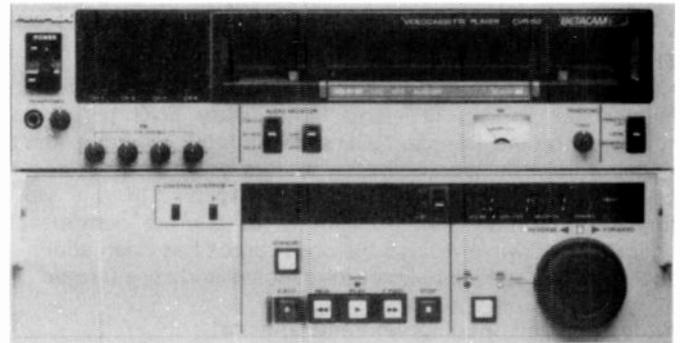
- Records input from most existing cameras—in either the component or composite domain
- Records and plays both oxide and metal particle tape
- Excellent picture quality—with 2 playback modes—8 heads
- Full bandwidth playback capability
- Recording review function
- Frame accurate automatic backspace editing
- Multifunction time code generator/reader with genlock
- Phantom power supply

CVR-60/65 Betacam SP Studio Players and CVR-70 Betacam SP Studio Recorder/Player Common Features

- Built-in time base corrector provides broadcast quality video while eliminating any other signal processing requirements
- TBC remote control interface
- High speed picture-in-shuttle up to 24x normal speed in monochrome, either forward or reverse
- Jog function allows tape movement in either direction, one frame at a time
- Versatile editing interfaces: with a CVR-75 or similarly controlled VTR; with an Ampex VRC-2 video recorder controller; with an ACE™ or ACE Micro™ editor
- Versatile Time Code System: Vertical Interval Time Code (VITC) and SMPTE/EBU
- Two composite outputs
- Two dub/component outputs: Y, R-Y, B-Y or Compressed Time Division Multiplexed (CTDM) output for high-quality component editing
- Color framing: superior color framing operation, using both the CF flag and the Vertical Interval Subcarrier (VISC) system when operating in a composite environment
- Studio-quality audio performance: Four channels: two longitudinal, two AFM; separate playback levels for each channel; low impedance audio monitor outputs for separate or mixed output; Dolby C noise reduction on longitudinal channels
- Multifunction hours meter
- Headphone jack with volume control
- Built-in character generator: time code, system status or setup menus displayed in video monitor output (CVR-60/65 only)



CVR-505



CVR-60

CVR-60 Betacam SP Studio Player

The CVR-60 studio player delivers all the performance of the Betacam SP format in an economical playback machine.

The CVR-60 is compact, lightweight and can be installed in either standard 19" EIA racks or consoles in studios and OB vehicles.

CVR-65 Betacam SP Studio Player

The CVR-65 studio player delivers all the performance of the Betacam SP format with features such as AST™ automatic tracking, dynamic motion control, viewable pictures in shuttle, a built-in time base corrector and a time code reader.

The CVR-65 is compact, lightweight and can be installed in either standard 19" EIA racks or consoles in studios and OB vehicles.

CVR-70 Betacam SP Studio Recorder/Player

- Full featured editor: Assemble and insert Edits for Video, Audio 1 and 2, and time code; Preview/Review allows check of edit accuracy; In/Out marks may be trimmed either direction on a frame-by-frame basis
- Dynamic Motion Control: the CVR-70 can memorize rehearsed playback speeds of a connected CVR-65 or CVR-75 over their tracking range (-1 to +2x normal), and then command the CVR-65 or CVR-75 to reproduce these speeds in subsequent editing operations
- Versatile Time Code System: Vertical Interval Time Code (VITC) and SMPTE/EBU longitudinal track format; Presettable User Bits, free-run or record-run modes; genlock for setting/synchronizing to an external time code master generator; built-in time code generator/reader

AMPEX

BETACAM CAMERAS/BETACAM RECORDERS/PLAYER

CVC-5/CVC-50 Betacam Cameras

Common Features

- Automatic iris control • Automatic white/black balance • 2 white balance memories for each filter position • High resolution, adjustable viewfinder • Genlock capable • Microphone
- Automatic white level compression • Color bar generator

Viewfinder Displays Provide:

- Record status • Tape remaining • Filter position • Video level • Audio level and control (CH1) • Gain position • White/black balance • Battery condition • Shutter speed (CVC-50)

The CVC-5 Camera

- Superior picture quality for ENG, even under adverse conditions • Allows you to compress the high light signal with switchable Dynamic Contrast Control • CCD technology eliminates lag, burn-in and microphonic noise • Imaging geometry eliminates need for registration controls • Lightweight, diecast magnesium alloy frame • Dust and moisture resistant
- Durable solid-state image sensors unaffected by outside magnetic or electrical interference • Longer recording times • Low power consumption

The CVC-50 Camera

- Durability and convenience of the CVC-5 • Picture dynamics needed for sports, EFP and high-quality ENG production • Frame Interline Transfer CCD sensors reduce vertical smear
- Switchable electronic shutter allows you to select any of seven shutter speeds. The speed is displayed in your viewfinder • Viewfinder can be shifted for a more comfortable shooting position • Adjustable chest brace has been added to both cameras to help balance long lenses and ease fatigue

Wide Selection of Equipment and Options:

You can assemble a high-performance camcorder by combining either camera with a CVR-1A or CVR-5 on-board VTR.

Or, add a CA-3/CA-3A stand alone adaptor and feed component or composite video directly to a remote VTR. An RM-P3 Remote Control Unit can be connected to the CA-3A to allow simple remote control.

And for an expanded system, add a BVF-50 5" black and white viewfinder and CA-50 adaptor to your CVC-50 camera and run it all with our CCU-350 camera control unit.

CVR-35 Betacam SP Portable Video Tape Recorder

- Up to 120 minutes of recording • Excellent picture quality — with two playback modes • Four audio channels with performance to match the video • Frame accurate backspace editing and an RS-422 interface makes field editing easier • Multifunctional time code generator/reader with genlock • TBC interface adds versatility • Complete professional connector panel • Phantom power supply • Independent VU meters and controls are provided so you can accurately adjust record and playback levels on all four audio channels • Records and plays both Betacam and Betacam SP • Rugged and durable

Other Features Include:

- Built-in RF modulator • Time code/tape time display • Video input level display • Battery status display

Warning indicators are also provided for status of:

- RF • Servo lock • End of tape • Tape slack • Condensation • Low battery

The CVR-35 Portable VTR has been designed to deliver studio-quality video and audio recording and playback—even under the harshest conditions.



CVC-5
with CA-50 Adaptor



CVR-75

CVR-75 Betacam SP Studio Recorder/Player

- Automatic Scan Tracking™ (AST) with Dynamic Motion Control • Integrated TBC with remote control • SMPTE/EBU time code generator/recorder for LTC, VITC or User Bits • Built-in character generator • Capstan override capability • Built-in Sc/H phase indicators • Record inhibit switch with indicator • Multifunction hours meter • Four channels, 2 longitudinal, 2 AFM • Separate record and playback level controls for each channel • Four discrete audio level bargraphs with selectable Peak/VU indicators • Integrated mixer for Channels 1 and 2 • Low impedance audio monitor outputs for separate or mixed output • Dolby C noise reduction on longitudinal channels • Extended playtime • Up to 90 minutes with the larger cassettes • Compact, lightweight • Includes a full featured, flexible editing system

These features, when combined with the performance of Betacam SP, make the CVR-75 ideal for high quality ENG/EFP, broadcast replay, feeding a composite editing system, or post-production recording in the component domain.



ECM-4010 Edit Code Master

- Designed to take full advantage of the multitude of application possibilities for vertical interval time code • Combination generator and high speed reader for both, LTC and VITC • High resolution character inserter can be used to burn in a window from either the generator or reader data • Powerful microprocessor software and proprietary reader and generator circuitry combine to offer a time code system that will outperform any other • Modular construction using euro-card style EV-BLOC modules in a one rack unit high frame • High resolution character generator/keyer • Time and user bits presettable from front panel • Parallel and serial remote control • RS-232/422 serial port to interface to external computers • Alphanumeric user bit capability • Wide speed range in both LTC and VITC readers • Reads last valid code from either VITC or LTC in auto mode or manual priority selection • Several Jam-Sync modes with and without user bit transfer • Adjustable LTC output level to + 12dBm • Keypad lock-out prevents unauthorized tampering

ECM-4010\$4995.00

3700D Edit Code Master

- Longitudinal time code generator and full speed reader (over 2000:1 speed ratio) • Video character generator with high resolution characters and alphanumeric user bit decoding is standard • Separate generator and reader displays are particularly useful in Jam-Sync modes and when operating reader and generator independently • High flexible Jam-Sync modes allow transfer of reader time and user bits into the generator in a variety of configurations • Full alphanumeric user bit functions can be used to record tape index, captions, source identification or other data along with the time code • RS-232C serial port permits interfacing to remote control panels, computers, editors, etc. • Multiplexed parallel BCD output of reader time and user bits • An aural alarm signals genlock problems. This can be disabled if, for example, the generator is locked to a VTR rather than house Sync or PGM video

3700D\$3650.00

3600D Edit Code Generator/Reader

- SMPTE/EBU edit code generator, a full speed reader and a video character inserter in a slim one rack unit package • True dual standard, NTSC and PAL. Generates time code in accordance with SMPTE RS-170 or RS-170A, or EBU 4 or 8 field standards (4 switch selectable modes), locked to the PGM video source • Front panel format switches, no need to disassemble whenever certain system parameters need to be changed, e.g. field 1 or 2 update of VCG, color framing, drop frame, etc. • Reads time code from 1/30X to 70X play speed • High resolution character generator in two character sizes, full screen positionable, keys time and user bits into the picture • Momentary and continuous Jam-Sync modes. In Cont Jam, good code is automatically substituted when synchronizing to poorly recorded or disrupted code

3600D\$3150.00

4900 Edit Code Reader/VCG/Translator

- Capable of hesitation-free time code display from 70X down to 1/30X play speed • VITC option all the way down to still frame • Full speed range LTC reader • Optional VITC decoder module • Easily accessible formatting DIP switches • High resolution character inserter; 2 sizes • VITC source ID decoder • Byte-wide parallel data output for easy editor interface • Play speed LTC translator output incorporating a soft-lock feature provides continuous time code at all reading speeds from still frame to maximum wind • LTC code phase corrector/regenerator for dubbing

4900\$1995.00

49V VITC Reader Module for 4900300.00



ECM-4010



3700D



4900

800 Portable SMPTE Time Code Generator

- Generates time code in 30, drop frame and 25 fps • Video Sync lock, code error, battery low indicators • High intensity LED display with blanking capability • Built-in play speed reader with Jam-Sync • Generator hold and reader hold functions • Long battery life • Large, easy to read keypad • Full user bit capability, including hexadecimals • Generator preset function • Automatic start/stop function for generator

800\$1395.00

TCR-500 Time Code Reader/Character Inserter

- Provides low cost solution to the recovery and video display of SMPTE time code • High resolution character keyer which inserts the time code display into the active video picture • Perfect choice for off-line or field time code reading and "burn-ins" • Characters displayed are 16 scan lines per field in height. External controls for complete horizontal and vertical positioning of display, and character level. User selectable display of time code, user bits, or both. Characters may be white with black border or vice versa. Drop-frame, non-drop-frame, and reading error indicated in display • Two isolated video outputs containing video input with or without character display. The outputs are source terminated into 75 ohms and provide unity gain from the video input • Composite video 2V p-p (not terminated). Looping input via BNC connectors • Balanced or unbalanced input of SMPTE time code at a signal level from -30 to +40dBm, at tape speeds of 0.1X to 10X play (tape machine dependent). XLR connector

TCR-500\$995.00

6000 Time Code System

The 6000 Time Code System is a low priced, full featured SMPTE time code generator, reader, character inserter.

- NTSC/PAL time code generator which generates code in 30, drop-frame, 24, and 25 frames per second • Variable speed time code reader (to 5X play, forward and reverse) with both momentary and continuous jam sync • High resolution character inserter with 9 different character display modes and complete raster positioning • Large (0.8") front panel LED display with variable intensity • Front panel keyboard entry of time code and user bits • Two isolated time code outputs • Parallel input/output of time code and user bits • Color framing capability • Generator hold function • All functions controlled from front panel

6000\$2495.00



ANCHOR AUDIO, INC.

PORTABLE SOUND SYSTEMS/ HEADSETS/CABLES

AN-1000/1400 Audio Systems

- World's smallest professional quality sound systems • 50WRMS power MOSFET amplifier • Full range speaker in a tuned enclosure top produce a frequency response of 70Hz to 15kHz

- The AN-1000 has an unbalanced line input (1/4" phone) and front volume control • Mounts into a 5 1/4" rack space with the RM-1000 Rackmount Kit

- The AN-1400 has a transformer balanced line input (XLR) • Front volume control • Headphone output • Fits perfectly into a Tektronics rack assembly

AN-1000\$289.00
AN-1400429.00

AN-200M/250M Audio Systems

- For music playback or voice reinforcement • Power to cover groups in excess of 500 people • It's the only portable audio system that can provide the music reproduction quality and vocal punch in a package this size • Cabinet is real wood in a walnut veneer • System includes: Line level 55W amplifier • Tfr4 1/2" full-range speakers • One HF dome tweeter

AN-200M Complete sound system\$429.00
AN-250M "Roadie" cabinet. Unpowered speaker (AN-025) . .449.00

COM-2/4/6

Porta-Com Headset Intercom Systems

- Systems use "AA" batteries or AC adaptor • Single central control amplifier eliminates the need for individual amplifiers at each headset
- Headset includes dynamic, Lo-Z noise-cancelling microphone with optional mike switch • Call button and single ear • Extension cables
- Branch boxes • Bulk cable • Permanent installation hardware • Accessories and custom design assistance available

COM-2 2 Headset System\$ 589.00
COM-4 4 Headset System879.00
COM-6 6 Headset System1289.00

Microphone Multiple Input Cables "Snakes"

- Handmade with quality workmanship and components • Rugged and durable for long life performance • The steel input box has side-mounted connectors and protective lid overhang • It has superior strain relief at box and reinforced cable at the spread • Quality Neutrik XLR connectors are used for the mike inputs and sends for balanced lines • Various models, lengths and configurations available

6AM-BX-50\$289.00
6AM-BX-100339.00
6AM-DBX-50329.00
6AM-DBX-100379.00
6DAM-DBX-50379.00
6DAM-DBX-100429.00
6EXM-EXF-50 50' Extension cable for detachable model snake159.00
6EXM-EXF-100 100' Extension cable for detachable model snake209.00
6PRC Bulk 6 pair cable for custom link snakeper foot/1.40

AN-256M Audio System with Mixable Inputs

- The perfect marriage of mixer, amplifier and speakers in a portable audio system • Perfect for mixing voice and music • It can easily handle a crowd in excess of 500 people • The audio system includes: powerful 55WRMS amplifier • Two 4 1/2" full-range speakers • One HF dome tweeter • Two mike inputs • One auxiliary input (with separate volume controls) • Record output • Speech/music equalization switch • Unswitched AC outlets

AN-256M With "roadie" type cabinet.\$529.00



PB-1500 Orator Audio System with Microphone

- Includes two bi-level inputs (mike or line level) • Rechargeable battery • Built-in recharger • AC adaptor • Dual 15W amplifiers • Two-way speaker system • Housed in a durable, lightweight, polyethylene enclosure • 21"H x 12"W x 10"D • 25 lbs.

PB-1500\$489.00
P-1501 Orator—unpowered companion speaker for PB-1500 . .289.00

PA-500 Porta-Vox "Outdoor" Audio System

- Powerful, portable public address system • Can cover an area the size of a football field or a crowd in excess of 5,000 people • 50W amplifier • Mike and auxiliary inputs (with separate volume controls)
- Record output • Tone control • External speaker output • Also available with wireless microphone option • Exclusive built-in protection circuit prevents damage from overcharging or excessive discharge
- Battery will give 10 hours of continuous service, and will recharge to 90% in four hours • System includes: Mike • Mike cable and speaker cables that are stored inside the unit • Two re-entrant horn-type speakers that latch onto the cabinet for maximum portability.

PA-500\$789.00

PA-15B Mini-Vox Handheld Audio System

- 10W of sound power provide a punch and projection that will make you sit up and take notice • Ideally suited for tour guides • Industrial applications • Government agencies • Law enforcement agencies • Schools • Athletic departments • Recreation departments • Auctioneers • Community centers • Sturdy high-impact plastic case with a metal grill • Permanent handle • Detachable shoulder strap • System includes: 10W of sound power • 6" full range speaker • Detachable microphone • Auxiliary input and output • Built-in recharger for optional NiCad batteries

PA-15B Weighs less than 5 lbs. with batteries\$189.00
RC-15 Optional NiCad battery kit69.00

MPB-3500 Liberty Dual Sound System

- Music quality or speech projection (switchable) • Battery operable • 50WRMS bridged MOSFET amplifier • Rechargeable batteries • Built-in recharger • Two balanced Lo-Z mike inputs • Line input • Treble and bass equalization • Line output • External speaker output • Housed in a polyethylene enclosure

MPB-3500\$879.00



BATTERY SYSTEM/CHARGERS

Silver Battery System

• Silver Zinc batteries will operate equipment approximately three times longer than NiCad batteries of equivalent size and weight. In many cases the SV-13 Silver Battery will operate a camera for an entire day • Fully compatible with Anton/Bauer Snap-On accessories and Snap-On mounts, and will power all video cameras and VTRs • Not recommended for lighting applications • Silver batteries can only be charged with the Anton/Bauer SVDC-13 Silver Battery Charger

SV-13. 12AH, 13.5V Snap-On Silver Battery. • Expected life: 80-100 charge/discharge cycles (one year maximum) • Typical run time: 6 hours at 25W • Wgt. 4 1/2 lbs. • Individually computer tested and packaged with computer printout. **POR**

SVDC-13 Digital Control Silver Charger. • Charges two SV-13 Silver Batteries simultaneously and independently • Overnight or 6 hour charge rate, selectable • Dual protection circuits • Charge rate indicators and green ready lights • Size: 8 1/2" x 5 1/2" x 10 1/2" • Wgt. 14 1/2 lbs. • 115/230V, 50/60Hz **\$1985.00**

SVSC. Silver System Shipping/Carrying Case. • Heavy-duty case features custom foam interior that holds one SVDC-13 Charger and two SV-13 Silver Batteries • Rugged hardware and an outer shell of high density polyethylene fully protects battery charger during shipment • Size: 18" x 11" x 16 1/2" **\$295.00**

Lifesaver® NiCad Chargers

The first 100% safe charging systems. Lifesaver circuit safely maintains fully charged battery indefinitely. All Lifesaver chargers feature • 3 automatic charge rates • Logic controlled charge monitor circuit • Battery coupled cell sensing system with hot and cold temperature protection • Integral Anton/Bauer Snap-On bracket directly accepts Snap-On type batteries • Special Triconn 3-conductor connector accepts Pro Pac 90 and other BP-90 type VTR batteries

LSFC. Lifesaver Fast Charger. • Single position, one hour charger • Accepts all Anton/Bauer 4AH Snap-On, Pro Pac 90, NiCad batteries • And all Anton/Bauer battery belts • Size: 7 1/2" x 6 1/4" x 4" • Wgt. 4.4 lbs. • 115/230V, 50/60Hz **\$595.00**

LSQC. Lifesaver 8 Hour Single. • Single position, 8 hour quick charger • Accepts all Anton/Bauer 4AH Snap-On, Pro Pac 90, and Pro Pac 60 NiCad batteries • Charges other brand BP-90 type batteries at the overnight rate • Size: 6 1/2" x 4 1/8" x 3 5/8" • Wgt. 5.5 lbs. • 115/230V, 50/60Hz **\$395.00**

LSQ4. Lifesaver 8 Hour Quad. • Four position 8 hour quick charger • Independent charge circuits and LED indicators for each position • Accepts any combination of Anton/Bauer 4AH Snap-On, Pro Pac 90 and Pro Pac 60 NiCad batteries • Charges other brand BP-90 type batteries at overnight rate • Size: 10 1/4" x 3 5/8" x 7" • Wgt. 5 lbs. • 115/230V, 50/60Hz. **\$995.00**

MP-8 Lifesaver 8 Position Microprocessor Charger. • Automatically identifies any combination of battery • Equalizing routine restores batteries to full capacity • Red and green LED's for each position • 24 character two line LCD provides detailed charge information for each battery. **\$3370.00**

MP-4 Lifesaver 4 position microprocessor charger \$2370.00

PROBE Programmed Battery Evaluator. • Diagnostic and Rejuvenation access for MP-8 and MP-4 chargers **\$795.00**

Special Purpose Charger

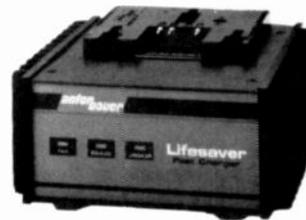
MFC. Mobile Fast Charger. • Single position universal one hour fast or 16 hour, overnight charger • Operates from most vehicles with or without engine running • Accepts all Anton/Bauer Snap-On NiCad batteries and Pro Pac 90 batteries using TSO-90 XLR adaptor • Protection circuit that disconnects charger if vehicle voltage becomes too low • Operates on 10-15VDC input • Size: 6" x 7 1/2" x 3 1/2" • Wgt. 2 3/4 lbs. **\$595.00**

Micro Chargers

Micro Chargers are designed for travel or as back up chargers and are not recommended as a primary charge system. Prolonged use of Micro Chargers may contribute to premature battery aging.



Silver System Batteries and Charger



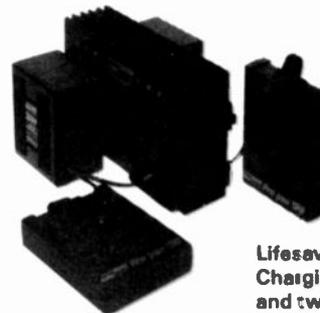
Lifesaver Fast Charger



SVSC Shipping Case (shown with Silver System)



Mobile Fast Charger



Lifesaver 8 Hour Quad Charging the Pro Pac 13 and 14, and two Pro Pac 90 batteries



MP-8

MC-14. Micro Charger 14 Volts. Miniature wall mount overnight (16-18 hours) charger for Pro Pac 14. Must not be used with 13V or 12V batteries. For 115VAC only. **\$95.00**

MC-13. Micro Charger 13 Volts. Miniature wall mount overnight (16-18 hours) charger for Pro Pac 13. Must not be used with 14V or 12V batteries. For 115VAC only. **\$95.00**

TPMC-12. Trim Pac Micro Charger. Compact overnight charger for 12V Trim Pac battery. Full charge in 16-18 hours. For 115VAC only. . . **\$95.00**

U-12MC. Micro Charger 12 Volts. Miniature wall mount overnight (16-18 hours) charger for the Power Strap. Must not be used with 14V or 13V batteries. For 115VAC only **\$95.00**

CPMC-14. ComPac Micro Charger 14 Volts. Miniature wall mount overnight (16-18 hours) charger for the ComPac 14 battery only. Not to be used with any other battery types. For 115VAC only **\$95.00**



Snap-On® NiCad Batteries

• Snap-On batteries feature • Quick change design for instant camera mounting without cables or connectors • Premium fast charge cells and exclusive all-cell sensing • Batteries are individually computer tested and shipped with a print-out • Accessories are available for mounting Snap-On batteries on belts, VTRs, monitors, and other portable equipment

Pro Pac® 14 4AH, 14.4V Snap-On NiCad Battery. Fast or slow charge. 4¾ lbs. Typical run time: 2 hours at 25W, 3 hours at 18W, 4 hours at 13W \$525.00

Pro Pac 13 4AH, 13.2V Snap-On NiCad Battery. Fast or slow charge. 4¼ lbs. Typical run time: 2 hours at 24W, 3 hours at 16W, 4 hours at 12W \$505.00

Trim Pac® 2AH, 12V, Compact Snap-On NiCad Battery. Fast or slow charge. 2½ lbs. Recommended for applications drawing under 15W. Typical run time: 1½ hours at 12W \$250.00

Recommended Battery Applications: The Pro Pac 13 is a universal battery that will power virtually all ENG/EFP cameras, VTRs, and monitors. However, the Pro Pac 14 will yield superior performance and capacity on those cameras that can accept the higher voltage.

Pro Pac 14/Com Pac 14	Pro Pac 13	Trim Pac
Ikegami	Panasonic	JVC KY-1900
RCA	Bosch	Sony BVP-110
Sharp	Hitachi	
Thomson	Ampex	
Philips	JVC	
	Sony	
	NEC	

Pro Pac® 90 Professional VTR Battery

The Pro Pac 90 is a premium professional version of the Sony BP-90 type VTR battery. Unique features include: • Special fast charge premium cells • Printed circuit board design instead of wiring • Individual cell sensing system • Low temperature protection circuit • Special Tri-con® 3-conductor connector (eliminates need for separate fast charge cable) • Accessible fuse with spare fuse • Heavy duty molded housing and steel reinforced molded strain relief on cable • Can be charged directly with all Lifesaver Chargers • Can also be charged with other brand conventional chargers but without benefit of the individual cell sensing protection system

Pro Pac 90. 4AH, 12V NiCad VTR Battery. Fast or slow charge. 3½ lbs. Typical run time: more than 3 hours at 14W \$330.00

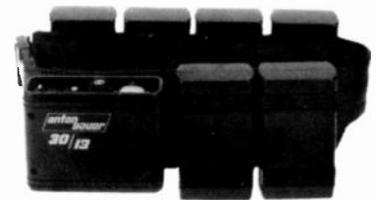
T-SO-90. Pro Pac 90 to Snap-On Adaptor. Allows Pro Pac 90 to fit any Anton/Bauer Snap-On Bracket; i.e., for on camera mounting or for wearing on a belt with UniPac holder. Adapts Pro Pac 90 to charge on the mobile fast charger \$195.00

NP-1A. High Capacity (1.7AH) 12V NiCad VTR/Camera Battery. Direct replacement for NP-1 type battery applications. Can be charged with any NP-1/NP-1A charger. Typical run time one hour at 18W . . . \$85.00

Power Strap. A multi-purpose battery strap designed for use with all portable video recorders and low voltage portable lighting equipment • Can be worn as a belt for lighting applications • At 12V, 4AH, the Power Strap will continuously run a VO-6800 recorder for 3 hours or power a 25W Ultralight bulb for 2 hours • User accessible 8A circuit breaker • Made of 1000 denier Cordura • Supplied with a nylon strap for belt mounting and a 14-16 hour overnight charger • Can be fast or quick charged with any Anton/Bauer Lifesaver® charger with the optional CA-30 charge cable. Accessory cables are available for most DC power requirements \$395.00



Pro Pac 90



30/13 Battery Belt



Power Strap



DBH. Dual Battery Holder



Pro Pac 13/14



PPSA-D. Perpetual Power Belt

CC-68 Cable. VTR coiled cable with right angle connector to power most popular recorders. 4-pin DC input \$70.00

Universal NiCad Battery Belts/holders

The ultimate battery belt. Powers virtually all portable equipment, including 30V lights, all 13V cameras and VTRs, and UltraLight Modular Lighting System. Unique construction features include: • Leather belt • Lexan® battery modules • Quick release military buckle • Anatomical design • Can be worn around the waist, over the shoulder or bandolero style • 30V, 4AH or 13.2V, 8AH switchable • Built-in 115/230V overnight charger • Voltage display • Charge indicator • Input and output circuit breakers • Multiple charge sensors • In low voltage lighting applications 80W maximum total light output (one or two bulbs)

30/13 Battery Belt. • 30V, 4AH or 13.2V, 8AH switchable • Built-in 115/230V overnight charger • One hour fast charge • 10A circuit breaker • Waist size: 32" to 48" adjustable • Wt. 11 ½ lbs. . \$885.00

CA-30. Fast Charge Cable. Connects 30/13 belt to Lifesaver 1 hour fast charger (LSFC) \$65.00

PPSA-D. Perpetual Power Belt-Automatic. • Accepts two Snap-On batteries of any type • When first battery is depleted, the belt automatically draws from the second • First battery may be replaced and the process repeated providing uninterrupted power • Leather belt • Quick release aircraft buckle • Lexan control module with voltage display • Circuit breaker • 2 output connectors for powering a camera and a VTR simultaneously \$335.00

DBH. Dual Battery Holder. • Accepts a pair of either 2 Pro Pac 13 or Pro Pac 14 Snap-On NiCad batteries • Provides 8AH of continuous power to run a typical camera 4 hours • Control module monitors battery capacity and switches automatically to the second battery when the first is depleted • First battery may be replaced and the process repeated, providing uninterrupted power • Low-battery warning LED • 5A circuit breaker • Universal 5-pin XLR output • Size: 5½" x 3" x 6" Wt. 1½ lbs.. \$295.00



BATTERY-OPERATED LIGHTS

UltraLight® System

The UltraLight System provides compact, lightweight, and versatile portable lighting. UltraLights become fill, spot or flood lights according to the selection of quick-change bulbs, filters, and focus adaptors. The removable lighthead module allows bulb changes in the field without direct handling. A working system requires one or more of the power cables/adaptors listed below as well as a bulb of corresponding voltage.

- ULS. UltraLight Single. • Single base and head module with single power input • Includes one BAB 24W bulb \$195.00
- ULD. UltraLight Dual. • Dual base with two head modules • Two switches and single power input • Includes two BAB 25W bulbs Bulb voltages must be matched • Total power draw not to exceed 100W \$350.00
- UL-HM. UltraLight Head Module • Extra quick-change rugged aluminum module to house alternate or spare bulbs \$75.00

UltraKit® Complete 12 Volt Lighting Kit

- UltraLight Single
- UltraLight Dual
- Kits include the following:
 - 12V Power Strap NiCad fst charge battery pack with integral belt loop and detachable ULC-L power cable • Wall-type Micro Charger • One (Single UltraKit) or two (Dual UltraKit) 12V BAB 25W flood bulb
 - Heavy duty shipping case with custom fit foam interior (extra spaces allowed for accessories).

Filters, spare head modules, and power adaptors/cables may be purchased separately if required. Lifesaver fast charge (LSFC) with the optional CA-30 charge cable adaptor.

- Single \$595.00
- Dual. 750.00

Power Adaptors

ULPA. UltraLight Light Tap Power Adaptor. • Allows camera battery to power UltraLight(s) and camera simultaneously • Maximum 85W total light output (one or two bulbs) • NiCad only.

. \$130 00

ULAC. UltraLight AC Power Supply. • Compact AC power supply allows use of low voltage bulbs (12-14V) where AC power is available • Maximum 90W of light output (one or two bulbs) • 115/230V, 50/60Hz, 12-14VAC for lighting applications only • (Requires ULC-LAC cable) \$265.00

UL-UP. UltraLight UniPac. • Compact Anton/Bauer Snap-On bracket with integral belt loops and 5' cable with XLR-2 DC input connector • Maximum 85W total light output (one or two bulbs) • NiCad only \$130.00

Adaptors/Filters

UL-WA. UltraLight Wide Angle Adaptor. • Optical device that provides a smooth, even pattern that will cover the widest angle zoom lenses • Can also be used with flood bulbs to smooth out uneven bulb patterns \$55.00

UL-DF. UltraLight #1 Diffuser. • For use with spot bulbs • Lowers light output by one "F" stop (50%) while softening the edges of the beam pattern. \$55.00

UL-DC. UltraLight Dichroic Filter. • Converts output of all bulbs to match 6000°K daylight • Must be used when using UltraLight for daylight fill or cool white fluorescent fill \$98.00

UL-BD. UltraLight Barn Door Kit. • Includes two hinged barn doors to fit UltraLight. \$75.00



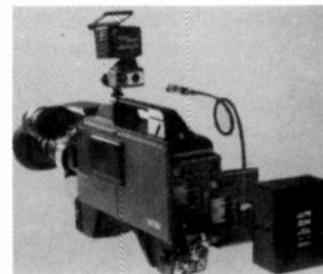
UltraLight Single with UL-WA Focus Adaptor



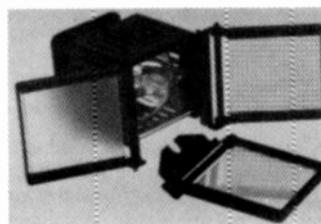
UltraLight Dual



UltraKit



ULPA Power Adaptor allows battery to power UltraLight and camera simultaneously



UltraLight head module with Adaptors and Filters



ULAC

Brackets

These brackets are used for quick mounting the UltraLight on all popular cameras. The UltraLight can be mounted to any 5/8" stud mount or light stand in either a horizontal or vertical position (facing down.)

BR STUD 1/4. For all cameras with 1/4-20 threaded accessory hole. \$55.00

BR STUD 3/8. For all cameras with 3/8-16 threaded accessory hole. \$55.00

BR SHOE. For all cameras with microphone/accessory shoe \$55.00

BR UNIV. Universal mount that clamps onto the handle of virtually any camera \$55.00

BR U2. Similar to BR UNIV but permits mounting of two UltraLight Singles or one stud may be replaced by a microphone holder to allow operation of UltraLight Single or Dual with a microphone. \$75.00

UL-HH. UltraLight handle with 5/8" stud for off camera hand-held applications. \$55.00

Cables

ULC-L. 5' cable for 12-14V application. 5 pin male to 2 pin XLR female \$60.00

ULC-30. 5' cable for 30V applications. 2 pin male to 2 pin XLR female \$60.00

ULC-110. 8' 110V cable. Wall plug to 2 pin XLR female \$50.00

ULC-LAC. 8' cable for operating UltraLight from ULAC power supply. 2 pin male to 2 pin XLR female \$60.00

ULC-BETA. 2' cable for operating UltraLight directly from QR-BETA brackets. Eliminates need for UltraLight power adaptor (ULPA). 4 pin male to 2 pin XLR female \$60.00



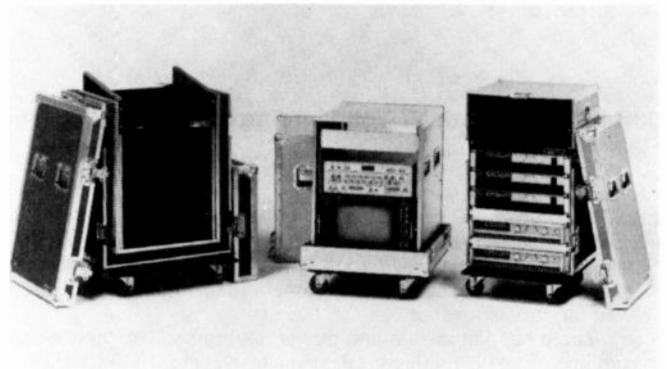
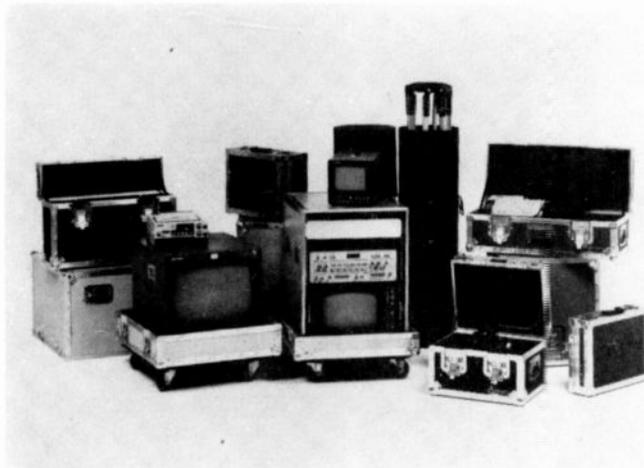
Transit Cases

Anvil® A.T.A. Cases offer the ultimate in protection. They conform to the Air Transport Association specification 300, Category 1 standards for reusable shipping containers. Anvil A.T.A. Cases must withstand the rigors of more than 100 round-trip transittings, on both surface vehicles and aircraft, to qualify for this rating.

In addition to custom-designed models for individual requirements, Anvil maintains a design library containing literally thousands of stock

case models which can be shipped as is, or modified to meet your requirements, and shipped without delay.

Case interiors are custom-designed to provide maximum shock absorption and vibration resistance. Soft, resilient unicellular polyfoam is sculptured to fit around your equipment like a glove. Quality control is assured through numerous inspections during and at the conclusion of the manufacturing process.



A.T.A. Video Cases

We can build a strong case around any broadcast, industrial or educational video product on the market. Just give us the model number of your camera, recorder, monitor or any other component or combination—and we'll give you a case that will make sure your video components are ready to get the shot when you are, every time.

E.I.A. Rackmount Cases

Standard 19" rackmount components can be safely and easily moved to your location—shoot ready. Anvil offers several variations on the rackmount design; front and rear removeable lids with or without shock isolation option, pull-over-lid design (case within a case design), or the popular mixer/rack arrangement providing rackmount space horizontally opposed to standard vertical rack space. Whichever way you go, Anvil has the rack case to make for the fastest setup and strike.



A.T.A. & Forge® II Audio-Visual Cases

Want your A/V shows to come off without a hitch, time after time? Pack your gear in Anvil cases and relax. Our catalog includes models for motion, slide, strip and overhead projectors, as well as multi-image devices and dissolve units. And we've got your sound system covered too. Forge II carrying cases are now available for selected film-based items.

A.T.A. & Forge® II Computer Cases

Now you can ship individual computer components, or entire mini or micro computer systems, anywhere in the world without the slightest bit of worry. Our A.T.A. Computer Case catalog contains models for hundreds of different components and system combinations. And mixing components from different hardware manufacturers is as easy as giving us the brand names and model numbers. We'll recommend the case or cases required to provide the highest degree of protection possible. And we can custom-design your cases to provide room for software and peripherals, too.

**MICROPHONE STANDS/
BOOMS**

Porta-Series Stands

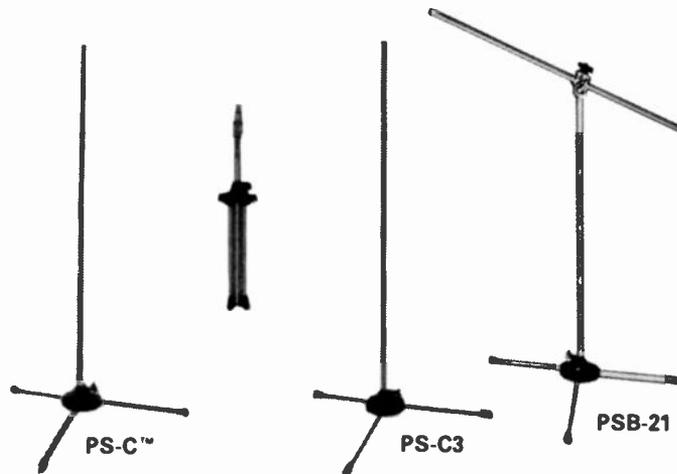
PS-C Telescopic Stand • Fully portable and foldable, tripod microphone floor stand designed for the performer • All-metal grip-action clutch • 5/8" -27 termination for U.S.-standard microphone holders • Charcoal diecast base • Height: 35"-63" (89-160cm) • Base Spread: 25" (63cm) • Storage/Shipement Length: 32" (81cm) • Weight: 4.5 lbs. (2kg)

PS-C\$51.10

PS-C3 Special Height Stand • Three section telescoping vertical tube assembly • Two all-metal grip-action clutch assemblies • 5/8" -27 termination for microphone holders • Height: 26"-66" (66-168cm) • Base Spread: 25" (63cm) • Storage/Shipement Length: 22" (56cm) • Weight: 4 lbs. (1.8kg)

PS-C3\$59.80

PSB-21 "2 in 1" Stand Porta-Stand/Boom • Portable • "Two-in-one" stand • Microphone boom/stand combination with folding tripod base for maximum portability and flexibility • Requires no assembly or disassembly for use or transportation • 35" to 65" H • Boom extension to 30" L • Weight: 5.0 lbs.



PSB-21\$60.45

Ebony Stands and Booms

• Contemporary professional microphone stands and boom attachments • Non-reflective surfaces specifically designed to eliminate the specular visual effects of high intensity lighting • Recommended for use by performers whenever appearance is a major consideration • All "E" (Ebony) model microphone stands and horizontal booms are supplied with an attractive electrostatically-applied, baked powdered epoxy coating that withstands the rigors of transportation and assures prime appearance even after repeated use.

MS-10CE Microphone Floor Stand • Recommended for use in schools, clubs, lecture halls, and restaurants, wherever sound systems are utilized • 35" to 63" height

MS-10CE\$37.13

MS-12CE General Purpose Floor Stand • Wearproof grip action clutch and low silhouette base • For stage and studio applications and for use in auditoriums, meeting rooms, churches, hotels, indoors and outdoors

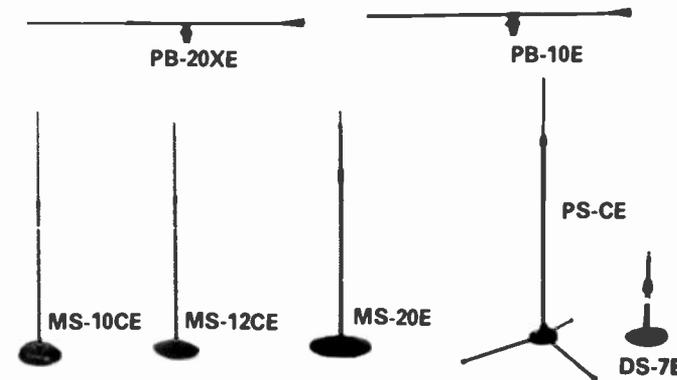
MS-12CE\$37.13

MS-20E Heavy-Duty Professional Stand • Oversized grip action clutch • Extra height • Oversized 1 1/8" dia. tube assembly with 5/8" -27 thread top adaptor • Low contour base height 37"-66" • Base 12" dia. • Weight: 14 lbs.

MS-20E\$72.35

PS-CE Portable Single Unit Tripod Floor Stand • For fast and instant setup • Shipment length: 32"; 35"-63" height

PS-CE\$52.63



DS-7E Adjustable Desk Stand • 5/8" -27 U.S. standard microphone thread termination • 8" to 13" height

DS-7E\$21.50

PB-20XE Expandable Length Porta-Boom • Integral counterweight for microphone placement flexibility • 5/8" -27 thread on mounting • Easily adjusts from 25 1/2" to 44 1/2" L • Weight: 2 lbs.

PB-20XE\$35.15

PB-10E Fixed Length Porta-Boom • Standard single length microphone boom attachment • 5/8" -27 thread on mounting • Oversized controls • 34" L • Weight: 1.9 lbs.

PB-10E\$34.43

Studio Stands and Boom Attachments

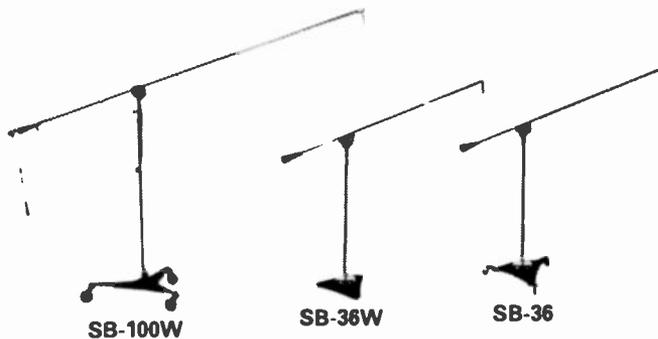
SB-100W Studio-Quality Mobile Microphone Boom • With 110" (279cm) horizontal arm • Integral operator-controlled 350° arc microphone-follower • Adjustable upright height from 61 1/2" to 91 1/2" (156-235cm) • Includes tapered counterweight for precision balance • Cable guide clips • Cable hanger • Heavy-duty rubber wheels with locks • Base Dia.: 34" (86cm) • Weight: 47.2 lbs. (21.5kg)

SB-100W\$821.28

SB-36W Mobile Model • Same as SB-36 • With rubber casters for mobility • Weight: 40 lbs. (18kg)

SB-36W\$299.65

SB-36 Professional Boom Stand • Grip-action clutch with integral air suspension system to counterbalance boom weight • 5/8" -27 thread at microphone end • Boom length 62" (157cm) • Adjustable vertical height from 48" to 72" (122-183cm) • 17" (43cm) dia. triangular



base • Textured charcoal base with chrome cover • Furnished with cable hangers • Weight: 36 lbs. (16kg)

SB-36\$254.40

Microphone Desk Stands

DS-1 Executive Stand • Non-adjustable 3" high chrome tube • Luxurious, 5" x 7", polished white Carrera marble base to complement appearance of desk or conference tables • Weight: 2 lbs.

DS-1\$34.48

DS-2 Vibration-Isolating Stand • Non-adjustable 3" high chrome tube • Integral tension-variable mount • 4" x 6" diecast base in non-reflective charcoal finish • Weight: 2 lbs.

DS-2\$26.80

DS-4 Lightweight Stand • Non-adjustable 4" high chrome tube • 5" dia. phenolic beige base • Weight: 1/2 lb.

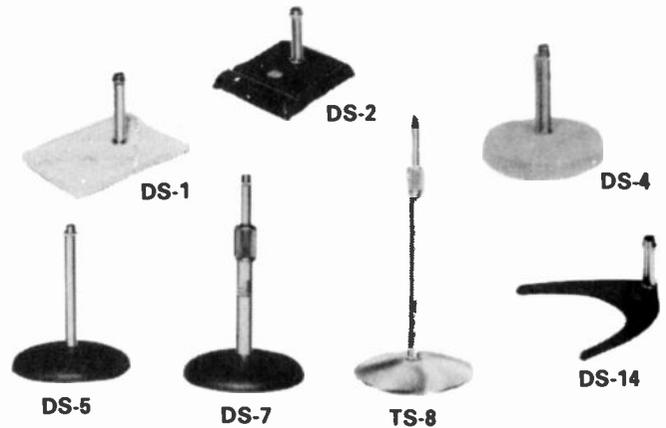
DS-4\$9.45

DS-5™ General Purpose Stand • Non-adjustable 4" high chrome tube • 6" dia. cast iron charcoal base • Weight: 2 lbs.

DS-5\$13.85

DS-7™ Adjustable Desk Stand • Chrome tube assembly • Adjustable height 8" to 13" • Grip-action clutch • 6" dia. charcoal base • Weight: 3 lbs.

DS-7\$20.05



DS-14 Contemporary Stand • For professionally styled microphones • Non-adjustable 3" high chrome tube • Charcoal base • Weight: 2 lbs.

DS-14\$18.40

TS-8 Adjustable Banquet Stand • Chrome tube assembly • Height 14 1/2" to 26" • Grip-action clutch • 8" dia. low-silhouette chrome base • Weight: 5 1/2 lbs.

TS-8\$41.98

Accessories

GN & GNS Flexible Goosenecks • Attach to any Atlas Sound stand or adaptor • 5/8"-27 male and female threads • Standard models, .338" I.D.

GN-6 Gooseneck; 6" long\$6.65

GNS-6 "Slimline" Gooseneck; (.212" I.D.) 6" long6.65

GN-13 Gooseneck; 13" long9.30

GN-19 Gooseneck; 19" long12.80

CO-1B Connect-On Swivel • For installation at any height level of a second 5/8"-27 thread microphone on 5/8" or 7/8" dia. tube of any floor or desk stand • Charcoal finish

CO-1B\$14.43

SO-1B/LO-2B Snap-On/Lock-On Accessories • For instantaneous fastening or disconnect of microphone holder or boom attachment • Use with standard 5/8"-27 thread stand

SO-1B\$10.70

LO-2B12.55

CH-1B Cable Hanger • Essential for neat appearance of microphone cable, moving and storage of every complete microphone stand • Fits all tube assembly sizes • Single screw mounting • Chrome finish

CH-1B\$11.40

BC-1 Bracket Clamp • For table, desk, counter top • Non-adjustable 6" high chrome tube • 5/8"-27 thread • Weight: 1 lb.

BC-1\$16.20

TM-1 Twin Mount • Designed for horizontal mounting of two or three microphones on any stand or podium-top installation • Fits all 5/8"-27 thread microphones • 8 3/4" wide • Chrome finish

TM-1\$18.40

SW-1B Gyromatic Swivel • Permits microphone adjustment to any angle • Locks in position with single knob • Chrome finish

SW-1B\$16.98

VM-1 Shock-Mount Accessory • Greatly reduces external mechanical vibration pick-up microphones • Fits all 5/8"-27 thread microphones • 4 3/4" high • Chrome finish

VM-1\$21.80



TB-58X Extension Tube • 31" additional height or length for 5/8" diameter tube • Use with AD-5B adaptor

TB-58X\$8.70

TB-78X Extension Tube • 31" additional height or length for 7/8" diameter tube • Use with AD-6B adaptor

TB-78X\$10.08

US-2 Flange-Mounting Microphone Support • For learning labs, lecterns, consoles, control racks • 12 3/4" long boom on spring loaded swivel with cable feed-through • 180° vertical cable feed-through • Weight: 1 lb.

US-2\$32.43



UniPoint™ Series Microphones

AT837 and AT859

Common Features

- Frequency Response: 40-18,000Hz (close)
70-18,000Hz (distant)
- Battery: NEDA Type 910 ("N-Type")
- Switch: On-Off (battery only)
- Phantom Power Requirements: 9-52VDC (2mA)
- Output Connector: 3-pin XLRM, phased and balanced

AT837 Designed specifically for permanent sound reinforcement installation, the AT837 mounts directly to any podium, pulpit, or table surface. From the microphone, 9'9" (3 meters) of shielded cable is terminated by a screw-on mini-plug for positive connection to the AT8504 power module.

- Output Impedance: 600 ohms with or without power module • Signal to Noise Level: > 40dB at 1kHz/0.1Pa • Weight (microphone less cable): 5 oz. • Microphone Length: 14¹¹/₁₆" above mounting surface
- Accessories Furnished: AT8102 Windscreen, AT8504 Power Module, Battery

AT837\$ 150.00

AT859 The AT859 lets you instantly vary the length from 11" to 19" with its telescoping wand. It fits any standard A-T stand mount for use on podiums, floor, or desk stands.

- Output Impedance: 400 ohms • Signal to Noise Level: > 45dB at 1kHz/0.1Pa • Weight (microphone less cable): 3.6 oz. • Microphone Length: 11⁷/₁₆" to 18²/₁₆" • Accessories Furnished: AT8102 Wind-screen, AT8405 Stand Clamp, Battery

AT859\$ 190.00

AT853, AT855, AT857AM and AT857QM

Common Features

- Frequency Response: 30-20,000Hz
- Sensitivity: -50dB (0dB = 1mW/Pa)
- Output Impedance: 400 ohms with power module, 600 ohms without module (AT857QM 400 ohms)
- Signal to Noise Level: > 47dB at 1kHz/0.1Pa
- Battery: NEDA Type 910 ("N-Type")
- Switch: On-Flat/On-Roll-off/(Off-battery only) (AT857QM Flat/Roll-off recessed)

Phantom Power

- Requirements: 9-52VDC (2mA)
- Output Connector: 3-Pin XLRM, phased and balanced

AT853 This tiny microphone is barely over 1³/₁₆" long, < 1/2" in diameter, and weighs just 1/2 oz. Comes with two mounting methods, cable hanger or stand adaptor.

- Cable: 25' permanently attached to microphone, TA3F output connector • Accessories Furnished: AT8102 Windscreen, AT8505 Power Module, Battery, Desk Stand Adaptor, Steel Hanging Adaptor

AT853\$210.00

AT853W White finish version of AT853.\$240.00

AT855 For those installations where the flexibility of a gooseneck is not desired, the AT855 with fixed tube is offered. Ideal for both speech and full-range music applications.

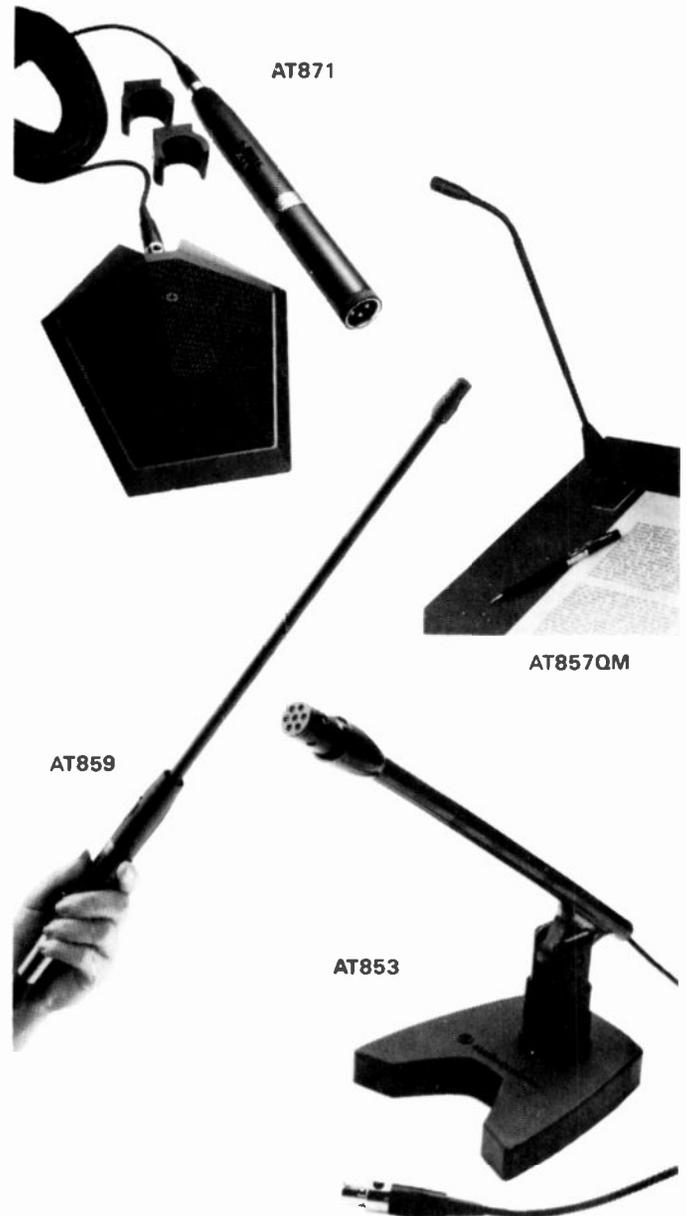
- Cable: 9'9" permanently attached to microphone TA3F output connector • Accessories Furnished: AT8102 Windscreen, AT8505 Power Module, Battery

AT855\$210.00

AT857AM The AT857AM is similar in size to the AT857QM, except that it has a separate power module. It directly mounts to any 5/8"-27 desk or floor stand, or to the threaded surface adaptor included.

- Cable: 9'9" permanently attached to microphone, TA3F output connector • Accessories Furnished: AT8102 Windscreen, AT8505 Power Module, Battery

AT857AM\$250.00



AT857QM Intended for both quality sound reinforcement and professional recording and broadcasting, the AT857QM provides virtually ruler-flat response for both voice and music, with a low frequency roll-off option built-in. Almost 14" in length, the microphone plugs into any standard XLR surface or cable connector. Supplied with the AT8102 windscreen.

AT857QM\$220.00
 AT857QML 19" long version of AT857QM\$238.00

AT871 UniPlate™ Unidirectional Boundary Microphone

The AT871 is a wide range condenser microphone with a hemi-cardioid (half-space cardioid) polar pattern. It is useful in surface mount applications such as high quality sound reinforcement, professional recording, television, and other demanding sound pickup situations. The AT871 incorporates a specially modified UniPoint microphone capsule.

- Element: Fixed charge condenser • Polar Pattern: Half-cardioid (cardioid in hemisphere above mounting surface) • Frequency Response: 30-20,000Hz • Impedance: 400 ohms • Battery Type: Use only "leak-proof" N.E.D.A. type 910 batteries • Switch: Off, Flat, "roll-off" ("off" only for battery operation) • Phantom Power Requirements: 9-52VDC • Output Connector, Power Module: Integral 3-pin XLRM, phased • Cable: 25' (7.6m) long, 1/8" (3.2mm) diameter 2-conductor, shielded cable with TA3F connectors • Accessories Furnished: AT8505 power module, battery, vinyl carrying case

AT871\$260.00



AT4462 Stereo Field Production Mixer

The AT4462 has four input channels. Channels 1 and 2 are mono, and continuously pannable. Channels 3 and 4 are true stereo inputs; each dual-concentric control adjusts the level of a pair of inputs, such as a stereo microphone, a pair of microphones, or external tape. This combination of mono and stereo inputs will accommodate practically any set-up for field production mixing.

Every exterior surface on the AT4462 is 1/16" sheet metal. Corners are rounded to prevent cable hangups and protect adjacent equipment. Additional side flanges of 1/16" steel add structural integrity and extend forward to protect all front-panel controls from impact damage.

Weighing only 74 oz., the AT4462 can be comfortably carried for long periods. When used in the supplied protective bag, the impact-absorbing inserts rest against the body for added comfort, while the shoulder strap evenly distributes the weight.

The AT4462 operates from two readily-available 9V alkaline batteries. An optional third battery works with these to supply 12V phantom power. Battery life, at maximum load, is a full four hours.

The AT4462 will accept any external power from 12 to 18VDC. A special circuit allows the mixer to accept external power of either polarity. Battery pack, an automotive battery, auxiliary power feed from a VCR, or virtually any AC adaptor—the AT4462 operates from all these sources.

Inputs

Each XLR-type channel input on the AT4462 will accept either mike or line level signals, by setting the associated switch to Line or Mike. When a channel is set to the Line position, phantom power cannot be applied to that channel.

An additional switch next to each input reduces incoming signal levels by 20dB, in either the Line or Mike position. When switched in, the attenuator decreases overload distortion potential when miking close, or when mixing high-level line signals. Full gain is preferred for distant miking, or normal line signals.

Each input features a selectable lo-cut filter, for reduction of microphone handling noise and general ambient low-frequency noise. The filters operate at 6dB per octave with a 3dB down point of 150Hz.

Outputs

Both Left and Right program outputs are transformer-coupled balanced. An individual switch for each output selects mike or line level. The Output Mode switch converts the stereo outputs to dual mono. In the Mono mode, the AT4462 can mix up to 6 inputs; the summed signal is available at either output.

The AT4462 output is remarkably quiet, with an equivalent input noise level < -127dBV.

A built-in oscillator provides amplitude-equalized reference tones at 1kHz, 400Hz, or 4.5kHz. The Master level control adjusts the output level of the oscillator. The different frequencies ensure quick verification of telco line equalization.



AT4462

Pressing and holding the Slate button activates a one-second tone, with the same selectable frequencies as the tone oscillator. When the tone is finished, an internal omnidirectional electret condenser microphone becomes live for track and cueing announcements. The internal mike is good enough to use as an emergency back-up broadcast mike.

Turning any input channel level control fully counterclockwise activates a pre-fader cue which disconnects that channel from the mixer and bus outputs. The cue mix is available only at the headphone output. This allows off-air monitoring of auxiliary signals, and allows the mixer operator to be fully aware of any important upcoming information.

The AT4462 has two automated circuits. A true stereo limiter and Lev-Alert.

The limiter operates in one of two modes—Sync or Sep. In the Sync mode, any excessive signal on either channel will activate limiting on both channels. This prevents collapse of the stereo image. The SEP mode engages two discrete limiters—one for each output channel, for situations where the left and right outputs are handling unrelated material.

The limiter action is very rapid, to maintain maximum signal integrity; attack time is 3ms, and release time is 500ms. The limiter threshold is user-adjustable.

Lev-Alert is a unique Audio-Technica circuit that is an audible analog of the peak LED display. When the Lev-Alert circuitry is active, a tone is heard, only at the headphone output, whenever peaking or limiting occurs. This can alert the mixer operator to an overload situation without having to continually watch the VU meters. An internal trim adjusts the output level of the Lev-Alert tone oscillator.

Multiple AT4462s may be interconnected with a single cable, at the 1/4" stereo Bus In and Bus Out jacks. The buffered signal at the Bus Out jack is a premaster mix of all input signals, and presents a very low source impedance (15 ohms), allowing operation into virtually any load impedance.

AT4462 \$1295.00



Automation Associates, Inc.

VCR MODIFICATION KITS FOR TYPE 5, 7 & 9

HOBNOB Serial Adaptor Module (SAM)

HOBNOB is a Serial Adaptor Module (SAM) in easily and quickly installed kit form. HOBNOB, when installed into a Sony VP-5000 or VO-5600 VCR, converts the standard remote port to function as the Sony VO-5800 and VO-5850 remote control port.

HOBNOB provides the full range of forward and reverse search from edit controllers or search modules such as the RM-440 or RM-580. HOBNOB accurately responds to all edit command sequences. Therefore, the much lower cost VCP's and VCR's can be used in source positions of most low to medium priced editing systems.

HOBNOB also provides a front panel mounted search dial to the VP-5000 and VO-5600 allowing full bi-directional/variable, local/manual shuttle control. The search dial provides linear speed control from 0 to 9 times play. Popular applications for this feature include off-line manual reviewing and re-cueing without the need of tying up more expensive models.

HOBNOB (in kit form) \$595.00

DUB-IT® Dub-Out Kit (or Dub-In)

The HOBNOB series of modification kits also includes Dub-It which adds the Y688 dub out signal normally found in Sony VO-5800/5850 models only. Additional features such as sync-in and dub record-in are also available.

Dub-It incorporates selectable chroma to luma delay, compensation as well as Y and C level adjustments. Dub-It kits are very easy to mount and include the Sony 7-pin dub connector pre-wired to the kit harness. No drilling of metal panels is required as the connector hole already exists on the rear of VP-5000 and VO-5600 models. The Dub-It printed circuit board simply screws onto the VCR frame (see photo at right). Tapped holes already exist and metric screws are provided.

Photo at right shows Dub-It (upperboard laying flat) and HOBNOB (lower board mounted vertically) installed into a VP-5000.

HOBNOB kits are also available for Sony VP-5020 as well as for type 7 and type 9 VCRs.

NOB-IT Kit provides front panel search dial only for Sony VP-5000/5600 VCRs \$389.00

HOB-IT Kit provides editor interface only for Sony VP-5000/5600 VCRs. 389.00

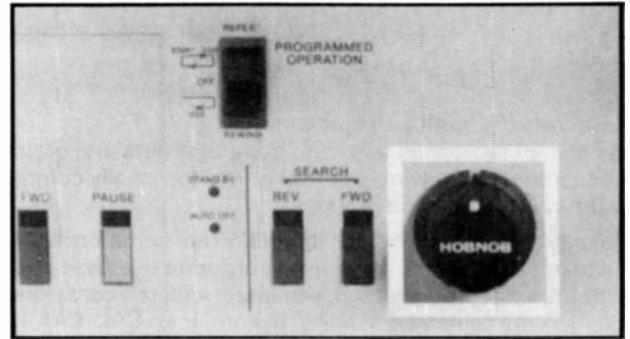
DUB-IT Kit provides Y-688 Dub-out for Sony VP-5000/5600 Sony DUB connector is provided 389.00

DUB-IT 5600 Kit w/Dub-in provides both Y-688 Dub-out and Dub-in for Sony VO-5600 VCRs. Sony Dub connectors are provided. 489.00

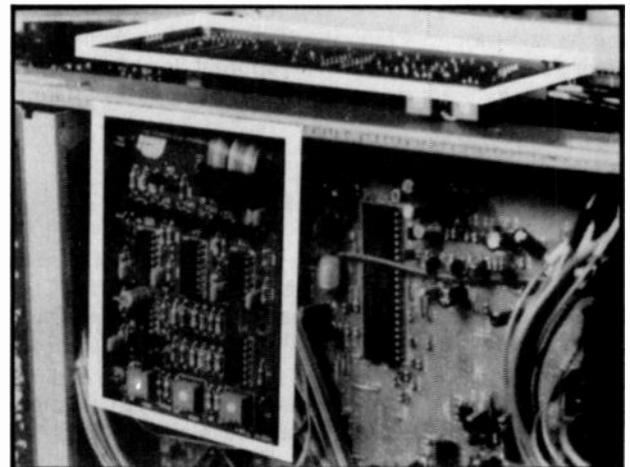
DUB-IN 5600 Kit provides the record in feature of the DUB-IT kit only. 389.00

HOBNOB 5020 Kit provides both front panel search dial and 33-pin parallel remote control port with editor interface and external sync for use with TBC's. 695.00

AA-5020PI Kit provides 33-pin parallel remote control port with external sync for use with TBCs. 495.00



HOBNOB w/Sony VP-5000



Kits Installed in Sony VP-5000

HOB-IT 5020 provides edit interface only. \$495.00

NOB-IT 5020 provides front panel search dial only . . . 389.00

DUB-IT 5020 Kit provides Y-688 Dub-out. Sony DUB connector included 389.00

DUB-IT 5020 with Sync-In for use with Dub or Y-688 type TBCs 495.00

5020 External Sync-In Kit provides Sync-in for use with TBCs 349.00

HOBNOB 7000 Kit provides both front panel search dial and source side editor interface for Sony 7000 Series of VCRs 695.00

NOB-IT 7000 Kit provides front panel search dial only for Sony 7000 Series of VCRs 495.00

HOB-IT 7000 Kit provides editor interface only for Sony 7000 Series of VCRs 495.00

HOB-IT 9000 Kit provides editor interface only for Sony 9000 Series of VCRs 495.00

DUB-IT 7000 Kit provides Y-688 Dub-out for Sony 7000 Series of VCRs. Sony Dub connector is provided 389.00

DUB-IT 9000 Kit provides Y-688 Dub-out for Sony 9000 Series of VCRs. Sony Dub connector is provided 389.00

Sony VO-5600/5800/5850, VP-5000/5020/7000/9000 are registered trademarks of Sony Corporation.

Video/Data/Graphics Projectors

Large screen projection of video, computer data and graphics has become an increasingly effective way to visually communicate information to large groups.

Requirements for large screen projection are common in a wide array of applications, ranging from corporate business presentations, educational training seminars and teleconferencing links, to entertainment, sports events and CAD/CAM/CAE imaging applications.

Different projection applications typically have different display requirements, thus requiring specialized projectors.

Barco has developed a complete series of very high performance projectors, each offering an optimal flexibility in its own field through inherent qualities and a wide variety of peripheral equipment.

"The Bright Dimension"

Barcovision 600/Barcovision 1000

Barcovision 600

• 750 lumens light output • Wide range of screen sizes from 4' to 20' (1m to 6m) • Quad-standard: NTSC 3.58/NTSC 4.43/PAL/SECAM + RGBS analog signals • Picture framer: four side blanking adjustments (video only)

For applications that require large screen projection of different composite video and standard video resolution RGB computer sources, the Barcovision 600 delivers high light output and excellent resolution on front, rear, flat or curved screens up to 20' (6m) wide.

The Barcovision 600 accepts inputs from any NTSC/PAL/SECAM composite video source including VCR, videodisc, off air antenna/satellite receivers and video cameras, which makes the Barcovision 600 ideally suited for large screen corporate presentations, sales/educational seminars, teleconferencing links, trade shows, and sports and entertainment applications.

90-00350 \$6,995.00

Barcovision 1000

• 1055 lumens light output • Liquid coupled lenses for outstanding contrast • Quad-standard: NTSC 3.58/NTSC 4.43 PAL/SECAM + RGBS analog signals • Picture framer: four side blanking adjustments (video only)

The Barcovision 1000 provides over 1,000 lumens of light output and an optical resolution of 2,400 lines. Through the development and utilization of 9" CRT technology, together with high definition, liquid coupled glass lenses, these CRTs provide up to double the light output and double the resolution of 7" CRTs (5.5" phosphor).

The Barcovision 1000 accepts inputs from any NTSC/PAL/SECAM composite video source as well as RGBS analog from most standard video resolution computer terminals, which make the Barcovision 1000 ideally suited for a wide range of large screen corporate presentations, teleconferencing links, sales/educational seminars, video post-production monitoring, and sports and entertainment applications.

90-00310 \$14,995.00



Barcodata 1000

"The Flexible Dimension"

Barcodata 400/Barcodata 1000

Barcodata 400

• 450 lumens light output • Wide range of screen sizes from 4' to 20' (1m to 6m) • Autolocking up to 42kHz, dedicated operation up to 54kHz • Remote adjustment of screen width and shift • Resolution: 1,600 horizontal lines • PC (CGA/MDA/EGA/PGA/Hercules), and PS/2 (*) (MCGA/VGA/AFDA) compatible

For corporate and industrial applications that require large screen projection of a wide range of video and computer data sources.

Through its ability to lock automatically on to all kinds of frame and line frequencies up to 42kHz and its short horizontal retrace time of less than 5µs, the Barcodata 400 is compatible with a wide array of computer display terminals. Combined with the optional remote controlled RCVDS source selector, up to 10 data sources can be connected and each separately adjusted for contrast, picture width and positioning.

Ideally suited for a wide range of business presentations, boardroom meetings, sales/educational training seminars, trade shows, and simulation and process monitoring/control applications.

90-00360 \$11,995.00

Barcodata 1000

• 1055 lumens light output • Liquid coupled lenses for outstanding contrast • Autolocking up to 42kHz, dedicated operation up to 54kHz • Remote adjustment of screen width and shift • Resolution: 2,400 horizontal lines • PC (CGA/MDA/EGA/PGA/Hercules), and PS/2 (*) (MCGA/VGA/AFDA) compatible

The Barcodata 1000 offers all of the advantages incorporated in the Barcovision 1000 with additional features specifically oriented towards corporate and industrial applications.

Through its high brightness CRTs with large phosphor area, its liquid coupled high resolution lenses and its ability to lock on to any line frequency up to 42kHz, the Barcodata 1000 projects highly contrasted high resolution images generated by all kinds of video and computer data sources.

Compatible with a number of computer display terminals, the Barcodata 1000 is well suited for a broad range of business presentations, board room meetings, sales/educational training seminars, and simulation and process control applications.

90-00320 \$18,995.00

(*) IBM PS/2 is a registered trademark of International Business Machines Corporation

CVS Series Broadcast Color Monitors

- Automatic set-up • Microprocessor based • Password protection
- American Standard Phosphor (ASP) • EBU Phosphor (optional) • Automatic Kinescope Biasing (AKB) • 2 Coded Video Inputs: loopthrough and floating • Quad decoder • RGBS input • Component video input (optional) • Internal test patterns • Notch filter/comb filter • Switchable color temperature • Front RGB switches • Simple or full remote
- Master remote for up to 48 monitors • Adjustable aperture correction • Presettable functions per input • Pulse cross
- Underscan/overscan • Safe area • Program display (optional)
- Rackmountable

Stable and matching pictures

Display controls such as contrast, brightness, saturation and hue are value-related. When set to identical values different monitors will display matching pictures.

AKB-circuitry maintains color temperature independent of tube-aging and ambient temperature.

Flexible set-up

Settings of display controls, display functions (INT/EXT sync, H&V delay, etc.) and decoder functions (mono, aperture etc.) can be memorized and recalled.

In calibrated position, pictures are displayed as recommended by the EBU and SMPTE.

In preset position, the settings of the display controls, display functions and decoder functions are user selected.

Flexible, easy color temperature alignment

While manual adjustment is provided for, three different standard color temperatures (6500°K, 3200°K, 9300°K) can be automatically aligned.

Flexible full modular design

CVS design reflects extreme modularity, independent boards exchange information over an analog and digital bus while a microprocessor controls all communications.

The standard monitor is equipped with an RGBS-input on the RGB-amplifier board and 2 coded inputs on the Quad-decoder board, thus leaving three slots empty. Here other options can be inserted at any time, while no hardware modifications are needed.

Flexible remote control facilities

As the CVS has full remote capabilities, Barco Industries developed a multi-monitor remote control. From this MMRC all settings of display controls, display functions and decoder functions can be accessed, for any or all CVS monitors of a production gallery.

Also, a handheld keyboard was designed to remotely control a single CVS monitor.

14" Monitors

CVS/37/PS/Q CRT Pitch .62mm (330 TV lines) \$4,650.00
CVS/37/IH/Q/ASP CRT Pitch .31mm (680 TV lines) \$5,920.00

20" Monitors

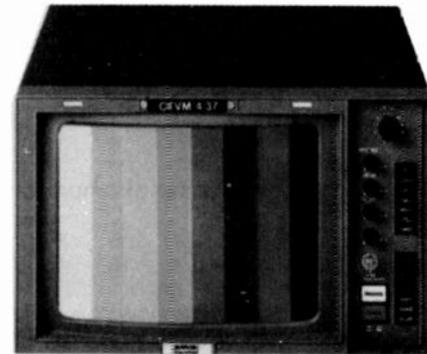
CVS/51/PS/Q CRT Pitch .68mm (480 TV lines) \$4,990.00
CVS/51/IH/Q/ASP CRT Pitch .43mm (700 TV lines) \$6,320.00
CVS/51/IH/Q CRT Pitch .31mm (900 TV lines) \$6,900.00

CVS Options

Single remote panel \$ 465.00
Master remote panel 6,780.00
Component input module (RGB, Y/R-Y/B-Y, Y/I/Q, Y/PR/PB) . . 650.00
Input extension module (5 composite loopthrough inputs) . . . 555.00
Service kit 195.00
Program display 370.00
Thoma color analyzer 6,250.00
BI Light probe 2,050.00
RM 37 Rackmount kit for CVS 37 295.00
RM 51 Rackmount kit for CVS 51 370.00



CVS Series



CTVM4/37

CTVM 4 Series Broadcast Precision Color Monitors

- ASP • EBU phosphor (optional) • AKB • RGBS input • Component video input (optional) • Internal test patterns • Notch filter/comb filter
- Front RGB switches • Decoded RGBS and B-Y and R-Y outputs
- Pulse cross • Underscan/overscan

Cathode Ray Tubes

Delta Gun Dot Mask CRT (D): If accurate monitoring at every stage, when keen observation for the slightest error in color picture reproduction is vital, the monitor must be equipped with a delta gun dot mask picture tube.

In-line Gun Dot Mask CRT (I): Combining the advantages of in-line CRT (no dynamic convergence adjustments) with the resolution of delta gun tubes, the high resolution dot in-line CRT accurately displays every detail.

In-line Gun Slot Mask CRT (P): In broadcast situations where color monitors are used for picture identification, a slightly lower standard of reproduction can be accepted and sometimes it may be advantageous to employ monitors fitted with in-line gun slot mask picture tube.

14" Monitors

CTVM4/37/IH/N2/ASP In-line Dot Mask CRT
CRT pitch .31mm (680 TV lines) \$ 8,460.00
CTVM4/37/DH/N2/ASP Delta Gun Dot Mask CRT
CRT pitch .31mm (750 TV lines) \$10,690.00

20" Monitors

CTVM4/51/IH/N2/ASP In-line Dot Mask CRT
CRT pitch .43mm (700 TV lines) \$ 9,200.00
CTVM4/51/DM/N2/ASP Delta Gun Dot Mask CRT
CRT pitch .43mm (775 TV lines) \$10,950.00

26" Monitor

CTVM4/66/PS/N2 In-line Slot Mask CRT
CRT pitch .82mm (530 TV lines) \$9,890.00
RM 37 Rackmount kit for CTVM 4/37 295.00
RM 51 Rackmount kit for CTVM 4/51 315.00

CM 22 9" Professional High Resolution Portable Color Monitor

- Two composite video inputs, looped through and floating
- One RGBS input plus RGB fast insert
- Automatic Kinescope Biasing (AKB) maintains color temperature and black level stability
- Comb filter, switchable to notch
- AC or DC operation (external 12V battery)
- Built-in audio amplifier, speaker and front panel headphone output
- Pulse cross and underscan/overscan
- Blue-only for tape noise evaluation and for monitor adjustment using SMPTE color bars
- Front panel pre-set controls for hue, brightness, chroma and contrast
- Internal/external sync (fast or slow)
- Remote control and tally light
- Modular design: all active and passive components on plug-in boards
- RG off

CM 22 Applications

Television picture evaluation; preview of individual video sources; video/data combinations; systems for combined video and graphics display; background and character generators; and editing suites. The CM 22 is also ideal for ENG, EFP and other outside applications where high resolution and color temperature stability must be combined with compact size and portability.

CM 22 CRT pitch .30mm (420 TV lines) \$3050.00

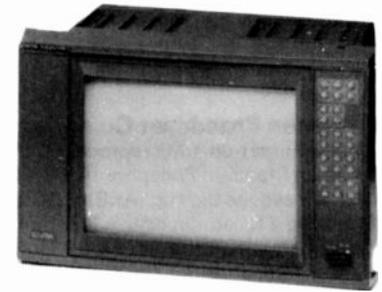
CM 22 Options

Rackmount tray for mounting of two CM 22s in a 19" rack **\$220.00**

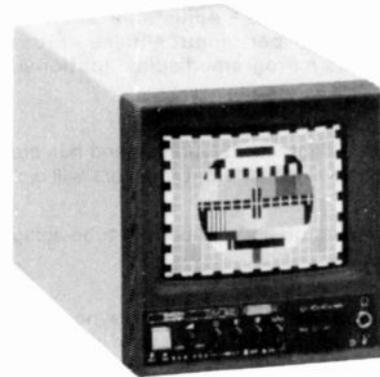
CVM Series Professional Color Monitors

- PAL (notch) or NTSC (comb) decoder
- Input configuration; 3 coded inputs or 2 coded inputs and 1 external sync input (loop through and floating)
- Fast/slow sync time constant
- RGB switches/blue only
- Size (underscan/overscan)
- H/V delay and pulse cross
- Aperture control
- Monochrome switch: Color—Monochrome filtered—monochrome full bandwidth
- Automatic manual degaussing
- Scan failure protection
- 2 tally lights
- Front panel control of geometry and colorimetry (protected)
- FS slot mask in-line gun CRT
- Supreme brightness
- Excellent screen uniformity
- Decreased reflection
- 15% more active screen area

CVM is a high quality monitor, available in two sizes: 14V and 20V. Like its big brother, CVS, it is fully micro-processor controlled. CVM is characterized especially by its excellent brightness, outstanding raster size stability and unmatched color temperature stability. It offers full broadcast features. In its price range it is the only monitor that combines so many advantages for the user.



CVM Series



CM 22

Excellent color temperature and raster size stability

The AKB-circuitry allows you to maintain color temperature independent of tube-aging and ambient temperature fluctuations. CVM features excellent raster size stability even under extreme brightness levels.

Fully modular design

With no active/passive components in the mainframe. Passive membrane control panel.

Affordable Intelligence

- Faster and more accurate picture matching. CVM has both a calibrated and preset control memory for all display parameters and control functions. Fast and easy control of monitor walls is the result.
- Full remote control. All display parameters and functions can be controlled remotely. You have the choice of two options: simple remote control for simultaneous control of up to 12 monitors, multi-monitor remote controller for up to 48 monitors, both CVS and CVM, which can be addressed individually, per group or in total
- Configuration flexibility. CVM has an option slot and is fully software driven. Consequently it gracefully accepts optional plug-in modules.

14" Monitor

**CVM 37/
FS/NTSC**

CRT pitch .55mm (500 TV lines, preliminary) **\$2930.00**

20" Monitor

**CVM 51/FS/
NTSC**

CRT pitch .75mm (500 TV lines, preliminary) **\$2980.00**

CVM Options

RM CVM

19" rackmount kit for CVM 37 or CVM 51 **\$330.00**



Fluid Heads

Mini Fluid Head Measuring just 5" x 5" x 5" (excluding handle), this lightweight, fluid-type damped tripod head pans a full 360° and features a camera platform that measures 2 3/4" x 3". The Mini Fluid Head comes with a versatile handle which is positionable on either side and can be separated into two individual segments, each 9" in length. The Mini Fluid Head can be tilted 45° up and 90° down continuously, with detent at -45°, and has separate pan and tilt locks. Vertical drag is continuously adjustable.

3063 \$145.95

Micro Fluid Head Only 2 lbs. including an adjustable handle. Perfect for light weight (up to 6 lbs.) VCR cameras. It measures 4 1/4" x 5 3/4" x 2 3/4" (excluding handle); pans smoothly a full 360°; can be tilted up or down 90°; has pan and tilt locks, and continuously adjustable drag. Platform has adjustable positioning slot designed so handle can be on either left or right side.

3126 \$73.50

Cine/Video Fluid Head This lightweight, professional quality, fluid-damped tripod head is designed for Cine and Video cameras weighing up to 22 lbs. The large, removable camera platform has a mounting stud that travels in a 3 1/2" slot and facilitates balancing at the camera's center of gravity. In addition, there are three locking detents for the platform, any of which can be used. Pans smoothly 360° and the panning drag can be adjusted by a large pawl-controlled lever. The tilting range is 60° up to 90° down. Detent can be set to limit the downward movement to 45°. Separate locks, independent of the drag system provide a positive hold in any position.

3066 \$355.95

XL Fluid Head Lightweight fluid head capable of handling cameras up to 9 lbs. Features a special "quick release plate" which lets you attach and detach the camera quickly and easily. The adjustable handle can be located on either the right or left side of the head.

3160 \$95.95

Ball Camera Leveler This is an ideal adjunct to the 3063 Mini Fluid Head. It works like a claw ball in that you mount it to your tripod, you can remove the camera and head quickly to mount on another tripod similarly equipped, and you can level your camera even if you haven't leveled the tripod. Ideal for use in the field on uneven terrain.

3115 \$39.95

Tripods with Fluid Heads

3170 Tripod with Micro Fluid Head Versatile, easy to handle and sets up quickly and easily. Sturdy legs are made of tubular hard-finish aluminum and each has sure-grip lever locks. Designed for VCR cameras (our 3001) can hold up to 6 lbs.

3170 \$134.95

3165 3011 Tripod with 3160XL Fluid Head 161.95

3124 Tripod With Micro Fluid Head A lightweight all-aluminum tripod (our 3011) that's sturdy, stable, versatile, easy to use and easy to carry. It weighs only 7 lbs. with our Micro Fluid Head (Order Code 3126) that features real, fluid-effect action.

3124 \$167.95

3122 As above but in black anodized finish 172.95

3129 3011 Tripod with 3126 Micro Fluid Head and 3127 Dolly 244.95

3145 Video Tripod Caddy 35.95

3149 3126 Micro Fluid Head with 3211 Tripod with black anodized finish and 3127 Dolly 256.95

3163 3160XL Fluid Head with 3011 Tripod 184.95

3164 As above plus 3127 Dolly 261.95

3046 Sturdy Tripod All aluminum double-braced, two section design weighs only 7 lbs., 4 oz. It extends to a full 73" with the Mini Fluid Head. 19" geared center post. Folds to a compact 32 1/2" for traveling. Legs are furnished with convertible cushion/spike tips

3046 Cine/Video Tripod w/o head \$160.95

3140 Cine/Video Tripod with Mini Fluid head 299.95

3142 Same as above in black anodized finish 315.95

3068 Universal Cine/Video Tripod Weighs less than 12 lbs., extends to 66". Legs are furnished with convertible cushion/spike tips. For precise positioning, there is a centerpost which permits 9" of extension. The unique variable-angle center brace system on the tripod allows minimum elevation of the tripod platform as low as 16".

3068 \$263.95

3065 Universal Tripod with 3066 Fluid Head 613.95

3069 Universal Tripod with 3066 Fluid Head and 3067 Dolly 832.95

3118 Universal Tripod with 3063 Mini Fluid Head. 393.95

3061 Heavy-Duty Cine/Video Tripod Ideal field tripod. Closed length is only 37 1/2", extends to a full 63". It can be set as low as 12". With its built-in claw ball, the camera head can be leveled quickly under all use conditions. The Heavy-Duty Tripod weighs just 17 lbs. 2 oz.

3061 \$317.95

3062 Heavy-Duty Cine/Video Tripod with 3066 Fluid Head 665.95

3064 Heavy-Duty Cine/Video Tripod, with 3066 Fluid Head and 3067 Dolly 886.95

Dollies

Deluxe Cine/Video Dolly Designed specifically for use with the Universal and Heavy-Duty Tripods. Individually braked wheels measuring 5" in diameter, and a unique leg locking system make it easy to assemble and disassemble for transporting. The tripod legs are captured in a 38" diameter circle and the doorway clearance needed for the fully assembled dolly is only 39 1/2".

3067 \$220.95

Portable Video Dolly Features sure-lock no rock system. Heavy-duty quick fastening rubber straps hold tripod in place. 20" radius, folds to a compact 22 1/2".

3127 \$79.95

Variable Leg Spread Dolly Has a special feature that allows you to adjust the radius from a max of 20" to as little as 12 1/2".

3137 \$97.95

Auto Dollies When you depress the centrally located foot pedal of either the Auto Dolly or the Folding Auto Dolly, you release all three wheels. When you lift the pedal, cam action raises the wheels free of the ground and the weight of the dolly and tripod rest on separate feet.

- The Auto Dolly weighs 6 lbs. • Incorporates Shepherd Casters, and is easily assembled • Spread from center to tripod leg socket is 18 1/2" • The Folding Auto Dolly features 3" wheels • Weighs 9 3/4 lbs. • Spread from center to tripod leg socket is 20" • Folds to a compact 29"

On either dolly, mounting and dismounting the tripod is accomplished by cam operated kick-locks.

3056 Auto Dolly \$128.95

3156 Folding Auto Dolly 167.95

3254 Black Folding Auto Dolly 185.95

**SERIES 5300C AND SERIES 5400C
THREE-DECK TAPE CARTRIDGE MACHINES**

Non-repeat Lockout in Both Models

Non-repeat lockout prevents any tape cartridge from being played more than once unless the operator resets it from the "lockout" mode by pressing the appropriate STOP button, or by removing and re-inserting the cart. The illuminated STOP switches for each deck will flash on and off to indicate that a cart is in the lockout mode. The Non-repeat Lockout feature may be disabled through an internal jumper if desired.

Toroidal Transformer

Both series incorporate a toroidal transformer in the primary power supply for cool, efficient operation with a significant reduction in stray magnetic fields.

Phase Lok V Head Assembly

The removable Phase Lok V head assembly provides tight alignment control with a locking azimuth adjustment independent of height or zenith adjustments.

Powerful, Air Damped Solenoids

Both series utilize air damped solenoids that guarantee firm, reliable, cartridge engagement. The solenoid control circuit utilizes solid-state switching and a regulated current source for cool, quiet operation.

Series 5300C Three-Deck Tape Cartridge Machines

The 5300C cart machine incorporates many of the popular innovations of its companion model 5400C, but adds the capability to handle A, B, and AA cartridge sizes.

The 5300C is also one of the easiest machines to install and maintain. It is fully equipped with plug-in decks and PC cards. Tabletop mounting can be utilized, or a rackmount option is available.

Solid Mechanical Design

The 5300C features an internal structural bulkhead which insures stable, accurate deck and capstan positioning. The top capstan bearing is mechanically supported by the sturdy aluminum bulkhead for consistent alignment independent of front panel reference.

Series 5300C (A, AA, B and BB Size Carts) (Long Life Head(s) standard)

Model	Stock No.	Description	Price
117VAC 60Hz Tabletop Mounting (220VAC 60Hz available)			
5301C	900-5301-001	Mono, Playback	\$3500.00
5302C	900-5302-011	Mono, Playback with Cue Tones	3700.00
5303C	900-5303-001	Stereo, Playback	4000.00
5304C	900-5304-011	Stereo, Playback with Cue tones	4200.00

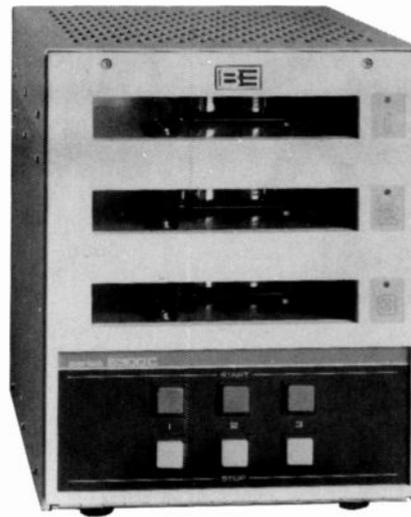
Series 5400C Three-Deck Tape Cartridge Machines

The 5400C is designed for the user who requires the utmost in long-term reliability and ease of operation. As a three deck cart machine, the 5400C will fit perfectly in any production or on-air studio environment.

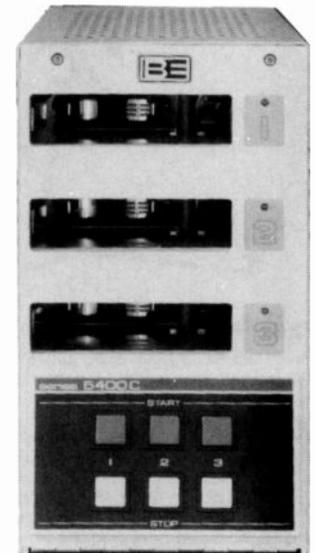
The 5400C is fully equipped with plug-in decks and PC cards for quick, easy servicing. The trim line design of the 5400Cs makes it easy to rackmount as many as three machines side by side.

Series 5400C (A and AA Size Carts) (Long Life Head(s) Standard)

Model	Stock No.	Description	Price
117VAC 60Hz Tabletop Mounting (220VAC 60Hz available)			
5401C	900-5401-001	Mono, Playback	\$3600.00
5402C	900-5402-011	Mono, Playback with Cue Tones	3800.00
5403C	900-5403-001	Stereo, Playback	4100.00
5404C	900-5404-011	Stereo, Playback with Cue Tones	4300.00



5300C



5400C

Recorders (Long Life Heads and Three Cue Tones Standard)

Model	Stock No.	Description	Price
5300 Series (For use with 5300C Series Playback Cartridge Machines)			
5309C	900-5309-011	Recorder, Mono with Q Trip, 117VAC, 60Hz.	\$1150.00
5310C	900-5310-011	Recorder, Stereo with Q Trip, 117VAC, 60Hz.	1350.00
5400 Series (For use with 5300C, and 5400C Series Playback Cartridge Machines)			
5409C	900-5409-011	Recorder, Mono with Q Trip, 117VAC, 60Hz.	\$1200.00
5410C	900-5410-011	Recorder, Stereo with Q Trip, 117VAC, 60Hz.	1350.00
SW5E	904-5000	Audio Switcher for Series 5300 and 5400	250.00

Rack Shelves

900-5406	Rack Shelf for 19" EIA rack, 12 1/4" H for mounting 1 or 2 units, 5300 Series	\$200.00
900-5415	1/4 Rack Filler Panel for 5406 shelf	40.00
900-5406	Rack Shelf for 19" EIA rack, 12 1/4" H for mounting 1 to 3 units, 5400 Series	200.00
900-5405	Four Position cart storage rack for 5406 rack shelf	150.00
900-5407	Ten Position cart storage rack for 5406 rack shelf	180.00
900-5408	1/3 Rack Filler Panel for 5406 shelf	37.00
919-1806	Test Extender P.C. board	74.00



2100CRPS

Series 2100C Tape Cartridge Machines

• Two cue tones standard (1kHz and 150Hz) • Exclusive mono/stereo switching • Precision adjust Phase Lok V head block • Flat response, long life heads • Precision machined deck with improved cartridge guidance system • Direct drive transport • Modular construction • Low voltage air-damped solenoid • Advanced electronics — meets or exceeds 1975 NAB standards

Phase Lok V Head Assembly

The Series 2100C features Phase Lok V head block. The Phase Lok V offers a locking azimuth adjustment that is independent of the height and zenith adjustments. With the Phase Lok V, precise head positioning

is possible through an azimuth adjustment that can be easily manipulated without affecting height and zenith. This permits quick, accurate positioning with a minimum of difficulty. (For correct stereo tracking, a dummy head is included in each playback model.)

Precision Transport and Deck Assembly

The improved cartridge guidance system permits precise cart positioning. The cartridge is directed to the head block area by right and left side guides. In addition, two spring loaded top guides apply firm pressure to hold the cart in place. The result is smooth, positive cart insertion regardless of variations in cartridge thickness.

Series 2100C (A, AA size cartridges) (Long Life Head(s) and two cue tones standard)

Model	Stock No.	Description	Price
2100CP	900-2110-001	Mono, Playback only	\$1425.00
2100CRP	900-2111-001	Mono, Record/Playback	2095.00
2100CPS	900-2112-001	Stereo, Playback only	1525.00
2100CRPS	900-2113-001	Stereo, Record/Playback	2395.00
2100CPA	900-2114-001	Mono, Playback with Audition/ Speaker	1550.00

Options and Accessories

900-2013	Rackmount Shelf for EIA 19" rack 5 1/4" H Holds up to three Series 2100C	\$75.00
900-2010	Top Cover for 2013 Shelf	45.00
900-2014	Rack Shelf Filler Panel, 1/3 rack for 2013 shelf	26.00
900-2016	Rack Shelf Filler Panel, 2/3 rack for 2013 shelf	38.00
919-2100	Test Extender P.C. Board	69.00

Tape Cartridge Accessories

Cartridge Storage Racks

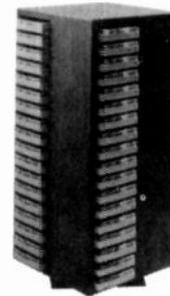
RM20V	818-0014	Cartridge Rack, 20 Carts, Fits 1/3 Rack Shelf for 5500 Series	\$175.00
RM20H-001	818-0020-001	Stores 20 A Size Cartridges, Rack-mounting (5 1/4" H)	95.00
RS25	816-0025	Wire Rack Section, holds 25 A Size Cartridges	45.00
RM100	810-0100	Wall Mounting, Formica Covered, holds 100 A Size Cartridges	125.00
DM20	812-0655	Wall or Table Mounting; Walnut Finish Cabinet, holds 20 A Size Cartridges	25.00
LZ20	800-2000	Lazy Susan, Tabletop, Wood/Formica, holds 20 A Size Cartridges	45.00
DM40	812-0650	Tabletop Lazy Susan, Walnut Finish Cabinet holds 40 A Size Cartridges	35.00
DM72	812-0072	Lazy Susan Module, Formica Covered for tabletop use, holds 72 A Size Cartridges	150.00
DM200	812-0200	As per above, holds 200 A Size Cartridges	200.00
LS200	814-0200	Lazy Susan Wire Unit, Floor Stand with Heavy-duty Casters, holds 200 A Size Cartridges	350.00

Cartridge Winders

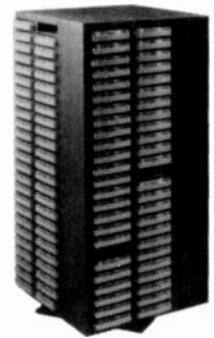
TW-120	900-0100	Tape Cartridge Winder 117V, 50/60Hz	\$380.00
TW-240	900-0200	Tape Cartridge Winder 220V, 50Hz	430.00

Demagnetizers and Erasers

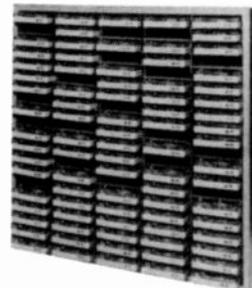
200-3T	820-0200	Bulk Tape Eraser, Handheld 115V, 50/60Hz	\$115.00
220-3T	820-0220	Bulk Tape Eraser, Handheld 220V, 50/60Hz	125.00
TD1B	820-0300	Bulk Tape Eraser, Heavy-Duty, Tabletop 115V, 50/60Hz	119.00
TD1BF	820-0301	Bulk Tape Eraser, Heavy-Duty, Tabletop 220V, 50/60Hz	128.00
K20/B5	800-3000	Annis Standard Han-D-Kit. Pocket Magnetometer, test strips and clip-on extension probe and Han-D-Mag demagnetizer, 115V, 50/60Hz	62.00
K25/B5	800-3001	Annis Deluxe Han-D-Kit, same as above, except with larger Model 25 jewelled demagnetizer, 115V, 50/60Hz	104.00
PF-380	800-3002	Nortronics Carbide Head Degausser, 117V, 60Hz only	41.00



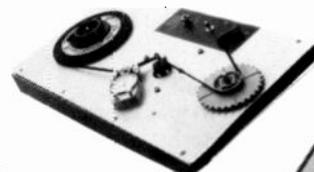
DM-72



DM-200



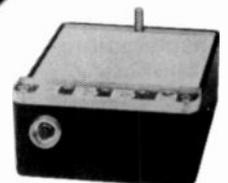
RM-100



TW-120



200-3T



TD-1B

SA-101 Safe Area Generator

- Any pattern may be added to any of 5 independent, synchronous video sources
- Safe Action and Safe Title Areas (as per SMPTE RP 27.3) displayed simultaneously
- Display can be switched on/off, black/white independently on each source from remote panel
- Center cross to locate exact picture center
- Markers inserted to show legal H & V blanking limits
- All patterns and markers digitally generated and locked to subcarrier, assuring accurate, drift-free reference for precise picture positioning
- Movable Box Generator Option — An optional plug-in PC board allows the user to generate and store in memory ten different rectangles which can be keyed into any of the five video sources, with or without the Safe Area patterns. Each rectangle can be programmed for size and position at two rates of speed from the remote panel. Recall of any of these rectangles is via a remote thumbwheel. This option is very useful for positioning graphics, news shots, chroma keys, etc.

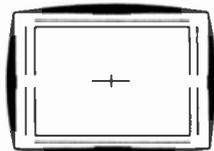
SA-101 \$1,650.00
 MBG Option810.00



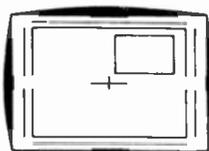
SA-101



Safe Action And Title Graticules



With Center Cross And Blanking Markers Enabled



With Addition Of Box Generator Option

DK-400 Downstream Keyer

- Two independent, stand alone video mixing amplifiers in one rack unit
- Each mix amp may be operated separately or may be cascaded
- First mix amp is switchable between A/B mix and mix-to-key from remote panel
- Preview output to allow presetting of clip level
- Second mix amp allows convenient master fade to black or second A/B mix
- Switchable between self key or external key mode
- Back porch clamping on all video and key inputs
- Optional automix gives 4 selectable speeds of automatic A/B mix or mix-to-key

DK-400 \$2,450.00
 Auto Mix Option525.00



DK-400

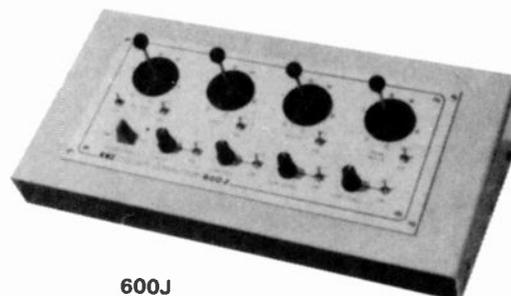
HB-800 Hum Bucking Coil

Eliminate up to 6V p-p ground induced hum.

Specifications

Dimensions: 5" x 2 1/4" x 5 1/4"
 Connectors: BNC
 Flat Loss: < 0.1dB
 Freq. Response: < 0.1dB down at 5.5MHz
 Diff. Phase: < 0.1°
 Diff. Gain: < 0.1%
 Path Length: 21ns

HB-800 \$175.00



600J

600J Color Corrector

- Exceptionally wide range of color correction
- Accepts any NTSC video signal from any source
- Virtually transparent, does not decode
- User friendly control panel cuts post-production time
- Full control of chroma gain, luminance gain, set-up and black stretch/compression
- Up to 350ns of chroma/luminance delay correction
- Each correction parameter may be switched in or out independently, together with correction in or out
- Sync, blanking and subcarrier regenerated from input video, no external pulses required
- Optional SMPTE time code control for frame by frame correction and event storage

The 600J is available with either a manual "on the fly" control panel or a time code control system for integration into a VTR edit suite, enabling frame by frame color correction.

The color corrector may be ordered with time code control or may be field updated at any time with this option.

The time code control system consists of three separate units: a color corrector control panel, a time code control panel and a time code electronics unit.

Basic 600J \$13,500.00
 660 Component Color Corrector 13,500.00
 Time Code Control System (option) 13,500.00



204N

204N NTSC Encoder

- Rugged mechanical construction
 - All user controls behind hinged front panel
 - Six composite NTSC outputs
 - Switchable inputs RGB/YRGB/Y, R-Y, B-Y
 - Component input level user adjustable
 - Internal horizontal sync timing
 - Blanking regenerated from input sync
 - 360° subcarrier phasing
 - Switchable luminance notch filter
 - 18 on-board test signals
- 204N \$4,200.00

A joint company of Bosch and Philips

LDK 6A Television Camera System with Total Computer Control and Distributed Intelligence

Superb Picture Quality

Through 25mm or 30mm Plumbicon tubes and optimized digital scan, shading and dynamic focus correction.

Operational Flexibility

For a wide range of broadcast applications under varied weather and light conditions. The interactive computer system with operational and set-up memories allows quick set-up and smooth operation for single or multi-camera systems. The RGB triax system allows great cabling flexibility.

Reliable—Ready for Operation

Assured by digital control components, self-diagnostics and easy interchangeability of main units without the need for further adjustments. Tube change takes about 10 minutes. The "full auto set-up" program aligns the green channel automatically, using the diascope integral to the camera head. Red and blue are then aligned to green.

Future-Proof

State-of-the-art in concept and design, having a transparent computer system with distributed intelligence that can also accommodate future developments. And COACH, the Philips remote control and monitoring system, gives double assurance of perfect performance.

Memories—A Major Advantage

The LDK 6A camera has 6 operational, 2 set-up and 4 lens memories. All 6 operational memories can be recalled so that there is immediate access to pre-arranged special production effects or lighting conditions.

Each of these operational memories can store: • Gains RGB • Blacks RGB • Filter wheel 1 • Filter wheel 2 • Color temperature • Master black • Gain • Black stretch • Gamma • Contours • Auto-iris presets

For special creative and technical applications over 700 parameters can be stored in 2 separate selectable set-up memories.

Each LDK 6A camera can also store the complete characteristics of up to 4 lens types and recall their parameters when required. These parameters are: • Color temperature • Registration • Flare • Shading • Back focus

These lens files can also be used to store range extender characteristics and are called up automatically with servo extender selection.

Diagnostics

There are two comprehensive diagnostics systems in the LDK 6A. The first is an advance warning system for fault detection to avoid costly downtime. The second is able to pinpoint the location of a fault to a specific board.

Diagnostics-1 operates on-line, and is active whenever a camera is "on." It makes no decisions which will interfere with normal "on-air" operation. However, where important characteristics deviate from normal, it warns the operator a decision is needed, and provides a character display readout on the engineering monitor.

Diagnostics-2 operates off-line, and on demand, by using signal injection techniques throughout the camera system. Messages are displayed on the picture monitor indicating probable fault location.

Selectable Automatic Programs

Selectable automatic programs in the LDK 6A include: • Full auto set-up • Auto daily check • Auto white • Auto black • Auto shading white • Auto shading black • Auto video levels • Auto lens registration calibration • Auto tube adjustment • Auto centering • Auto registration—full range

These automatic programs provide for ease-of-use and produce the best possible results in the shortest possible time.



LDK 6A

Because of the computer-controllable back focus and the full range computer control of the tube parameters, it is even possible to set up the camera fully automatic after tube replacement without any manual pre-setting. The green channel is automatically aligned to a digital electronic test pattern, with red and blue, subsequently aligned to green.

COACH—Double Assurance

COACH is a tool for centralized maintenance and monitoring of the LDK 6 family of cameras. It consists of 2 components—an interface and an IBM-compatible personal computer. Simple to use, COACH provides: • Remote control and monitoring of LDK 6 family camera systems • Flexible retrieval, storage and control of camera data • In depth diagnostic monitoring • Remote access via standard modems over telephone lines • Remote video measurement. It therefore helps make more cost-effective use of engineering staff and allows contact and control at the local Philips Service Center.

Status Feedback

The unique status feedback system is another important advantage of the LDK 6A.

The data transparency of the design enables access to, and retrieval from, any unit on the bus. While all operation settings are displayed on the common control panel, virtually all setting-up and operational control parameters are available for display on the master control panel. All settings generated by digi-pots are fed back to the alphanumeric displays and are shown by an exact percentage readout. This permits settings to be checked at a glance, without physically measuring them.

The Camera Head

• Dynamic lens error correction • Remote control scan reversal • Rain-proof housing and RFI shielded • Quick lens change • 4 different lens memories • Built-in diascope • Optical axis of the lens and viewfinder in one vertical plane • Two 5-position filter wheels—one controllable by cameraman • Extensive viewfinder signal selection • Auto-iris • Momentary auto-iris by spot measurement • Auto-white balance control by spot measurement • Extensive intercom facilities • Rotatable, tiltable and removable 7" high resolution viewfinder with extreme tilt range ($\pm 60^\circ$) • Extensive indicators and markers in the viewfinder • Provision for remote facility for intercom and external viewfinder switches (e.g. on pan bars) • Two audio channels • Utility power • Integrated lens support • Large, switchable tally light visible from every direction • Contours from red (option)

And it is in the camera head, not in the lens, that the diascope is located, making a wider selection of lenses available for different production situations. Full range extender facilities are maintained.

A joint company of Bosch and Philips

LDK 26A Television Camera System

- Excellent picture quality through 18mm Plumbicon tubes and optimized digital scan, shading and dynamic focus correction
- Operational flexibility. Maximum flexibility for a wide range of broadcast applications under varied weather and light conditions. The interactive computer system with operational and set-up memories allows quick set-up and smooth operation for single or multi-camera systems
- Reliable and ready for operation. Assured by digital control components, self-diagnostics and easy interchangeability of main units without the need for further adjustments. And COACH, the Philips remote control and monitoring system, gives double assurance of perfect performance
- Safety for the future. A camera that is built to last, having a transparent computer controlled system with distributed intelligence that can also accommodate future developments

Computer Control — For Perfect Performance

The LDK 26A System has 3 microcomputers—in the camera head, the camera processing unit and the master control panel. Each unit can converse with the others in the chain enabling constant check on status of camera performance. Each camera has its own set-up computer. Because of this "distributed intelligence" system it is possible to set up independently, simultaneously and automatically any number of camera chains. And, system units can be interchanged, without the need for resetting, checking or adjusting.

The control system is fully digital, and digital/analog converters with "pulse-pot" technology permit manual and automatic adjustment over the whole control range. Because of this system no manual preset is required for automatic set-up.

The extensive automatic control of parameters makes the LDK 26A a total automatic 18mm camera with perfect, consistent performance.

Memories — An Aid For Production

Every LDK 26A camera has 2 set-up and 2 lens memories as standard. Optionally, there are 6 operational memories available.

The set-up memories may be used for special creative and technical applications. Each memory can store over 700 parameters.

The lens file can store color temperature, flare, shading and registration.

Each of the operational memories stores gains, RGB, blacks, filter wheel position, color temperature, black stretch, gamma and contours.

COACH — Double Assurance

COACH is a tool for centralized maintenance and monitoring of the LDK 6 family of cameras. It consists of 2 components—an interface and an IBM-compatible personal computer. Simple to use, COACH provides:

- Remote control and monitoring of LDK 6 family camera systems
- Flexible retrieval, storage and control of camera data
- In depth diagnostic monitoring
- Remote access via standard modems over telephone lines

Status Feedback

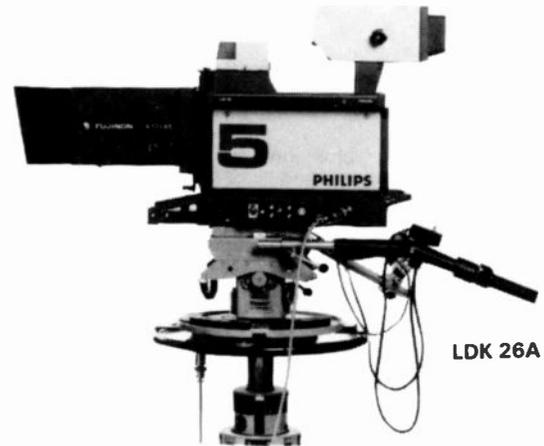
The unique status feedback system is another important advantage of the LDK 26A.

The data transparency of the design enables access to, and retrieval from, any unit on the bus. All setting-up and operational control parameters are available for displays on the master control panel. All settings in the camera processing unit and camera head are generated by the digi-pots on the master control panel and are fed back to the alphanumeric displays and are shown by an exact percentage readout. This permits settings to be checked, at a glance, without physically measuring them.

Diagnostics

There is one standard diagnostic system (Diagnostics-1) and one optional system (Diagnostics-2) available for the LDK 26A.

Diagnostics-1 operates on-line, and is active whenever a camera is "on." It makes no decisions which will interfere with normal "on-air" operation. However, where important characteristics deviate from nor-



mal, it warns the operator a decision is needed, and provides a readout on request.

Diagnostics-2 is a very valuable optional extra. It operates off-line, and on demand, by using signal injection techniques throughout the camera system. Messages are displayed on the picture monitor indicating probable fault location.

Automatic Programs

The following selectable automatic programs are available in the LDK 26A:

- Full auto set-up
- Auto daily check
- Auto white balance
- Auto black balance
- Auto lens registration calibration
- Auto lens shading, flare and color temperature calibration

These auto programs provide full automatic control not only to give ease of use, but also to produce the best results in the shortest time.

The auto lens programs can be used when the zoom lens is equipped with a built-in diascop.

After setting the back focus, it is possible to set up the camera fully automatically after tube replacement without any manual presetting. This is made possible because of the full range of computer controlled tube parameters.

Ahead Of Its Time

The LDK 26A camera head is smaller in size with high brightness, high resolution 5" viewfinder which makes it one of the most versatile 18mm cameras in the studio or on location. It has a number of outstanding features:

- Dynamic lens error correction
- Remote controlled scan reversal
- Integrated lens support
- Quick lens change
- Optical axis of the lens and viewfinder in one vertical plane
- A 5-position filter wheel
- A separate (controllable) auto cap
- Rotatable, tiltable and easily removable viewfinder (tilt range $\pm 60^\circ$)
- Extensive indicators and markers in the viewfinder
- Provision for remote facility for intercom and external viewfinder switches (e.g. on pan bars)
- Utility power e.g. for teleprompter
- Rainproof housing
- Extensive intercom facilities
- R, G and B and external video on VF display
- Unparalleled service accessibility

The LDK 26A has an integrated camera lens support which ensures correct balance of the combined camera head and lens—whatever the size of the lens being used—light or heavyweight. Then there is the flexible viewfinder for extremes of pan and tilt movement. Finally, there is a wide range of indicators and signal selectors together with full communication facilities.

For the engineer and video operator, the master control panel acts as the surveillance center for the whole system—a sort of electronic screwdriver for maintenance and diagnostics. It monitors and controls hundreds of functions. Used with the individual operational control panels, the video operator has control over the whole system.

Immediate reading of lens f/stop numbers, preprogrammed contours, etc. is possible after selection of the relevant camera by means of the MATCH knob on the operational control panel.

A joint company of Bosch and Philips

LDK 90

Frame Transfer-CCD ENG Camera System

Three high-resolution Frame Transfer CCDs together with a shutter give superior picture quality with perfect geometry and negligible registration error, with corner-to-corner sharpness and without any lag, burn-in, comet-tailing, smear or microphonics. The Dynamic Contrast Control (DCD) handles in excess of 500% signal level over peak white without loss of detail.

FT-CCDs continue to produce perfect pictures with no deterioration in quality and no aging. They are stable and permanent. The robust solid-state LDK 90 is built to withstand the hectic pace of ENG and on-camera recorder operation. And with no tube changing, cost of ownership is extremely low.

Flexibility in Operation

The LDK 90 FT-CCD camera has been designed as the precise answer for ENG use. But bearing in mind the many and varied needs of broadcast and production companies throughout the world, BTS has provided quick fit adaptors and appropriate control systems for Betacam and other standards of on-camera recording, and for EFP use.

No Maintenance

Having CCD sensors the camera is completely solid-state and will require no maintenance. Equally, the built-in shutter is maintenance free. Therefore, even under rigorous working conditions the camera will be extremely reliable throughout its lifetime.

With Ease-of-Use

Microprocessor control of automatics. Electronic color temperature control, with two presets for studio and daylight operation. An operational menu system. A very wide range of viewfinder indicators. These are some of the built-in features that help make sure the cameraman can shoot quickly and easily.

The CCD-FT Principle

The Frame Transfer structure has a photosensitive imaging section with 350,000 pixels PAL, 300,000 pixels NTSC located next to a storage region and connected to it by parallel shift registers.

Each separate image is transferred to storage and a completely new image takes its place. The shutter is timed to operate during the transfer to ensure that the image remains unchanged and unaffected by incoming light. Each frame of the picture is thus clean and independent of previous frames and highlights (no smear).

System Control

A remote control unit, which can be used up to 300m from the camera, is available for EFP or studio use with RGB, CCVS and monitoring outputs, together with a cameraman intercom facility. A very compact local control panel can be connected to the remote control unit for control of iris, masterblack level, individual gain and black level for red and blue. The LCP may also be used for ENG and on-camera recorder use.

The BTS camera with Frame Transfer-CCD offers these additional advantages over other cameras (mainly equipped with Interline CCDs):

- Higher resolution obtained by 604 PAL, 610 (NTSC) pixels
- Total elimination of smear because of the CCD/shutter combination
- Shorter picture exposure time of $1/50^{\text{th}}$ second (50Hz) or $1/60^{\text{th}}$ second (60Hz) rather than $1/25^{\text{th}}$ and $1/30^{\text{th}}$ second respectively. These shorter exposure (integration) times result in higher dynamic resolution, which is especially important when shooting moving objects (slow motion replay)
- Vertical resolution clearly better than can be obtained with tube cameras
- Future proof—special sports version with exposure control available soon

Higher Sensitivity

Electronic color temperature compensation eliminates the use of color conversion filters. The result is approximately one f/stop more sensitivity in daylight operations.



LDK 90

Four Position Gain Control

A choice of 4 positions to suit different applications.

- For applications where an extremely high (+ 6dB) signal-to-noise ratio is required
- 0 For normal operation (signal-to-noise ratio 56dB PAL, 58dB NTSC)
- + For low light level operation
- + + For extreme low light operation

Operation Memory Menu

For more demanding applications (such as extreme conditions) as well as for EFP use, a special menu control panel with a protective cover is available for the cameraman.

Its functions are: • Master black: 0, -10%, -20% • Black stretch: on/off • Gamma 1: 0.45 • Gamma 2: 0.55 or customer setting • Contour: -, nom, + • Exposure control: (provision for)

Local Control Panel

This special accessory is for use in the field with painting, iris and master black control.

Matte Box

A matte box accessory allows use of all standard bellows, filters, "french flags," etc.

This is particularly suitable for the LDK 90 in film-style applications where additional artistic and creative possibilities are required.

Computerized Control

A built-in microprocessor fulfills several functions including: Switch-function communication with the camera viewfinder and, if present, the Remote Control Unit (RCU), as well as auto-iris control via intelligent picture sampling methods.

Viewfinders

The 1 1/2" viewfinder is X-Y-Z adjustable and rotatable. There is a complete range of indicators. These include filter, color balance, gain, tape-end, rec, batt, menu, and range extender, together with tape bar, audio level, white balance window, and selectable zebra level.

A 5" viewfinder is also available for EFP/studio use.

Light, Compact, Efficient

Extremely light and compact, the LDK 90 weighs only 5 lbs. (2.35kg), basic camera. Visibility is extremely good. Hand grip and balance are perfect. Shoulder, flat bottom or tripod use are all designed for convenience. Power consumption is less than 11W. Battery life is long.

Accessories/Lenses

A full range of accessories and lenses for convenience and flexibility is outlined in the LDK 90 short form catalog, separately available.

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Vidifont Veditext II™

Veditext II is the latest in the Vidifont line of distinctive operator-oriented design systems. Providing corporate, educational and commercial users new heights in character graphics generation.

The Veditext II boasts many of the basic features of the higher-end Vidifont Graphics V™, with the capability to incorporate optional features including Animation, Time Sequential Overlays, Vidiclock™ and the Playback Sequence Controller. And Veditext II has access and compatibility with Vidifont's extensive font library, including creative services for custom graphics and logos.

System Configuration

Veditext II's compact design invites installation in virtually any graphic environment, particularly where space is at a premium.

Keyboard: Combines the standard typewriter keyboard with conveniently grouped function, editing and operational keys. Special attention to detail provides an environment that is both ergonomically efficient and user-comfortable.

Disk storage: Each double density 5 1/4" flexible disk holds up to 20 fonts, or provides random access of up to 600 display pages. Fonts and messages can be stored on the same disk. In a two-channel system, disk formatting or duplicating can be performed simultaneously with editing and composition.

MultiChannel: Directory controlled, high-capacity RAM and disk memory treat each message, regardless of length, as a single page, under a single identification. Over 10 instantly available on-line from RAM. Font IDs, colors, table locations, predesignated update windows, and all other user-environment parameters are recorded as part of each message. Allows multiple off-line channels rapid access for updates and changes, while on-line use can occur simultaneously utilizing different fonts, colors, formats and messages.

Display Characteristics

Fonts: Eight full-set fonts per channel, each containing up to 106 characters, may be accessed and intermixed for instant composition. Resident font memory has a capacity up to 24, with additional fonts available from flexible or hard disk.

Veditext II has complete access and compatibility with Vidifont's complete graphic and font library of over 100 typefaces and 250 sizes.

Colors: The color collection contains 4,096 choices. On-line you can manually select, or automatically load, any combination of 16 Color Quads. Multicolored fonts and logo graphics may be displayed in up to 48 colors per character with or without multi-colored edge.

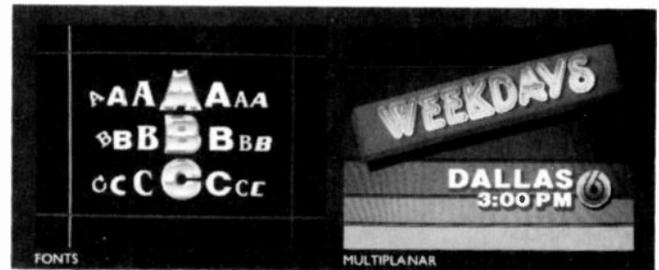
Backgrounds: Can be created independently of the character plane or linked to the foreground plane, dimensioned by one of the display items, and enlarged or reduced. Background sizes range from one TV line high and two pixels wide to a full display. 32 colors may be selected from the 4,096 palette independently of those on the foreground character plane.

Composition/Editing

Multiplanar: Up to 16 rows may be stacked by composing the first plane, pushing it back, composing the second, pushing it back, etc. Access to any plane is available by temporarily peeling away forward planes.

Justification: Veditext II provides horizontal centering, left or right and left and right justification. Veditext II suggests an initial justification point and moves the cursor to that location. You may begin to compose at that point, manually move to a new point or specify a preselected location by X and Y coordinates.

Tabs: Each page may contain unlimited tab locations set at any horizontal and/or vertical point and recorded as part of the message. Upon playback, information at these tab points can be accessed instantly with forward or back tabbing, then updated and rerecorded.



Lower Thirds: The cursor is automatically centered on the bottom row. As a message is composed, it is centered unless otherwise designated. When the operator moves the cursor to the next row, the message scrolls up and the cursor is centered for the next entry.

Acquire/Deposit: Font style, color and edge may be "acquired" from any character and "deposited" on any other entity (character, word, row, group or entire page). This eliminates reentry steps, saves time and encourages artistic creativity.

Display Dynamics

Rolls/Crawls: Veditext II has 7 bidirectional speeds, with 224 speed/direction combinations. Roll or crawl movements may be stopped at any point, then resumed at the same or different rate.

Ripple-On/Ripple-Off: Provides character-by-character appearance or removal, at any of 127 different preselected rates, as fast as 1/1000 second.

Flash: An infinite number of flash speeds are available on a character-by-character basis. Underlines and backgrounds can be independently flashed.

Expansion

Beyond the basic Veditext II are expansion capabilities with which to grow.

- **Animation.** Of characters, rows, pages and backgrounds
- **Time Sequential Overlays.** For frame-accurate editing of events
- **Playback Sequence Controller.** For creation of an ordered or randomly sequenced playback list
- **Vidiclock.** Provides time of day, elapsed and split time plus stop, pause and resume up or down
- **Vidivote.** Election reporting package
- **Vidicast/Vidisports.** Weather and sports package
- **GraphicStore.** Paint and library system
- **Twenty-megabyte hard disk drive.** Increases font and message storage

A joint company of Bosch and Philips



MCS-2000

**MCS-2000 Master Control Switcher
With Built-In Stereo Capabilities**

- Full TVS/TAS routing switcher access to up to 250 video/audio sources
- Programmed source name display for 16 input buttons
- Manual and automatic-fades, dissolves and wipes
- Two independent key stages
- Key colorizing and bordering
- Communication with TCS machine control system
- Over/under audio mixer
- 4-channel stereo meter bridge with real time display
- On-air bypass

The MCS-2000 can offer the most sophisticated and yet still the simplest preroll system you can get. It offers the capacity to multi-roll A/V splits and backup machines, to automatically handle film chain multiplexers, and to provide automatic full-function machine control at the operator's fingertips.

The MCS-2000 can provide complete on-air automation, with every function of the switcher available to an automation system. The automation system can even adjust the clip levels of a keyer.

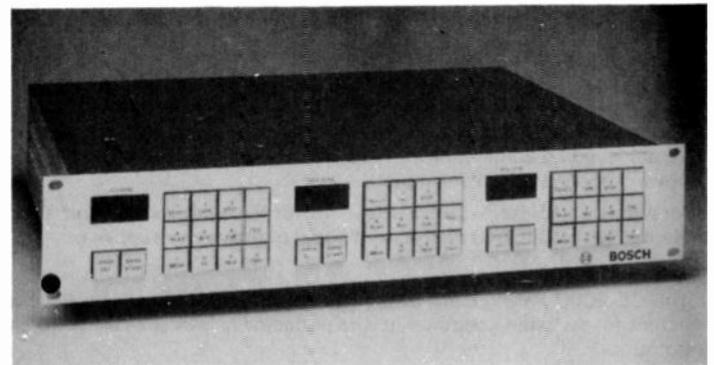
The MCS-2000 can provide automatic logging of all switcher events, even without an automation system.

The switcher can be interfaced to a complex machine control system such as the TCS-1 and will provide complete full-function control of any machine selected on the preset or program bus.

TCS-1 Machine Control System

- Controls up to 100 VTRs/film chains
- Dual twisted pair wiring simplifies installation
- Control of each VTR/film chain can be delegated to any one of eight studio control panels or machine control multiplexers
- Central microprocessor can be programmed to provide special functions such as permanent assignment of specific machines to specific control panels
- System can be integrated with the TVS/TAS-2000
- Distribution switcher to provide dynamic machine selection
- System can be integrated with the MCS-2000 master control switcher
- Integrates with the BTA-2300 automation system

- MI-8** 8-function machine interface, 1³/₄" rackmount
- MI-24** 24-function machine interface, 3¹/₂" rackmount
- MD-8** Machine delegate panel, 1³/₄" rackmount
- MC-24A** Single-machine control panel, requires MCM-1000
- MC-12/3** Twelve function three machine control panel
- MCM-1000** Machine control multiplexer, connects up to 30 MC-24A's



TCS-1

BTA-2300 Television Automation System

Designed to provide television station operators with a powerful yet easy to use, computer-assisted television station automation system of high reliability. The system is intended to be used as a tool by the operators — it does not presume to do the operators' job.

The automation system features include a traffic computer interface, switcher and auxiliary equipment control, alternate schedule selection, log creation, media pull list generation, machine assignment, and cart machine play list generation. The software is configurable to meet the needs of individual stations. The system makes extensive use of color displays, touch screens, and mouse pointing devices to streamline the operator interface. Fill-in-the-blank forms and labeled softkeys make the system easy-to-use.

The system controls an MCS-2000 Master Control Switcher and its associated TVS/TAS-2000 Distribution Switcher and TCS-1 Machine

Control System. Nearly all of the master control switcher functions and adjustments which can be performed manually can be controlled automatically from the switching schedule.

A typical system would consist of:

- The processor
- 4M bytes of RAM
- An 80M byte hard disk drive used to store the software, switching schedules and logs
- A 7770K byte, 3.5" floppy disk drive used for schedule backup, log archiving and cart machine play list output
- A color terminal used as the main console
- A color video output used for monitors around the station
- Several additional color terminals used to provide access from around the station (optional)
- Two printers, one used to print the log on-line and the other used as a utility printer to print various reports
- A serial interface to a separate traffic computer system

TVS/TAS-2000

Distribution Switching Systems

- Redundant control card capability • Multilevel breakaway capability
- SMPTE-422 computer control optional • Internal refresh memory with 30-day memory save • Power supply failure indicators on all boards • Power supply alarm indicators with contact closure for remote alarm • Fused power supply outputs • Redundant power supply capability • No PROM changing on crosspoint boards • Vertical interval switching of video • Clamped video inputs • Output delay trim • Field expansion of inputs and outputs without rewire • Compact—10 x 10 matrix arrangement. 60 x 10 audio and video or 130 x 10 audio or video in 8³/₄" card cage • Internal cooling fans. Fans removable during normal operation • Matrix board "in use" indicator • Computer automated system testing of audio and video through all possible signal paths • BNC video and party line connectors • Dual video outputs • Capable of interface to TCS-1 machine control system

The TVS/TAS-2000 Distribution Switcher is a modular switching system consisting of a matrix, output and control cards. The cards—the basic building blocks of the system—are installed in rackmounted card cages which utilize pin and socket connectors to increase reliability and provide low circuit card insertion force.

Systems may be configured and interconnected to create switching systems with capabilities ranging from 10 x 10 to 450 x 150.

Redundant power supplies can be housed in each card cage.

Control Configurations

Desktop and rackmount control panels are available for use with the TVS/TAS-2000 switcher to meet virtually any control requirement.

Power Supplies

The PS-2000 Power Supplies provide unregulated DC voltages for on-card regulation. Because the supplies are interconnected in a redundant manner, either supply can power the card cage. Cost savings can be achieved by eliminating the redundancy and replacing the second power supply with a blank panel.

Monitor test points, a green LED indicator for each voltage and a red alarm LED, are located on the front panel of the power supplies.

Polling Card

The CE-2000 Polling Card is the system's master controller. It polls panels for switching commands and periodically refreshes all switcher outputs.

Using a nonterminated coaxial cable, the serial bidirectional party line offers a highly efficient communications medium for system control. The CE-2000 provides four separate and identical party line outputs. A short in one party line will automatically trigger the logical removal of the shortened line, allowing the other three lines to continue normal operation.

Card Cages

The RF-2000 Card Cages are 8³/₄" (five rack units) high and 18" deep. They mount in standard 19" racks, and feature easily removable front doors for quick access to circuit boards.

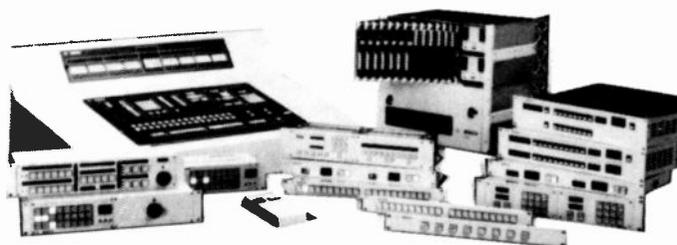
Each card cage has its own ventilation system. Air is drawn in through the front panel and exhausted through the right rear side. Fans are mounted to a removable panel on the rear of the chassis to allow replacement without turning the switcher off.

Input connections for the switcher system are located on the first card cage, and each cage in the system contains its own output connectors.

Internal cabling carries video and audio between card cages within a single rack. Plug-on cables and terminators are used to facilitate future expansion of inputs and outputs.

Alarm Circuits

Alarm circuits are contained within all circuit boards. The loss of any power supply voltage used on any individual circuit card creates an



TVS/TAS-2000

alarm condition which is indicated by the activation of a red LED. This alarm condition is bused to the power supplies where it generates a card cage alarm.

Matrix and Output Circuit Cards

Video Cards

The VS-2100 Video Matrix Card has 10 input amplifiers, each with a plug-selectable sync tip clamp option. The video matrix card contains 100 solid-state crosspoints for video switching. An LED is used on each card to indicate when the card has one or more crosspoints selected.

Audio Cards

The AS-2100 Audio Matrix Card switches audio signals. This card has 10 solid-state bridging input amplifiers with high common-mode rejection. Balanced input signals are converted to a single-ended signal for switching by crosspoints. When the card is in use, output bus amplifiers and output crosspoints feed the matrix output bus. When the card is not in use, these are disconnected from the bus. Cards can be added to a system to supply the required number of inputs. For interchangeability, DIP switches are used to select the card addressing. An "In Use" LED indicates when one or more card crosspoints are selected.

TVS/TAS-2000 Matrix Configurations

The TVS/TAS-2000s with internal power supplies are available in four standard configurations. Type CAV, CAA, CVV and MSO offer packages tailored to size and cost. Types CAV, CAA and CVV are the most economical but are limited to a maximum of 60 inputs. Type MSO has a higher price tag but is expandable to 130 inputs and beyond. All configurations are field expandable to their maximum capacity.

Type CAV: Combined Audio and Video

This configuration combines both audio and video switchers in a single 8³/₄" card frame. While the unit is limited to 60 inputs, it may be ordered with (or expanded to) 100 outputs.

Type CAA: Combined Audio Audio

The CAA design can be configured as a dual audio switcher (channel 1 and 2) with 60 inputs to 10 outputs or as a single audio with 60 inputs to 20 outputs in each 8³/₄" card frame.

Type CVV: Combined Video Video

Type CVV provides as many as 60 inputs to 20 outputs per 8³/₄" card frame.

Type MSO: Multiple Chassis with Single Output Card per Chassis

These switchers are supplied with one card frame for each video output decade and a separate card frame for each audio output decade. Expansion to facilitate matrices of any size may be ordered initially or at a later date.

Series 573 Mobile Multiplexer

The Series 573 Mobile Multiplexers accept input from two slide projectors and are equipped with a third input port which is usually used for 16mm input. It is not practical to use the third input for a slide projector. Buhl makes other multiplexers to handle three or more slide projectors. No projection lenses are needed for the two slide projectors because the optics are built into the multiplexer itself. The 16mm projector for the third input does require its own projection lens. The video camera uses its normal zoom lens. The camera can be mounted on a tripod but most users find the camera mount a convenient accessory. The choice of two basic models of the mobile multiplexer is determined by the diameter of the video camera zoom lens. Each of the two models can then be equipped with mounting plates to handle any of these slide projectors: Kodak Ektagraphic II, Kodak Ektagraphic III, Kodak S AV.

573-200	3.0" or less (camera lens diameter)	\$1450.00
573-190	4.5" or less (camera lens diameter)	2237.00
573-312	Camera mount for 573 Series Multiplexers for semi-permanent mounting	340.00

Accessories

573-130	Kodak Ektagraphic E III Slide Projector (Includes brightness modifier and neutral density filter holder) Lens not included	\$ 286.00
575-132	Eiki 16mm telecine optical projector. SNT-OT. 5 bladed shutter, synchronous motor, diffusion device, lens not included	2005.00
575-112	Buhl projection lens for Eiki 16mm	117.00
575-180	ELMO 16mm telecine optical/magnetic projector 16CL ETC. 5 bladed shutter, synchronous motor, lens not included. Diffusion device included	2110.00
575-125	Buhl projection lens for ELMO 16mm	117.00
575-146	ELMO ST 180 ETC Super 8mm telecine projector. 15-25mm zoom lens included. Diffusion device included	650.00
575-170	ELMO ST 180 ETC Regular 8mm telecine projector. 15-25mm ELMO zoom lens included. Diffusion device included	700.00
574-100	Diffusion device for ELMO 8mm/Super 8mm projectors	36.00
573-202	Diffusion device for Eiki and ELMO 16mm projectors	36.00
574-695	Brightness modifier for Kodak III 35mm projectors	24.00

573-420 Modular Bipler

Modular system for film or slide transfer to video.

573-420	Bipler unit without projectors, accepts either of two inputs via a movable internal mirror	\$696.00
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Accessories

573-430	Adjustable height stand accepts either Kodak Ektagraphic Series II or Series III slide projector	\$105.00
574-066	Lens with extended barrel and ND filter holder for Kodak Ektagraphic slide projector, for slides to video via bipler	135.00
575-450	Camera mount for modular bipler eliminates need for a tripod or dolly	261.00
575-130	Kodak Ektagraphic E III slide projector including brightness modifier that adapts projector for slide to video transfer. Lens not included	286.00



573-200

Tyrone Video Transfer System

- **L-Shaped Configuration:**
The L-Shaped layout makes it easy for the operator to monitor both the projector and camera adjustments during the transfer process.
- **Interchangeable Inputs:**
The projector and shelf become a single unit that can be removed or replaced without losing basic adjustment.
- **Aerial Image:**
Aerial image means that there is no grainy screen to degrade image quality. The video camera sees the image formed "in air". The image is made visible to the camera by the carefully engineered field lenses which are part of the Bipler's optical system.
- **Black Mirror:**
The optically polished black mirror positions the image correctly for the video camera. It serves to reduce the light from the projector to levels that the video camera can handle, and is rotated by the external lever to select the input port.
- **Removable Internal Screen:**
A small screen can be inserted between the field lenses so that the aerial image is visible to the naked eye during setup. The screen is removed before recording.

Developed from Buhl's original Modular Bipler, the Tyrone Video Transfer System is an integrated unit to handle 16mm, Super 8mm, 8mm or slides to video.

The concept is that the projector and shelf become a single unit, which once aligned, can be removed and replaced without losing the basic adjustments. This is accomplished by fitting each shelf with carefully machined locating slots, which in turn fit into precision points on the Tyrone shelf holder.

Tyrone Video Transfer System includes:

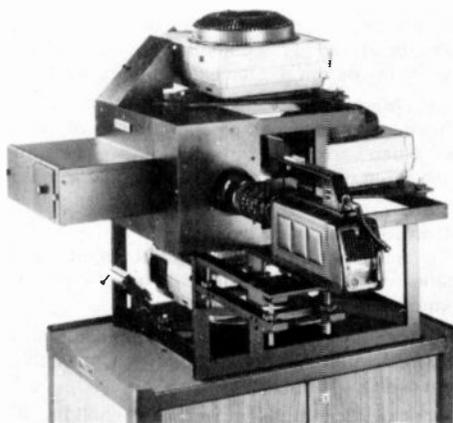
- Optical system
 - Custom alignment shelf for film or slide projector. (User must specify make and model number of projector.)
 - Custom camera mount. (User must specify make and model of video camera, lens centerline height and distance from the tripod socket to the tip of the lens.)
- 502-100 Tyrone \$1200.00

Accessories

502-000	Additional shelf and riser. (User must specify make and model of projector)	\$150.00
502-001	"T" configuration add-on shelf and riser for right side. (User must specify make and model of projector)	315.00
505-100	Two projector 35mm dissolve system to hold and align two Ektagraphic III slide projectors in dissolve mode. Objective lens included. Does not include projectors or dissolve control (accepts vertical or horizontal slide format)	990.00



Series II
Mobile Multiplexer



Series III
Mobile Multiplexer

SERIES II AND III MOBILE MULTIPLEXERS

620 Series Multiplexer II

Compact Mobile Multiplexer II for Ektagraphic III slide projectors and 16mm TV modified projector. Basic unit includes mounting plates to hold 16mm projector and two Ektagraphic III slide projectors. Includes optical system for both slide and 16mm projectors. Includes brightness modifiers and ND filter holders for slide projectors. Does not include projectors.

620-100 \$3000.00

Accessories for 620 Series

620-150 Camera mount for 620-100 Multiplexer \$240.00
 620-160 Quick release camera mount. 27.00
 620-180 Floor mounting stand for MM II with leveling feet 247.50

620-390 Rolling cabinet for MM II. \$282.00
 620-400 Ektagraphic E III for use on MM II.
 Includes brightness modifier and ND filter holder.
 When ordered with 620-100, projector will be factory installed and aligned on the multiplexer 286.00

630 Series Multiplexer III

Series III Mobile Multiplexers accept up to three Ektagraphic III slide projectors. Some models have a fourth input port for a 16mm projector.

The projection lenses for the slide projectors are built into the multiplexer, no additional slide projector lenses are needed.

If the slide projectors are purchased through Buhl they will be pre-mounted onto the multiplexer and equipped with special light diffusers to kill the projector filament images.

Use of the fourth input port calls for accessory support equipment and appropriate projection lenses.

The Series III is designed to work with video camera lenses of 3" diameter or smaller.

630-310 Accepts 3 Ektagraphic III slide projectors. No input port for 16mm. Does not include projectors \$2925.00
 630-312 Accepts 3 Ektagraphic III slide projectors and has a fourth input port for a 16mm projector. Does not include projectors 3225.00

Accessories for 630 Series

630-150 Camera mount fits 630-310, 630-312, and 630-316 multiplexers. Used for mounting the video camera instead of a free-standing tripod \$240.00
 630-160 Quick release mount used between camera and tripod or camera mount for fast, easy removal and replacement of the camera. 27.00
 630-180 Floor mounting stand supports multiplexers 630-310 or 630-316 and includes leveling feet 247.50
 630-390 Rolling cabinet supports multiplexers 630-310 or 630-316. Includes lockable bottom compartment and large casters. Top surface 18" x 30". Height 27 1/2" 282.00
 630-400 Kodak Ektagraphic E III Slide Projector is equipped with light diffusing plates to kill filament image and assembled onto the Series III Multiplexer. 286.00
 630-500 Support for fourth input. This assembly supports both the multiplexer and the fourth input 16mm projector. Includes 5" diameter locking wheels 697.00

Dissolve Control for 3 Slide Projectors.

There are many controls available through audiovisual dealers.

SCED Series Computer Assisted Video Editing Systems

• SCED MK-II offers direct control of a mix of up to 6 Ampex and Sony protocol machines as standard • SCED is compatible with Calaway Engineering Translators and Sony BVH-2000, BVU-800/820, and BVW-10/40 machines • CED series offers standard RS-422 direct switcher control of popular audio and video switchers

Features Common to All Models

• NTSC (PAL available) • Compatible with CMX and GVG • Optional 8" disc • Numeric keypad with double zero • Motion controller: Variable speed, Frame advance, Mark in/out keys • Extended motion controller keyboard • Preview Switcher: Audio/Video Previews, Sync Generator NTSC w/Genlock, Black Burst Generator NTSC, GPI Pulse • Video and Audio Switcher Control: Cross Point Selection w/Aux and Black, Transition Setup, Transition Execution • Exit to MS-DOS w/out reboot • OutEdit preview • Open end key (shift Set-Dur) • Save/recall marks flip-flop (current marks are saved when last saved marks are recalled) • Klean and Keen • Frame Accurate • Color framed • Preview Field Select • Full Range Synchronizer • Save Editor Setup to disc • Save A/V switcher assignments • Save macro set • Save GPI labels/mode • Error/Help Messages • Automatic Assembly—Sequential and Checkerboard • Sync Roll • Previews: VVV, VBV, VBW • Replay • Edit Types: Video, Audio 1, Audio 2 • Transitions: Cuts, Wipes, Dissolves • Split Edits • Trim Times • Set Times • Move Times • Constants: 8 • Master Slave • Saved to list • Looping and Branching • English Display of Macros • Transport Controls: FFW, FREV, Play, Stop, Slow Cue, Cue to In-point, 2X Play Very Slow, and More • Mark Keys • List Functions: Compatible with CMX, GVG/ISC, Conversion between Formats, Notes, Insert Edits/Notes, Delete Edits/Notes, Replace Edits/Notes, Shift Times, Renummer, Move, Ripple, Load EDL from Disc, Save EDL to Disc, Save EDL to Printer, Multiple Lists on Each 5 1/4" Disc, Seek for Event by Event Number, Seek Event by Record in Time, Scroll List Up/Down by Page, Jump to Head/End of List • List Sort: Event Number, Modified Record In, As Stored, Change Mode at Any Time

All Models Include:

• Motion controller • Power cord • Installation manual • Operation manual • Software: edit program and diagnostics • Edit support card • upPV preview switcher

CED upPV Preview Switcher: Provides preview switching and synchronizing signals for the basic editing system (Composite sync and black burst). It also provides an output pulse at the start of a transition which can be used to trigger an external device.

SCED + MK-II Six VTR Editor

• 6 VTRs standard • Fast 80286 computer • GPI w/V-EFX and Slo-Mo • All software options • Mixed Sony/Ampex Control • Powerful macros • Multiple record • Display recalled • Master/slave link marks displayed • Display recalled event number • Preview switcher pre-select software for record machine assignment • 24 macro keys (12 single key and same 12 shifted for 13-24) including all macro features: macro counter, macro delay, macro pause, and macro edit • Eight VTR ports connected with any six assigned and synchronized simultaneously • Multiple record • Super user mode • Keyboard active in preview for going directly to record or for marks during preview

Includes

• Rackmount electronics chassis with: 80286 processor with serial and parallel printer ports • GPI card • Two 4-channel serial cards • Floppy disc interface • Monochrome display adaptor • Single 5 1/4" drive • Desktop green screen monitor • Extended color-coded keyboard • MS-DOS

SCED + MK-II Editor for Serial VTR Control \$22,495.00



SCED Series

SCED + Six VTR Editor

• 6 VTRs standard • A/B mix standard • User supplied computer • Variety of switchers/mixers • Optional control of Ampex VTRs • Display recalled event number • Master/slave link marks displayed

Includes

• Two 4-channel serial cards • Extended color coded keyboard

SCED + Six VTR Editor \$12,995.00

SCED + Six VTR Editor with MK-I Computer \$13,995.00

SCED + requires either the Calaway Engineering MK-I computer or the Compaq Deskpro I, II or 20. The computer must have one 360K floppy disc drive, 640K of memory MS-DOS or compatible operating system version 3.0 or later. SCED + requires 3 free slots in the computer.

SCED Four VTR Editor

• 4 VTRs standard • User supplied computer • A/B mix standard • Powerful off-line system • Variety of switchers/mixers

Includes:

• 4-channel serial card • Color coded keyboard

SCED Four VTR Editor \$9,995.00

SCED Four VTR Editor with MK-I computer \$9,995.00

SCED requires either the Calaway Engineering MK-I computer, the IBM PC/XT, or the Compaq Deskpro I, II or 20. The computer must have one 360K floppy disc drive, 512K of memory MS-DOS or compatible operating system version 3.0 or later. SCED requires 2 free slots in the computer.

MULTI-CHANNEL "MODULAR" CABLE SYSTEMS

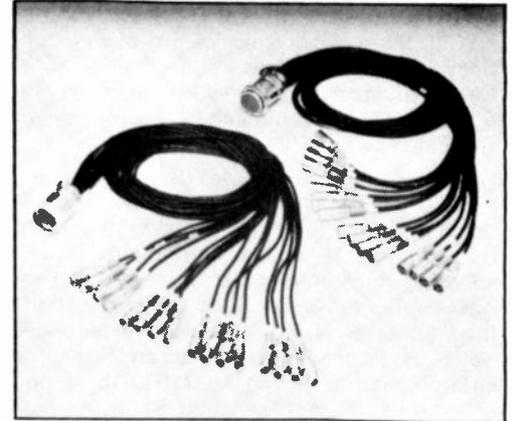
Canare offers a large selection of pre-wired components and cable systems, available in standard 8, 12, 16, 24 and 32 channel arrangements. All systems are configured in a "modular" style design to ensure easy component interfacing, future expansion, simple set-up and tear-down, as well as readily serviceable parts. Cable systems utilize the finest Cannon J.A.E. multipin K and MS type connectors and Cannon XLR connectors, so that you can be assured of good contacts and maximum durability, no power-robbing nicks, broken leads, shorts or intermittent contacts. After exhaustive research and testing, we have determined that Cannon XLR and Multipin connectors offer the best choice in performance and features. They have strong silver pin contacts that won't pull out or loosen and also have the lowest contact resistance not only initially, but after months of use, where cheaper connectors are subject to contact corrosion. The Multipin connectors use a bayonet type "screw-lock" sleeve for fast, positive connections. Connector dust caps on a short steel cable protect the connectors when the system is being stored or transported.

Technical Note:

In order to help avoid signal losses and prevent degradation of signal-to-noise ratio, it is important to keep contact resistance as low as possible, especially in large systems with many connectors between the microphone and the mixer. Quality contacts do make a difference.

Pigtails

"Fan-Outs" are typically used for terminating multi-channel snake mike lines to a mixing console. We use only Canare L-4E6S or L-4E5C Star Quad single channel mike cable for our "tails". All models are configured with either Cannon XLR Male or Cannon XLR Female to a Cannon K-type or MS-type multipin connector. Lengths are approximately 5' each. These pigtailed cables are carefully wired in a common ground scheme and thoroughly tested by Q.C. before final release. Each individual channel has a large, durable, number ring collar, attached and floating over the cable for quick identification. A sturdy dust cap is included for multipin storage protection.



16S1F2

16S2F1

Microphone Cable

L-4E6S

The first choice for handheld microphones. Flexible, smooth to the touch, extra-strong standard diameter STAR QUAD cable that fits perfectly in all XLR-type connectors. With 40 separate strands in each conductor, breakage due to flexing is all but eliminated, especially at or close to the solder joint. For extra convenience, Canare offers pre-wired ECO mike cables in various lengths and colors. Large color selection aids in cable identification and decor coordination. Available colors: Black, Blue, Brown, Gray, Green, Orange, Purple, Red, Yellow and White.



L-4E6S

Model	No. of Chan. (Quad)	No. of Cond. Per. Chan.	Std. Lengths	Wt. (lbs./1000')	Nom. O.D. (in.)	Cond. strand. (Qty. / mil.)	Cross Sec. Area (mil. ²)	A.W.G. size	Pitch of Quads (in.)	Shield Coverage (%)	Insulation Type	PVC Jacket Nom. Thick. (mil)	Electrical Characteristics / Quad						
													Nom. D.C.R. (Ω / 1000')	Shield D.C.R. (Ω / 1000')	Nom. CAP		Nom. Imp. (Ω)	Nom. Atten. (V / 1000')	Group Delay Time (ns/ft.)
															** (PF/ft)	*** (PF/ft)			
L-4E6S	1	4	500 ft. 1,000 ft.	33	.237	40/3.15	310	#24	.79	>95	Polyethylene	44	30	9.1	46	57	44	0.9	1.80

Pre-Assembled Microphone Cables

Canare also offers pre-wired microphone cables in a variety of lengths and colors. All are assembled with our "Top of the Line", L-4E6S "STAR QUAD" mike cable and have either Neutrik "X"-Series or Cannon J.A.E. XLR Male and Female connectors. All connectors are carefully soldered and rigidly inspected to ensure long life in the field, studio and sound stage. Cable shells are routinely grounded to the shield on the Female XLR connector, but the ground wire may be easily cut if floating shells are preferred. Each cable comes with its own attractive clear bubble display pack with a full detailed cable and wiring description on the back.



ECO*FB

ECO*FB

Cable: Canare L-4E6S "STAR QUAD"
Connectors: NEUTRIK...NC3MX-B > NC3FX-B

Shell: Black Chrome

Contacts: Gold Plated Alloy

Colors: Black, Blue, Brown, Green, Gray, Orange, Purple, Red, Yellow and White

EC005FB 5' cable EC015FB 15' cable
EC025FB 25' cable EC050FB 50' cable

ECO*FR

Cable: Canare L-4E6S "STAR QUAD"
Connectors: Cannon...XLR3-11C > XLR3-12C

Shell: Nickel Plated Alloy

Contacts: Silver Plated Alloy

Colors: Black, Blue, Brown, Green, Gray, Orange, Purple, Red, Yellow and White

EC005FR 5' cable EC015FR 15' cable
EC025FR 25' cable EC050FR 50' cable

*Refers to Length



ECO*FR

RC-701 Still Video Camera

Unlike conventional cameras using chemical-based films, the RC-701 changes the visual image into an electronic signal and records it instantly on a standard 2" video floppy disk. Up to 50 images can be recorded on each disk. Since images are stored in the form of electronic signals, conventional photo processing is out of the picture. Recorded images can be viewed immediately on a monitor TV, printed out in full color, or even sent around the world via ordinary telephone lines.

High-Resolution CCD

The high resolution CCD (charge-coupled device) image sensor is only 2/3", it boasts 780 horizontal lines and 490 vertical lines. Pure and precise color is obtained through the high-performance RGB stripe filter, resulting in crisp images and realistic color.

6x Zoom Lens with Ultra-Fast f/1.2 Aperture

The 11-66mm (35mm lens conversion: 44-264mm) 6x zoom lens provides a maximum aperture of f/1.2, and features a single focus-push/pull zooming ring for smooth, swift zoom operation. A bayonet mount ensures positive transmission between the lens and camera body. Close-ups as near as 2 3/8" (60mm) are possible.

The FD lens adaptor lets you use Canon's entire line of FD lenses for photo possibilities as endless as your imagination.

Swift, Silent Shooting at up to Ten Images per Second

The RC-701 features four shooting speeds. In addition to the single image, you can shoot 2, 5, or 10 images per second to capture every bit of the action. Winding noise is greatly reduced for virtually silent operation.

High-Precision Silent Shutter

Unlike shutters on conventional 35mm cameras, the high-precision slit shutter incorporates a magnetic charge rotary design and a feather-touch shutter button. Since operation is totally electronic, shutter noise and vibration are dramatically reduced.

Auto White Balance for Natural Color

In the automatic mode, the white balance control assures that color pickup is exactly as you see it. For creative special effects, you can also select manual operation, with 9 positions available.

Increased Photo Possibilities with 6-mode AE and Manual Exposure

You can choose from 6 different AE modes depending on where and what you're shooting. When using SV lenses: 1) shutter priority AE, 2) P: standard program AE, 3) PT: teleprogram AE (automatic 1.5X sensitivity increase at lowest light limit for modes 1-3), 4) PH: high-speed program AE (high-speed shutter priority through increased sensitivity), and 5) flash AE. Position 6) stopped-down AE is for when Canon FD lenses are used, while position 7) enables manual exposure setting. In particular, the automatic 1.5X sensitivity boost increases your shooting possibilities in low light.

Highly Precise Light Metering

Built into the focusing screen is an advanced MBS (micro beam splitter) which splits the incoming light between the focusing screen and the highly sensitive SPC element. When SV lenses are used in AE mode, incoming light is measured as the average of the entire frame, with an emphasis on the center portion, resulting in virtually perfect exposures every time.

Brilliant Viewfinder and Centralized Data Display

The viewfinder makes use of a bright laser-matte incorporated into a split image design. A compact prism has been adopted for a clear, brilliant viewfinder image. Also in the viewfinder are LED indicators for program AE mode, flash ready, AE lock, manual white balance, manual aperture for FD lenses, as well as a 2-digit 7-segment LED data display that indicates (using numerals, letters and symbols) exposure information, remaining battery power, and floppy disk status.



RC-701

Changing Video Floppy Disks in Seconds

Just remove the floppy disk with a single touch, insert another, and shoot on. The video floppies are only 2" square and light as a feather.

Easy-to-follow Data Display

All the information you need during shooting is shown clearly on the centralized liquid crystal data display.

Automatic Data Recording Makes Filing Easy

Along with the image, specific data can be recorded on each track: 1) year/month/day, 2) hour/minute/second, 3) shutter speed and aperture value of the photo taken, and 4) a four-digit number (code number: synchronization with the track counter can be switched On/Off). This data can also be shown on the TV monitor for later reference.

Quick 1-hour Charge High-Capacity NiCad Battery

Using the battery charger, you can recharge camera power in just one hour. Fully charged, the high-capacity NiCad battery pack holds enough power for shooting approx. 250-350 frames (5-7 video floppy disks).

Specifications

Type:	SLR-type still video camera
Pickup element:	Frame transfer type CCD image sensor (780 pixels horizontally)
CCD format:	Equivalent to 2/3"
Viewfinder:	Eye-level type with Exclusive Canon roof prism; Field of view: Horizontal 94%, Vertical 94%
Light metering system:	TTL full aperture, using SPC; center-weighted average metering
Shutter:	2 rotary blades, focal-plane shutter
Shutter speed:	1/2000 sec.-1/8 sec.
Flash sync speed:	1/60 sec.
Sensitivity:	Equivalent to ISO 200 (ISO 600 in high sensitivity mode)

RC-701	.....\$3100.00
Zoom lens 11-66mm f/1.2	.....899.00
Zoom lens 50-150mm f/2.8	.....999.00
Wide angle lens 6mm f/1.8	.....1092.00

Accessories

• System Case HC-701 • Remote Switch RS-RC • Battery Pack BP-7N • Battery Charger BC-60N • Neckstrap NS-RC • FD Lens Adaptor LA-RC • Video Floppy Disk VF-50 • Eyecup EC-RC • Camera Body Cap DC-RC • Rear Lens Cap SV • Dioptic Adjustment Lenses (type S: for A-series SLR) • A- and T-Series Speedlites

For 2/3" Tube and CCD Color TV Cameras

Specifications Lens	Application	Zoom Ratio	Range of Focal Length	With Extender	Maximum Relative Aperture	Angular Field of View
J50X9.5B IE	Field	50X	9.5-475mm	2X	1:1.4 at 9.5-202mm 1:3.0 at 475mm	49.7°X38.3° at 9.5mm 1.1°X0.8° at 475mm
			19-950mm	2X	1:2.8 at 19-404mm 1:6.0 at 950mm	26.1°X19.7° at 19mm 0.53°X0.40° at 950mm
J45X9.5B IE	Field	45X	9.5-430mm	-	1:1.7 at 9.5-202mm 1:3.0 at 430mm	49.7°X38.1° at 9.5mm 1.2°X0.9° at 430mm
			19-860mm	2X	1:3.4 at 19-402mm 1:6.0 at 860mm	26.1°X19.7° at 19mm 0.59°X0.45° at 860mm
J40X9.5B IE	Field	40X	9.5-380mm	-	1:1.4 at 9.5-240mm 1:2.0 at 380mm	49.7°X38.3° at 9.5mm 1.3°X1.0° at 380mm
			19-760mm	2X	1:2.8 at 19-480mm 1:4.0 at 760mm	26.1°X19.7° at 19mm 0.66°X0.5° at 760mm
J25X11.5B IE	Field	25X	11.5-288mm	-	1:1.6 at 11.5-219mm 1:2.1 at 288mm	41.9°X32° at 11.5mm 1.8°X1.3° at 288mm
			17.3-433mm	1.5X	1:2.4 at 17.3-329mm 1:3.15 at 433mm	28.5°X21.6° at 17.3mm 1.2°X0.9° at 433mm
			23-576mm	2X	1:3.2 at 23-439mm 1:4.2 at 576mm	21.6°X16.3° at 23mm 0.9°X0.7° at 576mm
			28.8-720mm	2.5X	1:4.0 at 28.8-549mm 1:5.25 at 720mm	17.4°X13.1° at 28.8mm 0.7°X0.5° at 720mm
J20X8.5B IE	Studio	20X	8.5-170mm	-	1:1.6 at 8.5-129.5mm 1:2.1 at 170mm	54.7°X42.4° at 8.5mm 3°X2.2° at 170mm
			17-340mm	2X	1:3.2 at 17-259mm 1:4.2 at 340mm	29°X22° at 17mm 1.5°X1.1° at 340mm
J15X8.5B IE	Studio	15X	8.5-128mm	-	1:1.6 at 8.5-128mm	54.7°X42.4° at 8.5mm 3.9°X3° at 128mm
			17-256mm	2X	1:3.2 at 17-256mm	29°X22° at 17mm 2°X1.5° at 256mm



J45 x 9.5B IE



J40 x 9.5B IE



J25 x 11.5B IE

J40X9.5B IE	Field	40X	9.5-380mm	-	1:1.2 at 9.5-190mm 1:2.0 at 380mm	49.7°X38.3° at 9.5mm 1.3°X1.0° at 380mm
			19-760mm	2X	1:2.4 at 19-380mm 1:4.0 at 760mm	26.1°X19.7° at 19mm 0.66°X0.5° at 760mm
J18X8B IE	Field/ Studio	18X	8-144mm	-	1:1.2 at 8-123mm 1:1.4 at 144mm	57.6°X44.8° at 8mm 3.5°X2.6° at 144mm
			12-216mm	1.5X	1:1.8 at 12-184.5mm 1:2.1 at 216mm	40.3°X30.8° at 12mm 2.3°X1.8° at 216mm
			16-288mm	2X	1:2.4 at 16-246mm 1:2.8 at 288mm	30.8°X23.3° at 16mm 1.8°X1.3° at 288mm
J14X9B IE	Studio	14X	9-126mm	-	1:1.2 at 9-126mm	52.1°X40.3° at 9mm 4.0°X3.0° at 126mm
			13.5-189mm	1.5X	1:1.8 at 13.5-189mm	36.1°X27.5° at 13.5mm 2.7°X2.0° at 189mm



J18 x 8.5B IRS

J18X8.5B IRS	ENG/EFP	18X	8.5-153mm	2X	1:1.7 at 8.5-113mm 1:2.3 at 153mm	54.7°X42.4° at 8.5mm 3.3°X2.5° at 153mm
			17-306mm	2X	1:3.4 at 17-226mm 1:4.6 at 306mm	29.6°X22.0° at 17mm 1.6°X1.2° at 306mm
J14X8B IRS	ENG/EFP	14X	8-112mm	2X	1:1.7 at 8-91mm 1:2.1 at 112mm	57.6°X44.8° at 8mm 4.5°X3.4° at 112mm
			16-224mm	2X	1:3.4 at 16-182mm 1:4.2 at 224mm	30.8°X23.3° at 16mm 2.3°X1.7° at 224mm
J13X9B IRS IIA	ENG/EFP	13X	9-117mm	2X	1:1.6 at 9-99mm 1:1.9 at 117mm	52.1°X40.3° at 9mm 4.3°X3.2° at 117mm
			18-234mm	2X	1:3.2 at 18-198mm 1:3.8 at 234mm	27.5°X20.8° at 18mm 2.2°X1.6° at 234mm
J8X6B IRS	ENG/EFP	8X	6-48mm	2X	1:1.7 at 6-33mm 1:1.9 at 48mm	72.5°X57.6° at 6mm 10.5°X7.9° at 48mm
			12-96mm	2X	1:3.4 at 12-66mm 1:3.8 at 96mm	40.3°X30.8° at 12mm 5.2°X3.9° at 96mm
J8X6B KRSA	ENG/EFP	8X	6-48mm	-	1:1.7 at 6-33mm 1:1.9 at 48mm	72.5°X57.6° at 6mm 10.5°X7.9° at 48mm
J15X9.5B KRS	Semi- Professional	15X	9.5-143mm	-	1:1.8 at 9.5-112mm 1:2.3 at 143mm	49.7°X38.3° at 9.5mm 3.5°X2.6° at 143mm
J12X10B KRS	Semi- Professional	12X	10-120mm	-	1:1.7 at 10-101mm 1:2.0 at 120mm	47.5°X36.5° at 10mm 4.2°X3.2° at 120mm



J15 x 9.5 KRS



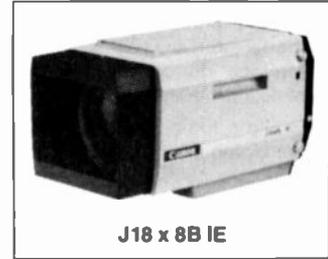
J14 x 8B IRS

For 2/3" Tube and CCD Color TV Cameras (cont'd)

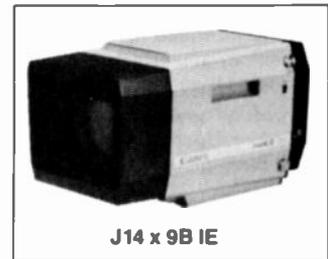
Specifications Lens	Minimum Object Distance (M.O.D.)	Object Dimensions at M.O.D.	Optical Back Focal Distance	Operation System	Remarks
J50X9.5B IE	2.2m	180X135cm at 9.5mm 3.6X2.7cm at 475mm	55.23mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		90X68cm at 19mm 1.8X1.4cm at 950mm	in air		
J45X9.5B IE	1.8m	148X111cm at 9.5mm 3.3X2.5cm at 430mm	42.0mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		75.9X56.9cm at 19mm 1.7X1.3cm at 860mm	in air		
J40X9.5B IE	2.5m	205X154cm at 9.5mm 5X3.8cm at 380mm	48.9mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		103X77cm at 19mm 2.6X2cm at 760mm	in air		
J25X11.5B IE	1.5m	101.9X76.5cm at 11.5mm 4.1X3.1cm at 288mm	48.2mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 1.5X, 2X, 2.5X
		68.5X51.3cm at 17.3mm 2.8X2.1cm at 433mm			
		51.3X38.4cm at 23mm 2.1X1.6cm at 576mm			
		41.0X30.7cm at 28.8mm 1.7X1.2cm at 720mm			
J20X8.5B IE	0.6m	82.1X60.4cm at 8.5mm 3.9X3cm at 170mm	47.9mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		40X29.8cm at 17mm 2X1.5cm at 340mm	in air		
J15X8.5B IE	0.6m	81.9X60.3cm at 8.5mm 5.2X4cm at 128mm	47.9mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in Extender 2X
		41X30.2cm at 17mm 2.6X2cm at 256mm	in air		
J40X9.5B IE	2.5m	205X154cm at 9.5mm 5X3.8cm at 380mm	41.7mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in extender 2X
		103X77cm at 19mm 2.6X2cm at 760mm	in air		
J18X8B IE	0.6m	87.7X65.8cm at 8mm 4.7X3.5cm at 144mm	41.9mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in Extender 1.5X, 2X
		58.5X43.9cm at 12mm 3.1X2.3cm at 216mm			
		43.9X32.9cm at 16mm 2.4X1.8cm at 288mm			
J14X9B IE	0.7m	89.1X66.8cm at 9mm 6.2X4.7cm at 126mm	41.9mm	Zoom/Focus: Servo/Manual Iris: Servo	Built-in Extender 1.5X
		59.4X44.6cm at 13.5mm 4.1X3.1cm at 189mm	in air		
J18X8.5B IRS	0.9m	86.2X64.6cm at 8.5mm 4.9X3.6cm at 153mm	42.2mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		43.1X32.3cm at 17mm 2.4X1.8cm at 306mm	in air		
J14X8B IRS	0.7m	87.8X65.9cm at 8mm 6.1X4.6cm at 112mm	48.1mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		43.1X32.3cm at 16mm 3.1X2.3cm at 224mm	in air		
J13X9B IRS IIA	0.8m	72.2X54.2cm at 9mm 5.6X4.2cm at 117mm	48.3mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		38.1X27.1cm at 18mm 2.8X2.1cm at 234mm	in air		
J8X6B IRS	0.3m	51.3X38.5cm at 6mm 6.4X4.8cm at 48mm	40.2mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	Built-in extender 2X
		25.7X19.2cm at 12mm 3.2X2.4cm at 96mm	in air		
J8X6B KRSA	0.3m	51.3X38.5cm at 6mm 6.4X4.8cm at 48mm	42.9mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	-
J15X9.5B KRS	1m	86.2X64.7cm at 9.5mm 5.7X4.3cm at 143mm	41.9mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	-
J12X10B KRS	1.1m	89.8X67.3cm at 10mm 7.6X5.7cm at 120mm	41.0mm	Zoom: Servo/Manual Focus: Manual Iris: Auto/Remote/ Manual	-



J15 x 8.5B IE



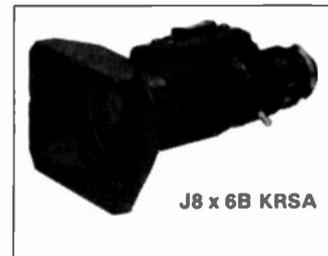
J18 x 8B IE



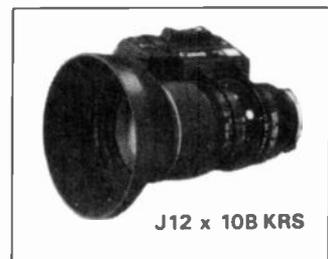
J14 x 9B IE



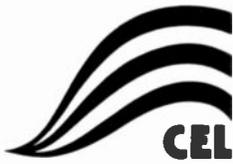
J45X9.5B IE



J8 x 6B KRSA



J12 x 10B KRS



DIGITAL EFFECTS SYSTEMS/ EDITING SYSTEMS

MS101 (Maurice Minor) Zoom Effects Controller

Consists of:

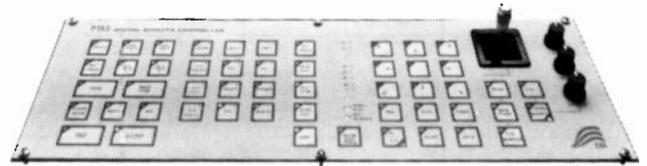
P147-30 TBC/frame store synchronizer with NDS filter

P148/1 Serial interface with key combiner (DKC)

P153 Touch pad controller

- Joystick • Zooms • Folds • Slides • Reveals • Moves • Quarters
- Montages • Pixelation • False coloring • Posterization • Adjustable move speed • Remote control of framestore setup

MS101 \$10,995.00



P153

MS102 (Maurice EFX-II) Single Channel Zoom System

Consists of:

P147-30 TBC/frame store synchronizer with NDS filter

P148/1 Serial interface with key combiner (DKC)

P152 "Maurice" touch screen controller

Software disk program

- Zoom • Flip • Tumble • Border • Variable aspect ratio • Slide • Joystick positioning • Montage • Pixelation • False color • Quantization
- Programmable moves • Updatable disk based software

MS102 \$17,750.00



P152

MS203 (Maurice EFX-III) Dual Channel Zoom System

Consists of:

(2) P147-30 TBC/frame store synchronizers with NDS filters

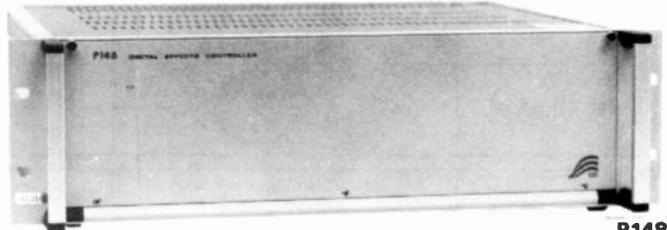
P148/2 Serial interface with key combiner (DKC)

P152 "Maurice" touch screen controller

Dual channel software disk system

- Push on/off • Reveal/conceal • Digital effects on both channels simultaneously • Up to 8 video inputs with optional P169V routing switcher • Built-in dual key combiner with software controlled priority

MS203 \$27,750.00



P148

MS304 (Maurice EFX-IV)

Dual Channel Zoom System with Mix Effects

Consists of:

(2) P147-30 TBC/frame store synchronizers with NDS filters

P148/3 Serial interface with mixer (SEG)/combiner (DKC)

P152 "Maurice" touch screen controller

Dual channel software disk program

- Mix • Fade • Wipe • Internal color matte generators • Multi-level keying all under software control • Vignette of color matte • High grade internal SPG • Programmable mix, fade and wipe

MS304 \$29,990.00



P147-30

Eric Editing System

- Expandable from basic 2 machine to 12 and beyond • Usable with most VTRs/VCRs and other machines in any mix • Comprehensive jog/search/cruise control of all machines • Frame accurate and full color framing • Split audio facilities with auto fade • Integrated with CEL Maurice system effects • Three external GPLs as standard • Edit list management options • Easy trim functions • Auto preview, replay, return, tag, match tag, go to, timecode burn-in, readers and generators, dub facilities, laser disk controllers, etc.

P158 Basic 3 machine control \$3,500.00

Used with existing EFX systems

Controlled by Maurice (P152)

Eric System — Consists of P158 and P152 controller \$7,995.00

Upgrades

EFX I to MS101 (Maurice Minor) \$ 4,990.00

EFX I to MS102 (EFX-II)

Includes NDS filter 9,995.00

EFX I to MS203 (EFX-III)

Includes 2 NDS filters and key combiner (DKC) 20,495.00

EFX I to MS304 (EFX-IV)

Includes 2 NDS filters, mixer and key combiner (DKC) 21,995.00

MS101 to MS102

Includes NDS filter 7,495.00

MS101 to MS203

Includes 2 NDS filters and key combiner (DKC) \$18,525.00

MS101 to MS304

Includes 2 NDS filters, mixer and key combiner (DKC) 20,945.00

MS102 to MS203

Includes additional NDS filter and key combiner 12,775.00

MS102 to MS304

Includes additional NDS filter mixer and key combiner (DKC) 15,140.00

MS203 to MS304

Includes mixer 5,240.00

Up-Grades Editing Systems with Effects Systems

Eric System to MS102

Eric Editing System Plus

P147-30, P148/1 and software

disk program \$15,375.00

Eric System to MS203

Eric Editing System Plus

(2) P147-30, P148/2 and software disk program 26,375.00

Eric System to MS304

Eric Editing System Plus

(2) P147-30, P148/3 and software disk program 28,840.00



AD INSERTION SYSTEMS/SWITCHERS

Adcart 2 + 2™ Random Access Ad Insertion System

- Full random access of up to 100 30-second spots per 60-minute tape
- Direct spot-to-spot cueing
- Plays spots from eight seconds to full tape capacity or sequence four VCRs for hours of programming
- Provides all playback options—run of schedule, random pod, and full random access
- Operator selected bypass mode if VCR fails—switch to network, switch to next VCR, switch to auxiliary source
- Broadcast quality-vertical interval switching
- Fully integrated circuit audio and video switching (has relay bypass)
- Broadcast quality audio and video performance specifications
- Interface for low-cost CRT terminal or personal computer
- Network Sync output for locking up VCRs
- Remote tape encoder with CRT terminal control
- Remote control option enables system operation via dial up line
- Interfaces with, and auto-downloads from, traffic and billing software packages
- Operator selectable switch back to network priority—either tape, time, tone, or percent-of-play priority
- Multiple spot cueing options—DTMF tones, contact closure, programmable real time, or operator initiated manual cue
- Automatic VCR preroll calculation—calculates VCR tape loading time for accurate parking
- Video quality detection circuitry monitors output of VCRs
- Optional Ad Manager traffic and billing package optimized for use with Adcart 2 + 2
- Prints out schedules and tape directories
- Programs multiple DTMF cue tone codes per channel

From a single compact unit that occupies only 3 1/2" of vertical rack space, the Adcart 2 + 2 controls all the ad insertion functions for two channels using four VCRs. The system is flexible—you can assign VCRs as needed to serve the particular available format, with one, two, three, or four VCRs on one channel, two VCRs on both channels, or four VCRs shared between two channels.

Spotmatic™ Random Access Ad Insert System

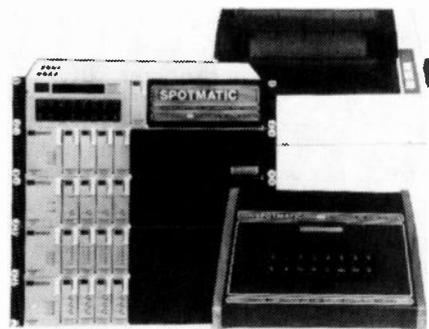
- Totally microcomputerized operation
- Programmable preroll delay
- Random Access of up to 100 commercials per tapes
- Controls multiple channels/VCRs simultaneously
- No missed Paid spots due to avail collisions
- Digital DTMF cue tone decoders
- Automatic logging with advertiser-sorted printout
- Controls up to four VCRs per channel
- Expandable to control up to 32 VCRs
- Each channel independently programmed for versatility
- Automatic bypass of malfunctioning VCR
- Automatic return to satellite in event of VCR or power failure
- Broadcast quality vertical interval switching
- Display-prompted keypad programming
- Operational flexibility to fit most needs
- Provisions for battery backup power
- Includes digital code generator to prepare tapes
- VCRs park in Stop mode to lessen tape and head wear
- Spot location accurate to ± 2 frames (1/15 second)

The "Complete System" offers the field proven Spotmatic Random Access Commercial Insert System in either a pre-tested un-racked subsystem or fully-assembled, wired and tested "turn-key" package, the Integrated Channelmatic Control Software for PC Control of a single or multiple system, and the Integrated Channelmatic Traffic Software Package for comprehensive scheduling, verification and billing of multiple networks on multiple systems.

Channelmatic's "Complete System" offers the cable operator a totally-integrated state-of-the-art package with equal emphasis placed on system operation and sales department interface.

Spotmatic Jr.™ Single VCR Commercial Insert System

- Microcomputerized satellite tone decoder
- Automatic operation
- Built-in logging and verification printout
- Vertical interval switching
- Attractive self-contained package
- Complete system fits in 1.75" x 19" rackspace
- Lithium battery memory provides months of memory retention
- Selectable VCR/satellite priority
- Operational modifications to meet almost any need



Spotmatic

The Spotmatic Jr. provides a highly versatile, yet extremely cost-effective means of inserting local commercials into satellite programming. The microcomputer controlled unit performs all of the functions necessary to insert commercials in a broadcast fashion and is also equipped with a full-feature logging and verification printer.

CIS-2A Li'l MoneyMaker™ Single VCR Commercial Insert System

- Fully automatic operation
- Microprocessor controlled
- Complete system fits in 1.75" x 19" rackspace
- Easy portable tone-pad programming
- Complete preview capability
- Vertical interval switching
- Digital DTMF tone decoding
- Programmable preroll times
- Selectable VCR or satellite priority
- Selectable VCR start delay—perfect for interconnects
- Built-in aux source fill switcher for blackouts
- Compatible with most 1/2" and 3/4" VCRs
- Totally compatible with Logmatic™ and Logmatic Jr.™ logging and verification systems

The Li'l MoneyMaker has been designed to be a versatile system for inserting local commercials into satellite network programming at the lowest possible cost.

The unit, when combined with almost any industrial or professional 1/2" or 3/4" videocassette player, provides all the functions necessary to control one satellite service.

NSS-4A Network Share Switcher

- Inserts ads into four networks from one ad source
- Inserts ads one network at a time on a first come first served basis
- Four digital DTMF cue tone decoders
- Four preroll delay times one for each network
- Composite sync output to facilitate vertical interval switching
- Cue tone decoder disable switches
- Power fail relay bypass
- Inputs and outputs for controlling ad insertion devices

The NSS-4A is an audio/video switching device which enables a cable system to insert advertising or program material into four CATV satellite networks from one source.

The NSS-4A was designed to interface with character generators, computer generated graphic sources, or low cost sequential ad insertion equipment such as the Spotmatic Jr. or the Li'l MoneyMaker.

ATS-1A Automatic Tone Switcher

- Microcomputerized DTMF tone decoder
- Programmable tone selection
- Front panel status indicators
- Vertical interval switching
- Maximum override for reliability

The ATS-1A Automatic Tone Switcher is a fully automatic, microprocessor-controlled integrated circuit DTMF tone decoder and vertical interval audio/video switching system.

The unit decodes DTMF tones from a satellite channel, a local tone generator, or a standard dial-up telephone circuit when equipped with the optional built-in automatic answering device.



CHANNELMATIC

AUTOMATIC VIDEOCASSETTE CHANGER

BROADCASTER II™

Automatic Videocassette Changer

- Random access of up to 15 videocassettes
- Total microcomputer control
- Easy 7-day programming with 100 events per day
- No VCR modification required
- Computerized stepper motor drive—indexing accuracy within 0.005"
- Minimal moving parts for high reliability and long service life
- Units may be cascaded for additional capacity
- Will play multiple sequential segments on each tape
- Built-in vertical interval switching
- Automatic switch to auxiliary source during cassette change
- Automatic record/delayed playback optional
- Optional electronic modules can add numerous features
- More cost-effective than multiple VCR systems

The Broadcaster II is a stand-alone, highly reliable videocassette changer mechanism. Totally microprocessor-controlled, the unit can randomly access from its internal storage trays any of fifteen standard 3/4" videocassettes.

The unit is designed to be used in broadcast television stations, CATV systems, LPTV studios, hospitals, schools, hotels, and other facilities where high quality video programming must be originated automatically on a pre-determined weekly time schedule. Available options allow the Broadcaster II to serve as a self-contained record/delayed playback system, a versatile editing suite library, or as part of an automated commercial insert system.

System Operation

The Broadcaster II can randomly access from a library of up to fifteen standard 3/4" videocassettes, insert them into an unmodified Sony Type 5 videocassette machine (VCR), and cue the pre-encoded tapes automatically.

At an operator-programmed time, or upon receipt of a "start" command, the Broadcaster II prerolls the tape to speed and switches it on-air during the vertical blanking interval of network (or other "auxiliary" source) video. With a sync-locked VCR (Sony Type 5 equipped with a Channelmatic Handimod I sync-lock accessory module), clean, glitch-free, broadcast quality video transitions occur.

At the end of the tape program, audio and video output are returned to the network or auxiliary source. The tape is rewound and removed (if so programmed) or simply removed in a "played" condition and replaced in its storage slot.

Operator Programming

All system commands are microcomputer controlled and are entered by the operator on an integral display/keyboard module, the CCU-1A. A full seven day schedule consisting of up to 100 events per day may be entered by the operator at one time.

The 20-pushbutton keypad and large 12-digit LEO display allow not only simple schedule entry, but quick and easy error checking, schedule editing (including event insertion or deletion), and the ability to copy entire schedules from day-to-day.

Events may be scheduled to occur at pre-determined times or as sequential occurrences. The operator may choose whether to automatically rewind individual videocassettes either before or after they air, or to rewind all previously aired videocassettes at the end of the programming day.

Additional scheduling functions allow audio/video switching, message generator page turning, and limited external equipment control.

Summary

Field proven in many installations around the world, the Broadcaster II offers up to 15 hours of automatic programming without the need for operator intervention of any kind. The unit is an economical alternative to multiple videocassette machine sequencing systems of the same capacity. Full seven day scheduling ability makes the Broadcaster II a valuable addition to any television system.

Broadcaster II \$15,300.00



Broadcaster II

Optional Equipment

Options allow the Broadcaster II to perform such varied functions as OTMF tone decoding, built-in color message generation, automatic recording, and external VCR control. Two or more Broadcaster II units may be cascaded together for continuous programming. Other Channelmatic control, function and interface modules are available to adapt the Broadcaster II to perform many other desired functions.

- Automatic Sync Lock:** The Handimod I can be added to automatically sync lock the VCR, assuring broadcast vertical-interval switching.
- Video Monitoring:** A panel is provided for the addition of a 5" monochrome video monitor to allow monitoring of the system video output. Pulse-cross is also available optionally.
- Character Generator:** The CMG-3008A Color Message Generator module and related CSG-3001A Sync Generator module can be added to provide a built-in 8-page/8-line per page alternate video source to fill time during cassette change or to provide a backup in event of VCR malfunction.
- Tone Decoding:** Various tone decoder modules may be added to allow control of Broadcaster II to be initiated by tones fed through a telephone or other voice-grade audio path or by satellite service cue tones.
- Distribution:** Channelmatic 1x6 video, audio, and pulse distribution amplifier modules may be added to enable Broadcaster II to provide multiple isolated outputs.
- Cascading:** Two or more Broadcaster II units may be interfaced together electronically to increase the capabilities of the system.
- Backup Source:** The VPD-3001A Universal Signal Presence Detector module may be added to enable Broadcaster II to automatically switch to a secondary video source if output video is lost for any reason.
- Installed VCR:** An installed and tested Sony VP-5000 is optionally available.
- Record and Play:** Electronics may be added to enable automatic recording and delayed playback of programming.
- Balanced Audio:** The UAA-3031A audio amplifier module may be added to provide balanced audio inputs and outputs for broadcast interface.
- External VCR Control:** A VCR-3001 videocassette controller module enables an external VCR to provide fill programming during cassette changing.

CHARACTER & GRAPHICS GENERATOR/ VIDEO PRINTER/PAINT SYSTEM

VP-2 Plus Character and Graphics Generator

- **Character Resolution:** 35ns resolution, equivalent to 1510 pixel elements
- **Colors:** 512 color choices available, 16 per page for characters, edges, and backgrounds
- **Fonts:** Six full fonts (upper and lower case) on line selectable from a library of 41 Chyron face styles with international fonts available. Custom font and logo compose service is also available (3 fonts standard)
- **Multiple Character Planes:** Full horizontal and vertical overlap of characters, symbols, and logos to any depth
- **Background Editing Capabilities:** Color every two raster lines, if desired for background effects and graduated color
- **Auto Display (Read from Disk):** Display selected graphics pages from disk memory in any sequence at variable rates (cued or automatic)
- **Palette Animation:** Cycles color in characters or backgrounds at frame rate increments
- **Edge Types:** The three edge types for any font—full drop shadow, character offset, and bordered edge—can be varied in extent, direction, and color
- **Menus:** Complete menus and prompting displays to guide you through graphics composition
- **Composition and Control Features:** Cursor commands: up, down, right, left, backspace, return, home. Insert, delete, or move characters, words, lines. Select fonts, character colors, palette edge types, edge colors, key color. Set tab, clear tab, right justify, center page, line or column. Italicize a font (left or right), and display menu. Change character, word, line, color, font, edge, or edge color

Multifont Option

Allows VP-2 to use up to six font styles in six sizes, providing up to 36 fonts on-line. Each multifont chip contains one typestyle in scanline sizes: 18, 24, 30, 36, 42 and 48. Available as a field-installable kit, or as an option on VP-2 Plus systems.

- VP-2 Plus includes software enhancement and three standard fonts \$6,115.00
- VP-2 Plus With multifont 6,895.00
- VP-2 Plus With multifont (International) 7,495.00

Multifont Upgrade Kit

- Field installable in an existing VP-2 Plus \$920.00
- Multisize Fonts ea./150.00

Available in PAL, PAL-M and NTSC.

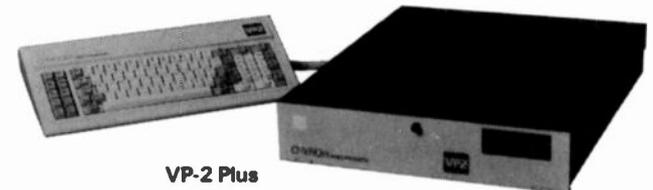
VP-1SG Video Printer

- **Fonts:** ROM based minimum of two fonts, each with full upper and lower case. Optional expansion to six fonts. (Face style library of 41).
- **Hardware:** Microprocessor controlled—dual 32K byte frame store memory—ROM Program—4000 bytes of message memory—internal sync generator with genlock and NTSC video generation
- **Color Select:** Any 1 of 8 colors may be assigned to backgrounds, characters or edge
- **Color Table:** Any 8 of 512 colors
- **Sync:** Genlock to external sync or composite video from a stable source. (VCR may not be a stable source)
- **Keying:** Full downstream keying included
- **Output:** NTSC composite video (Optional RGB video board)
- **Commands:** Select background color, character color, edge type, edge color, font type. Skip scan lines (push down), center line, center page, roll display, page delay, repeat message, end of page, horizontal and vertical margin control. Adjust character spacing, italicize, set color table
- **System:** Microprocessor based with ROM program
- **Interface:** Multibaud rate serial RS-232 interface. Max 9600 Baud
- **Frame Store:** 32K bytes of run length encoding. 2 frame stores to provide sequential picture generation. (35ns resolution)
- **Video Memory:** Is organized as a dual frame buffer which allows one page to be displayed while the next page is being created
- **Design:** Single PC board design for computer and video with switching power supply. Enclosed in a metal chassis with power switch and video connectors on rear of unit (rackmountable)

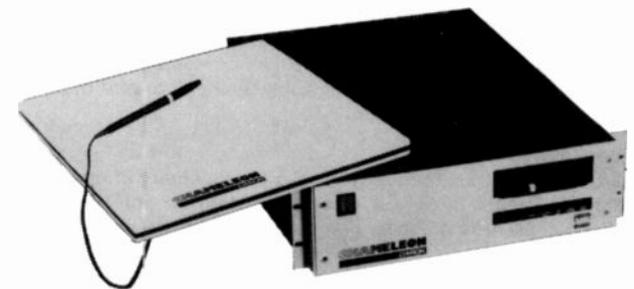
VP-1SG Includes 3 standard fonts \$2,995.00



VP-1SG



VP-2 Plus



Chameleon

Chameleon Paint System

- **Input Device:** Tablet, stylus, camera/video capture, text grab
- **Operator Interface:** Dynamic icon-oriented menu
- **Resolution:** NTSC: 768 x 525; PAL: 768 x 625
- **Colors:** 256 on-line, 4096 total
- **Color Program:** Tint, shading, color pickup, area fill, color smear, palette memory, color cycling, color definition by hue, luminance, saturation or by red, green, blue
- **Memory:** 10M byte removable Winchester cartridge for storing images, palettes, brushes, grids and cut and paste
- **Software:** 2D paint
- **Drawing Tools:** Free hand lines, point-to-point lines, curve drawing. Out-lined or filled circles, rectangles, polygons. Definable grids
- **Brushes:** Unlimited user definable brushes, single or multi-color brushes. 14 standard brushes
- **Cut and Paste:** Rotate, mirror, scale, skew, perspective, flip, duplicate, stencil, overlay
- **Magnification:** 16 level zoom, pan and scroll
- **Video Input:** Genlockable to composite video source (RS-170), internal variable rate downstream keyer. Complete timing adjustments
- **Video Outputs:** Broadcast NTSC or PAL plus RGB and SYNC. Two composite outputs plus 1 which includes downstream keying, key out, RGB and SYNC out

The Chameleon is a high resolution paint system which consists of a 16" x 16" digitizing tablet with pen, and uses an icon-oriented menu for selection of the large array of functions. It has a 10M byte Winchester removable hard-disk which can store unlimited graphic images by simply inserting another cartridge.

Although it will accept input from a camera or any video source, it can also be interfaced directly to Chyron's VP-2 character generator (via RS232) or VP-1 character generator (via video input) to produce graphics which combine superior text with dynamic images created on Chameleon.

Chameleon \$11,900.00

Scribe Text Generator

- Unsurpassed print quality resolution with 16 levels of anti-aliasing
- 1500 master typeface library
- Automatic font resizing from 10 to 400 scan lines
- 512K font memory expandable to 4M bytes
- Eight font loading positions
- Fonts loadable during message playback
- Automatic playback with recorded fonts
- Automatic character kerning
- Row exchange
- Unlimited character, word, or row underlap or overlap
- Automatic centering horizontal and/or vertical
- Squeeze/expand for characters, words, or row
- Cut and paste
- Adjustable safe title area
- Color encoder and linear keyer/fader
- 16.7 million color choices for characters, edges, and backgrounds
- Multiple character edges in variable size and color
- Multicolored logo/character display
- Background colors selectable on scan line basis
- Automatic color ramping for shaded backgrounds
- Automatic color and font change
- Dual frame buffer
- 1.2M byte floppy disk plus 20M byte Winchester Disk for storage of messages, fonts, and programs
- Insert/delete controls
- Right/left/center justification
- 256 tab positions
- Multiple speeds of roll/crawl
- Programmable timed roll
- Multiple speeds of slow reveal
- Programmable function keys
- Clock/event timer
- Built-in sync generator with genlock
- Programmable directory for operators includes auto font loads, with color palettes, tab, edges
- Software intensive
- Remote event triggering

- **Mechanical:** All electronics in the main chassis are VME compatible PC boards; backplane is all PC and uses DIN pin connectors
- **Power Requirements:** Main Chassis—900W max.; Keyboard—125W max.
- **Dimensions:** Main Chassis: 19.25"H x 19"W x 22"D; Keyboard—4.75"H x 21.25"W x 11.75"D

Options

- **Advanced Font Utility I:** Variable 3D viewpoint control; Variable light source shading; Texture mapping; Metallic shadings; Word compose
- **Advanced Font Utility II:** 3D texture mapping; Neon tube effect; Custom character shading; Inner/outer glows; Bevel effects; Multiborder effects; Chisel effect
- **Dynamic Read Effects:** Permits rows or pages to be displayed with a variety of video effects such as flips, tumbles, wipes and slides—with variable speed control
- **Color Video Capture:** Allows capture of color image via RGB camera or other video input to the system. Once captured, images can be resized, positioned, mixed with text, overlapped, allocated to a particular font, or assigned to any key on the keyboard



Scribe

- **Logo Compose:** For customized creation of anti-aliased logos from artwork. Automatically resized with no loss of resolution
- **Supercharger/High-Speed Processor:** Increases the processing power of the CPU, improving rendering time of machine fonts and execution time of the Advanced Font Utilities
- **I/O Expander:** Provides 5 external communication channels—four serial and one parallel
- **Auxiliary Entry/Election Reporting:** Provides an additional CPU expander board and software supporting off-line entry via computer terminal in addition to third-party supplied election reporting services
- **Preview/Offline Edit Channel:** Allows simultaneous composition and update of messages while main channel remains on air
- **Networking:** Permits multiple systems to be linked together for shared access to all pages, fonts and files—or for sophisticated multi-channel displays
- **Expanded G.P.I.:** Provides 8 additional inputs to be used by external devices for controlling the execution of preprogrammed sequences on the SCRIBE
- International keyboard
- Font memory expansion to 4M byte in 512K increments
- Expandable storage available in 42 and 280M byte fixed disc or 20M byte removable discs
- Additional keyboard
- RGB or component outputs

The Scribe is a revolutionary, high performance text and graphics generator featuring fully anti-aliased print quality display and choice of type styles. It offers the most perfect resolution possible on today's video systems.

In addition, the Scribe provides unlimited sizing of fonts, unlimited coloring (including multicolored logo/character display), and color ramping for shaded backgrounds. Add to this the ability for unlimited overlap and underlap of characters and graphics, automatic character kerning, and an impressive array of composition and editing functions which combine to make the Scribe the most sophisticated text generator available.

Scribe \$29,800.00

Steadicam Camera Stabilizing Systems (Universal Model III)

For Film and Video Cameras

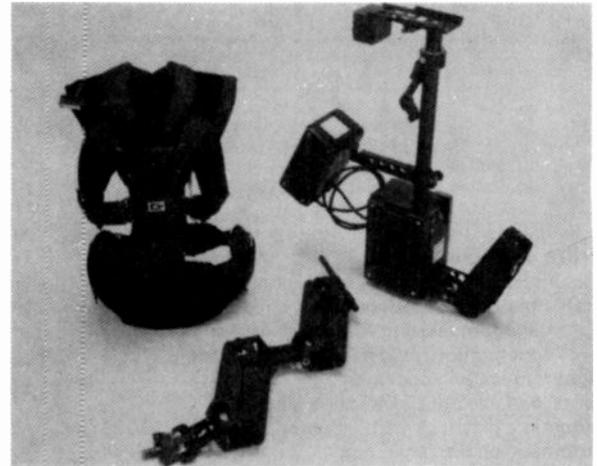
All Steadicam (Universal Model III) systems include:

- Operator's vest • Stabilizer support arm (adjusted for an average camera weight load) • Camera mounting assembly (featuring a 3³/₄" high-intensity adjustable viewing monitor) • Camera mounting platform • Two NC-12 NiCad battery packs • Two NCC-12 chargers • West docking bracket • Three cases (accommodating the camera operator's vest, stabilizer support arm, camera mounting assembly, and related accessories)

Designed to provide total mobility, portability and versatility while recording extremely steady and smooth images, Steadicam permits an infinite latitude of both moving and static shots—walking, running, or at a standstill.

The patented system allows the camera to move with the operator as if it were an extension of his/her body and part of the human internal "servo-system" automatically adjusting and correcting for body motions as the operator easily guides and controls the camera position with a gentle hand movement.

Released from the constraints of dollies, tracks, and heavy camera platforms, camera and operator are free to go anywhere without restrictions.



Steadicam

- 3C015 Steadicam (Universal Model III) with adjustable standard-load stabilizer arm. For use with film and video cameras weighing up to 40 lbs. (18 kg) \$38,500.00
- 1C007 Steadicam (Universal Model III) with adjustable light-load stabilizer arm. For use with film and video cameras weighing up to 30 lbs. (14 kg) 38,000.00

Camraprompter

Complete Camera Prompting System

For 16mm Cine & ENG/EFP Video Cameras

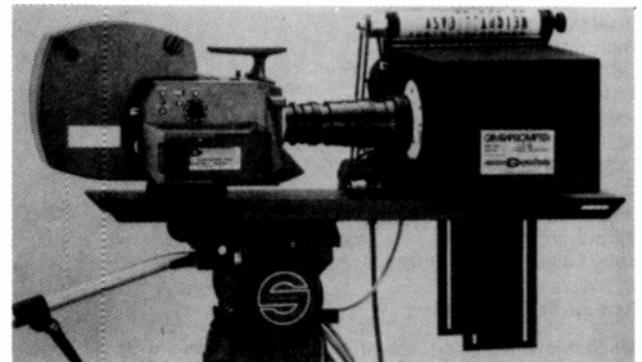
- Bright, easy-to-read script information. Copy "frame" size: 6¹/₄" W x 5" H • Copy can be typed (bulletin-style) or handprinted on matte-finish plastic rolls (7" W x 25" L) • Small remote control unit (with 10' detachable cable) provides continuously variable speed control (forward or reverse) • Ultra-silent, miniaturized motor drive • Power supplies: standard 12V battery packs or belts, as well as AC mains (with a 12V regulated power supply). 1.75A max. ** • Side-mounted light source utilizes two standard fluorescent lamps (GEF4T5-CW) • Weight: Camraprompter unit (complete with universal camera mounting plate, adjustable bracket, remote control, scroll and cables) weighs approximately 9 lbs. 8 oz. (4.3kg.)

Camraprompter can be operated—tripod-mounted or handheld—with most portable motion picture and ENG/EFP cameras currently in use. (It can also be mounted and operated independently on its own stand.)

Camraprompter is the ideal prompting system for news/documentary, educational or industrial assignments, as well as TV commercials and other applications shot on location.

- 5P001 Camraprompter (complete camera prompting system for film and video cameras). Includes universal camera mounting plate \$2,950.00
- 5P000 Script "Scroll" (plastic, 7" x 25'). Spare roll. 11.50
- 5H020 Carrying case, for Camraprompter (only) 200.00
- 5P009 Scriptboard unit. (Script scroll feed roller assembly is not included) 150.00
- 5J008 Extension cable (25'), for speed control box 110.00

**Power supplies not included.



Camraprompter

Mini-Worrall Head

The Continuous Pan version of the popular Mini-Worrall cable drive geared head.

Continuous Pan

The original Mini-Worrall is known for its ability to provide smooth and sensitive control. Today's model capitalizes on hi tech cable technology to provide even greater latitude. Now Mini-Worrall's endless pan cables permit the operator continuous rotation in pan.

Two Positive Lock Down Systems

1. Pan and Tilt handwheels are each outfitted with easy access detent lock levers to activate the system's sure control lock brakes.

2. The new positive pan drum lock assures dependable tie down.
Mini-Worrall (includes case). \$15,000.00



Mini-Worrall

MAIN AND REMOTE STATIONS/BELTPACKS/STATION/CAMERA ISO SYSTEM

Main Stations and Rackmount Remote Stations

A "Main Station" is a combination intercom station and system power supply; a "Remote Station" does not include a power supply.

CS-210 Main Station Two-channel headset station, monitors one or both; selectable program input (mike or line-level), Stage Announce. Portable or rackmount. Applications include: theatre, concerts, rental firms \$625.00

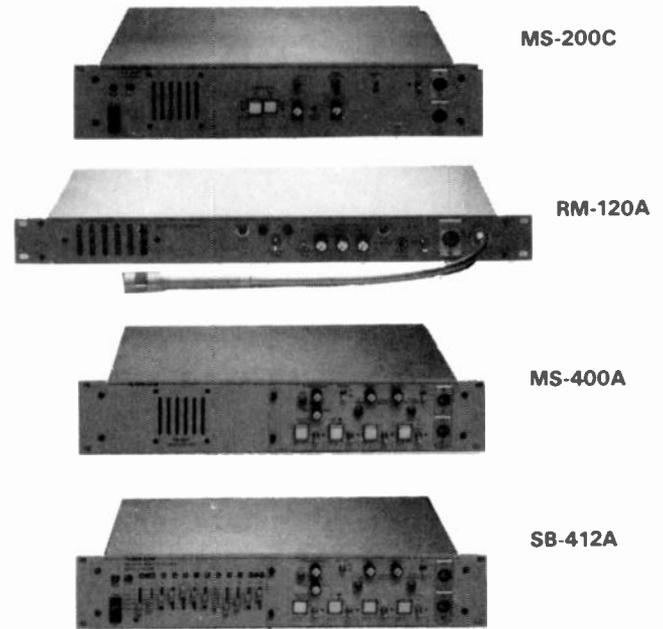
MS-200C Main Station Two-channel speaker station, monitors one or both channels. Selectable talk/listen/program functions; All Call Applications include: fixed installations, video/theatre directors . . \$715.00

RM-120A Remote Station Speaker station, Two-channels (monitor A, B, or both). Dynamic/carbon headsets; Stage Announce; selectable talk/listen/program functions. Applications include: video/theatre production. (gooseneck mike optional). \$499.00

RM-400A Remote Station Four-channel speaker and dynamic headset remote station. Rackmount \$887.00

MS-400A Main Station Four-channel speaker and dynamic headset main station. Rackmount with power supply \$1095.00

SB-412A Main Station Four-channel, same specs as MS-400A but no speaker (has ext. speaker jack). Has switch matrix to assign each of 12 stations (or 12 groups) to any of the 4 channels or a "disconnected" Off line. Applications include: video production/theatre with constant repatching needs. \$1630.00



Beltpacks and Wall Mount Headset Stations

RS-501 Beltpack • Single-channel, lightweight beltpack • All digital, noiseless, electronic switching • "Remote Mike Kill" function • Visual signalling • Accepts dynamic or electret microphones • Carbon type headset jack optional • The RS-501 is the standard beltpack station for use in all applications. (Replaces RS-100A and CP-100) \$198.00

RS-502 Beltpack • Two-channel beltpack • Allows access to either one of two separate intercom channels • Includes all features of the RS-501 Plus • Dual channel signalling • Applications include: video/theatre production, industrial (Replaces CP-100/2CH.) \$270.00

RS-522 Beltpack • Two-channel, dual listen, binaural beltpack • Allows completely selectable simultaneous listening and talking on two separate channels • Binaural "split-feed" headset output. (Monaural option available) • Includes all features of the RS-501 and RS-502 • Applications include: video/theatre production, industrial, lighting design • (Replaces RS-201) \$298.00

MR-102A Wall-Mount Station • Two-channel wall-mount headset station • Selectable to either one of two channels • Also available as MR-104A, selectable to any one of four channels • Applications include: permanent video • theatre • Industrial facilities \$198.00



RS-501



MR-102A

Station/Camera ISO System

The ISO-4000 Station/Camera ISO system is designed to easily and quickly establish private, two-way communications between two (or more) Clear-Com intercom stations. The ISO-400 uses a microprocessor to provide maximum user flexibility and minimum control/tally cabling. It provides priority/override, individual and global reset, and group preset capabilities. It is a modular system that can expand to accommodate up to sixteen "ISO" stations and six "Control" stations. The system is comprised of the following components:

ISO-4000 ISO Central Electronics This unit contains all of the audio, switching, and control/tally logic to implement the "ISO" function. The basic unit will support up to four "ISO" stations and either three or six "Control" stations. It can be expanded in groups of four ISO stations.

IXM-4 ISO Expansion Module This is an add-on module for the ISO-4000 Central Electronics that expands the ISO station capability in groups of four. Up to three IXM-4 modules can be installed in the ISO-4000 to provide the maximum system capacity of sixteen ISO stations.

ITO-1 ISO Transfer Option This is a factory modification to a multi-channel intercom station. It is required to implement the ISO function transfer of the station's listen/talk circuits from the normal intercom paths to the special ISO channel.

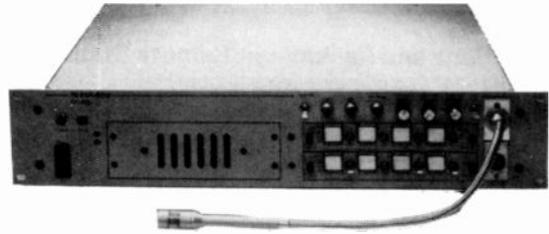
ICP-4 ISO Control Panel This is a four button stand-alone control panel to select any combination of four ISO Stations to be isolated with an associated Clear-Com intercom station. Multiple ICP-4's can be linked together to select larger numbers of ISO stations.

ISO-4 ISO Control Module This is a four button control module, electrically equivalent to the ICP-4, designed for installation in a MS-808 Main Station.

Note: ISO system pricing depends on the specific system requirements and configuration.

MS-808 Master Station

This modular, rackmount master station can provide signalling and communication access to a maximum of 16 separate Intercom, IFB, and Point-to-Point channels plus additional functions through the use of up to four plug-in modules. Additional modules can be conveniently installed providing for ease of future expansion. The MS-808 can operate either hands free (with speaker and gooseneck microphone) or with a headset \$1368.00



MS-808

SP-4 Speaker Module

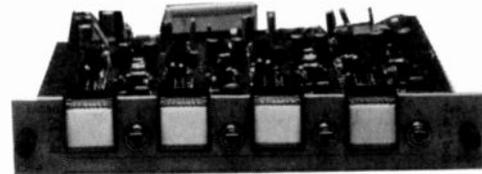
This double space module provides an internal loudspeaker, eliminating the need to use an external speaker. \$69.00

BP-4 Blank Panel

This single space panel is required to fill any spaces not occupied by an operational DLC module. \$24.00

CH-4 Intercom Control Module

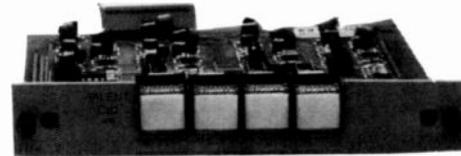
This single module provides individual channel listen/talk switching, program insert level control, and sidetone adjustment for four intercom channels \$562.00



CH-4

IFB-4 Program Interrupt Module

This single space module provides access to four channels of IFB (Program Interrupt). It requires the PIC-4000B IFB Control Electronics. \$455.00



IFB-4

ISO-4 ISO Control Module

This is a four button control module, electrically equivalent to the ICP-4, designed for installation in a MS-808 Main Station \$475.00

IFB (Program Interrupt) Systems

The Clear-Com IFB system is a modular system capable of operating as a stand alone system, or being integrated with MS-808 Master Stations. It transmits an interruptible program signal to individual talent receivers via standard two conductor shielded microphone cable. It is a distributed amplifier system with the earphone amplifier located at the talents' position. It features unlimited expansion capabilities (up to 96 talent channels and 50 control locations). Wiring required between Talent Access Stations and the IFB Electronics is only six conductors per each four talent channels, and can be either homerun or loop through wiring method. The system is composed of the following components:

PIC-4000B IFB Electronics

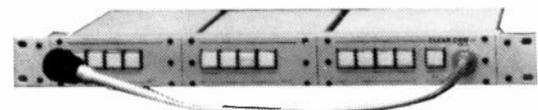
This unit contains all of the audio and switching circuitry for selecting one of two program signals, routing the signals to four independent talent channels, and interrupting, with variable program attenuation, the signals from one or more control points. It requires 24VDC power from a Clear-Com Intercom System or power supply. \$685.00



PIC-4000B

TR-50 Talent Receiver

This small, portable unit contains the amplifier to power the talent's earphone. It connects to the PIC-4000B via standard two conductor shielded microphone cable. A miniature in-the-ear receiver is included with each TR-50 \$118.00



MA-4 Plus 2 AX-4's

TR-532 Stereo/Split Feed Talent Receiver

This unit contains two discrete amplifiers to feed the "Interrupt" and "Non-interrupt" signals from the PIC-4000B on a standard mike cable to separate ears of a sportscaster type headset or standard stereo earphones. It also provides a passive loop through output of the headset's microphone for on-air applications \$270.00



TR-50

MA-4 Talent Access Master Control Station

This unit provides individual access to four talent channels and All Call access to all of the talent channels in the system. It is designed for direct console mounting or rackmounting in an optional rackmount adaptor. It includes a panel mounted gooseneck microphone and all required local electronics \$615.00

AX-4 Talent Access Expansion Station

This unit connects to the MA-4 Control Station, expanding the talent channel selection capabilities by four additional channels per AX-4. Multiple AX-4 units can be linked together to control a maximum of 96 talent channels \$425.00

IFB-4 Program Interrupt Module

This unit is the equivalent of the AX-4, designed for mounting in the MS-808 Master Station \$455.00

CMX 100 ELECTRONIC EDITING SYSTEM

Integrated:

Edit Controller/Video Switcher/Audio Switcher & Mixer

- Commercials/news/sports/promos/short segments • A/B roll with cuts/dissolves/fades • 3 lightweight, portable pieces: 3 1/2" rack electronics; console; 12" monitor

Video:

Sources: VTRs A/B • Aux 1 and 2 • Black keying via customer supplied DSK or CGN

Audio:

Sources: • VTRs A/B (2 channel) • Aux 1 and 2 (1 channel)—aux can be mike or line • 6 input faders • Built-in tone generator • VU type meters for 2-channel output • Audio-follow-video (user defined) or breakaway

Console Organization:

- Track selection • REC/PVW keys • Video program/preset
- Audio program/preset • VTR motion and selection keys
- Keypad • Transition keys • Audio faders • 4 GPIs • 2 keyer-triggers • VU metering

Machine Control:

- SRCH knob • Play/stop/still/jog • Allstop

Backspace Editing or Marks

Assemble or Insert Editing:

- Time code or tape timer (control track)

Time Code/Tape Timer Numbers—Ease of Entry:

- Set in/out • Trim • Duration

CRT Display:

- Menus • Windows • Highlighting • Edit Area: VTR position/status, edit in/out/duration • Display control: remove/display durations, unused zeros, etc.

Keypad:

Numbers: Becomes number pad when required i.e. setting in timecode • Direct Functions: • Go to • Trigger list • Initialize • More (key): BVB preview, recall marks, match-cut calculate (into last edit) keys 1-4 become GPIs during preview or record • Set/duration/trim • CGN • Help • Replay • Open edit

Initialization:

- Time code/timer • Lock tolerance • Fast/slow dissolve rates
- Saves setup in memory • Port assignments • Audio-follow
- Marks or backspace • Display control

Trigger List (20 Triggers):

- Triggers made on-the-fly in preview or record • Trigger scroll highlights active trigger

The following can be triggered in an edit: • Track select • GPIs • Audio and video crosspoints • Motion control (speeds not saved) • Keyers 1 and 2 • Cuts/dissolves

Modify individual or all triggers (delete, trim, enable/disable); Create (pre-program) trigger.



CMX 100

Record List (Non-Volatile Memory saves list even when powered down):

- Any of previous 50 events can be recalled with triggers
- Memory can be divided into up to 9 segments • Record in-time, duration, tracks and segment are shown

Event	DUR	Track	Segment
1.	10:00:00:00 30:09	VI2	1
2.	10:00:30:09 10:00	VI	3

The CMX 100 is an on-line three-VTR electronic editing system aimed directly at the short segment program production market. The CMX 100 provides control of A and B source VTRs, the record VTR, two auxiliary sources and black. In addition to four General Purpose Interfaces (GPIs), two Keyer triggers are included. The CMX 100 is available in both NTSC and PAL standards.

The 100 combines into a single desktop console all of the equipment needed to do finished product (on-line) television program editing. An operator has at his or her fingertips a 5-input video switcher, a 6-input audio switcher, and motion control of 3 VTRs. There is easy access to video dissolves, cuts and fades, and audio mixing.

The 100 is specifically designed for rapid assembly of short program segments in the most efficient and economical manner. Used as an on-line tool for the effective creation of high-impact promos, commercial spots, news or sports program segments, it can perform all of the necessary editing functions without tying up an entire studio and/or editing suite.

CMX 100 \$13,950.00



330A Large-Scale Editing System

The 330A is a high-performance, large scale editing system priced to suit the most basic budget. Designed for both offline and online needs, features include Motion Memory, Match-Cut Calculation, Autoclean, Learn Keys, Master/Slave and Sync Roll. The 330A allows for future expansion by being directly upgradeable to the CMX 3100, 3400A, or 3600.

Machine Control Functions

- Rewind • Fast forward • Play • Stop (individual devices) • Slow
- Slow reverse • Shift/retard slow • Shift/retard slow reverse • Cue (individual devices) to head of preroll • Go to • Replay: replays any recorded event • Still frame • Jog forward • Jog reverse • Retard jog rate • Advance jog rate • Search (with GISMO option): up to seven speeds forward and reverse • Variable speed jog (with GISMO option)
- Multiple machine motion control (with GISMO option) • Allstop • Record • Automatic reset of interface communications

Edit Transition Selections

- Cut • Split cut ('L' cut) • Dissolve from/to • Dissolve rate • Short cut dissolve (with last dissolve rate) • Wipe from/to • Wipe code
- Wipe rate • Short cut wipe (with last code and rate) • Key in (background/foreground/duration) • Key out (background/foreground/duration) • Delayed key • Key fade up from black • Key fade to black
- Key cut in • Key cut out • Open end edit • Closed end edit

List Management Functions

Sort modes: Sort by event number, Sort by record in time, Sort off **Move event(s) in EDL** • Re-edit events in EDL • Insert re-edited events in EDL with list update • Exit re-edit • Single or Block Move event(s) in program with Pull Up • Record start time • Delete events with pull up • Record on/off • Renumber events **Autoclean:** On or off during record, Cleans overrecords, Deletes duplicate events, Cleans multi-line events. **Notes:** Any edit in EDL may have notes, Multiple lines available, Delete a single line, a group or all lines off a note

Edit Decision List Display/Input/Output

• Scroll List Up • Scroll List Down • Scroll to Event Number requested (Display) • **Disk On:** Saves each edit to disk after record • **Punch On:** Saves each edit to papertape after record • Print EDL in hard copy • Reads papertape EDL • **Disk Out:** Stores EDL on disk • Single event • Range of events • All events (default) • Multiple EDL files on floppy disk • **Print:** Prints EDL in hard copy • Increased display of events in NDF/DF EDL • **Initialize Disk:** Erases EDL from disk • **Autoscroll:** EDL scroll with Master (Record) machine motion • Print disk file directories in hard copy

Automatic Edit Assembly Functions

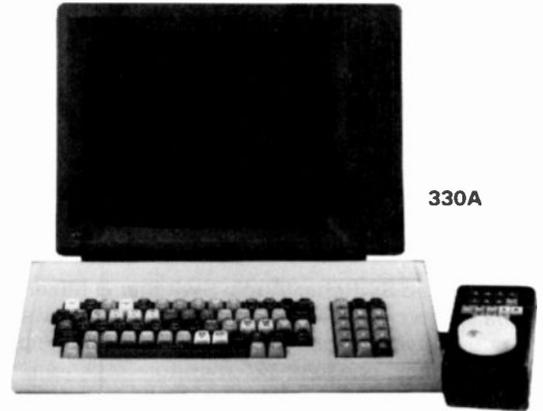
• Sequential assembly ('A' mode) • Enable for assembly (by event number) • Disable for assembly (by event number) • Resume assembly

Hardware Options

• General Purpose Interface (GPI) • Fast, direct access to relays • All information goes to disk • Eight relays controlled • Up to 16 GPI triggers per event • GISMO • Jam sync (machine dependent) • Time code reader board (available with Multi-I²) • Motion memory (M²)

Specifications

System Configuration:	Distributed processing
Central Controller:	DEC microcomputer
Device Interface:	Microprocessor controllers
Device Interface Memory:	EPROM
Communication Format:	Serial/9600 Baud/RS-232
Communication Protocol:	CMX 8-bit binary
Edit Decision List Size:	500 events. 500 additional lines for ancillary data
Edit Decision List Format:	CMX 3400A, CMX 3400, CMX 340X, CMX 3100, CMX 336XL, CMX 330XL, CMX 50, The Edge
Edit Decision List I/O Disk:	8" single-sided, single density, IBM 3740 format (option on 330A)



330A

Edit Decision List

Printer/Paper Tape: Serial/300-9600 Baud/RS-232
CRT Display Format: 80 Characters per line/25 lines/60Hz refresh rate/non-interlaced

Display Monitor (option): High resolution CMX terminal/broadcast video monitor

Number of Devices Assignable: 8 (330A)

Number of Devices Controllable: 5 + GPI
Edit Accuracy: Frame accurate, color framed, PAL-pair self-correcting or manual for 4- or 8-field correction

Time Code Standards: SMPTE drop/non-drop frame, EBU

Tape Timer (machine dependent): Alternative to time code with use of Multi-I²

Television Standards: NTSC/PAL/SECAM
User's Keyboard: Alphanumeric Color Coded (330A)

Remote Motion Control Device (option): Rotary control for search/slow motion/frame jogging (memorized recall available)

330A Including switcher interface and super kit interface for three VTR's **from \$16,995.00**

330S Large Scale Editing System

The 330S is a compact, yet complete online/offline post-production system which includes the edit controller, 3-VTR interfaces, an internal V/A switcher, and general purpose interface (GPI).

The system is based on the 330A edit controller. The 330S includes features such as Learn keys, match-cut calculation, autoclean, master-slave, and sync roll. The 330S also includes a 3.5" floppy disk drive, providing the standard Edit decision list (EDL), with multiple files per disk.

The electronics for the entire 330S system will fill into 10" of rack space.

Internal Video/Audio Switcher

This option provides cuts, dissolves and fade-to-black for video and two channels of audio. It fits into a CMX Multi-I² chassis. The video switcher fits in one slot, the audio switcher fits into a second slot, and the serial interface fits into a third slot. The video switcher has five inputs: A, B, C machines, auxiliary and black. TBC's are required for source VTR's for dissolves, but a non-TBC mode allows cuts, and fades to black without the use of time base correctors. The audio switcher has six inputs: A, B, C/auxiliary, machines as stereo pairs. There is also a test tone generator output on the audio switcher. Audio input levels may be adjusted on the rear Multi-I² I/O panel to allow for system setup.

330S Includes 330A with internal audio/video switcher, super kit interface for three VTR's and GPI **\$24,900.00**

3100/3400A/3600 Large-Scale Editing Systems

The 3100 is the industry-standard for large-scale editing systems. It offers the editor major advantages in productivity and speed including such features as Precue Auto Assembly, Auto Clean, eight user-defined keys, multiple EDL files, Match Cut Calculate, and Switcher Memory Upload/Download. The 3100 maintains versatility and plug compatibility with all CMX Intelligent Interfaces (I²'s).

The 3400A provides expanded GPI, and Dynamic Motion Memory (DM²). DM² allows speed changes to be programmed, learned on the fly, stored to the EDL, and previous triggers may be modified. Fit/Fill mode allows 3400A to calculate expansion or compression of scenes. The 330XL, 336XL, 340X and 3100 may be upgraded to the 3400A.

The 3600 offers the editor major advantages in productivity and speed, including such features as 4-channel audio control, Precue Auto-Assembly, Dynamic Motion Memory, Switcher Memory Upload/Download, Multiple EDL files, and Match Cut Calculate. The 3600 maintains versatility and plug compatibility with all CMX's Intelligent Interfaces (I²'s). Any CMX 330XL, 336XL, 340X, 3100, 3400 or 3400A may be upgraded to a 3600 system.

Machine Control Functions

- Rewind • Fast forward • Scan (dedicated key) • Reverse scan
- Play • Stop (individual devices) • Slow • Slow reverse • Shift/retard slow
- Shift/retard slow reverse • Cue (individual devices) to head of preroll
- GOTO (individual devices) to in-time displayed
- Replay: replays any recorded event
- Still frame • Jog forward • Jog reverse
- Retard jog rate (machine dependent) • Advance jog rate
- Search (with GISMO option): up to seven speeds forward and reverse
- Variable speed jog (with GISMO option)
- Multiple machine motion control (with GISMO option)
- ALLSTOP • Record • Automatic reset of inter-face communications

Edit Transition Selections

- Cut • Split cut ("L" cut) • Dissolve from/to • Dissolve rate
- Short cut dissolve (with last dissolve rate) • Wipe from/to • Wipe code
- Wipe rate • Change wipe pattern • Short cut wipe (with last code and rate)
- Key-in (background/foreground/duration) • Key out (background/foreground/duration)
- Delayed key • Key fade up from black • Key fade to black • Key cut in • Key cut out • Open end edit
- Closed end edit

List Management

- Sort Modes: Sort by event number, Sort by record in time, Sort off
- Move Event(s) in EDL; Re-Edit events in EDL; Insert Re-edited events in EDL with list update
- Exit re-edit • Resequence events in program with pull up
- Record start time • Delete events with pull up
- Record on/off • EDL text editing: Re-number events, Change A/V modes, Change reel numbers
- Autoclean: On or off during record, cleans over-records, deletes duplicate events, cleans multi-line events, may clean entire EDL while loading from disk
- Notes: Any edit in EDL may have notes, multiple lines available, delete a single line, a group or all lines of a note

Edit Decision List Display/Input/Output

- Scroll list up/down • Page scroll up • Page scroll down • Autoscroll: EDL scroll with Master (record) machine motion
- Display: move EDL highlight by event number; by record time code
- Disk on: saves each edit to paper tape after record
- Punch on: Saves each edit to paper tape after record
- Punch save: punches paper tape EDL
- Reader: reads paper tape EDL
- Disk save: stores EDL on disk
- Disk load: loads EDL from disk single event; range of events; all events (default)
- Multiple EDL files on floppy disk
- Print disk file directories in hard copy
- Print: prints EDL in hard copy
- Increased display of events in NDF/DF EDL
- Choice of 3600 or downward compatible output for CMX PDP or LSI based systems (3600)
- Event highlight for all lines in event (3600)



3400A

Automatic Edit Assembly Functions

- Sequential assembly ("A mode")
- Reel-by-reel assembly ("B mode")
- Precue sequential assembly (looks ahead 30 events)
- Precue reel-by-reel assembly (looks ahead 30 events)
- Enable for assembly (by event number)
- Disable for assembly (by event number)
- Resume assembly
- List enabled events
- List disabled events
- Enabled/disabled status saved on disk, printout (3600)

Hardware/Options

- General Purpose Interface (GPI) (standard on 3400A)
- Fast, direct access to relays
- All information goes to disk
- Eight relays controlled
- Up to 16 GPI triggers per event
- GISMO (3400) GISMO II (3400A, 3600 standard)
- Jam sync (available with conventional I²)
- Time code reader board (available with Multi-I²)
- Motion memory (M²) (3100)
- Dynamic Motion Memory (3400A standard)
- Fast, direct access to relays
- One page relay/trigger screen
- Devices activated with pulse or on/off trigger
- All information goes to EDL and floppy disk
- 16 relays standard, 3400A, 3600
- Additional relays (up to 64) optional 3400A, 3600
- Programmable pulse duration
- Switchable TTL open collector
- Up to 16 GPI triggers per event

Specifications

Central Controller:	DEC microcomputer (LSI 11/73, 3600)
Communication Format:	Serial/9600 Baud/RS-232
Communication Protocol:	CMX 8-bit binary
Edit Decision List Size:	3000 lines/EDL; approx. 6000 additional lines available for ancillary data
Edit Decision List Format:	CMX 3400A, 3400, 3100, 336XL, 340X, 330XL, 50, The Edge
Edit Decision List I/O Disk:	8" single-sided, single density, IBM 3740 format (3 1/2" double-sided, double-density, IBM System 34 modified format)
Edit Decision List Printer/ Paper Tape:	Serial/300-9600 Baud/RS-232
CRT Display Format:	80 characters per line/25 lines/60Hz refresh rate/non-interlaced
Display Monitor (option):	High resolution CMX terminal/broadcast video monitor
Number of Devices Assignable:	24
Number of Devices Controllable:	8
Edit Accuracy:	Frame accurate, color framed, PAL-pair self-correcting or manual for 4- or 8-field correction
Time Code Standards:	SMPT E Drop/non-drop frame, EBU
Television Standards:	NTSC/PAL/SECAM
Remote Motion Control Device (option):	Rotary control for search/slow motion/frame jogging

- Audio Adaptors
- Audio Connectors
- Audio Cables

Audio Adaptors

PART NO.	DESCRIPTION	1-4	5-49	50 +
Mini (3.5mm), Phono (RCA), Standard Phone (1/4")				
MP-PJ	Mini Plug to Phono Jack	\$1.99	\$1.79	\$1.59
MP-SPJ	Mini Plug to Standard Phone Jack	1.99	1.79	1.59
MJ-BL	Mini Jack to Jack (Barrel)	1.99	1.79	1.59
PP-MJ	Phono Plug to Mini Jack	1.99	1.79	1.59
PP-SPJ	Phono Plug to Standard Phone Jack	1.99	1.79	1.59
PJ-BL	Phono Jack to Jack (Barrel)	1.99	1.79	1.59
SPP-MJ	Standard Phone Plug to Mini Jack	1.99	1.79	1.59
SPP-PJ	Standard Phone Plug to Phono Jack	1.99	1.79	1.59
XLJ-BL	Standard Phone Jack to Jack (Barrel)	2.19	1.97	1.75

XLR Cannon Type

PP-XLRP	Phono Plug to XLR Plug	\$11.39	\$10.25	\$ 9.11
PP-XLRJ	Phono Plug to XLR Jack	14.09	12.68	11.27
SPP-XLRP	Standard Phone Plug to XLR Plug	12.69	11.42	10.51
SPP-XLRJ	Standard Phone Plug to XLR Jack	16.99	15.29	13.59
XLRP-PJ	XLR Plug to Phono Jack	12.69	11.94	10.15
XLRJ-PJ	XLR Jack to Phono Jack	13.99	12.59	11.19
XLRP-SPJ	XLR Plug to Standard Phone Jack	16.29	14.66	13.03
XLRJ-SPJ	XLR Jack to Standard Phone Jack	16.99	16.29	13.59
XLRP-BL	XLR Plug to Plug (Barrel)	14.99	13.49	11.99
XLRJ-BL	XLR Jack to Jack	17.99	15.19	14.39
SPP-XLRPS	Standard Phone Stereo Plug to XLR Plug	12.99	11.69	10.39
SPP-XLRJS	Standard Phone Stereo Plug to XLR Jack	18.99	17.09	15.19

Audio Connectors

Mini (3.5mm)

MP	Mini Plug, Cable End	\$ 1.09	\$.98	\$.87
MJ	Mini Jack, Cable End	1.09	.98	.87
MJ-CM	Mini Jack, Chassis Mount	.69	.62	.55

Phono (RCA)

PP	Phono Plug, Cable End	\$.79	\$.71	\$.63
PJ	Phono Jack, Cable End	.79	.71	.63
PJ-CM	Phono Jack, Chassis Mount	.99	.89	.79
P-BLCM	Phono Jack to Jack (Barrel) Chassis Mount	3.19	2.87	2.55

Standard Phone (1/4")

SPP	Standard Phone Plug, Cable End	\$1.29	1.16	1.03
SPJ	Standard Phone Jack, Cable End	1.99	1.79	1.59
SPJ-CM	Standard Phone Jack, Chassis Mount	.99	.89	.79
SPP-SP	Standard Phone Jack Cable End with Spring Relief	1.79	1.61	1.43

XLR (3-Pin Cannon Type)

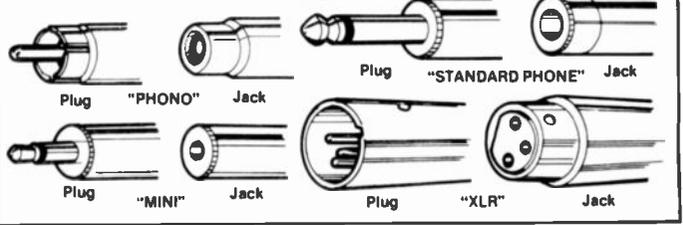
XLRP	XLR Plug, Cable End	\$5.09	\$4.58	4.07
XLRJ	XLR Jack, Cable End	6.09	5.48	4.87
XLRJ-CM	XLR Jack, Chassis Mount	7.09	6.38	5.67
XLRP-CM	XLR Plug, Chassis Mount	5.79	5.21	4.63

Audio Cables

Mini (3.5mm), Phono and Standard Phone Cables

MP-MP-10	Mini Plug to Plug	10'	\$3.43	\$3.14	\$2.79
MP-MP-25	Mini Plug to Plug	25'	5.19	4.67	4.15
MP-MJ-10	Mini Plug to Jack	10'	3.49	3.14	2.79
MP-MJ-25	Mini Plug to Jack	25'	5.19	4.67	4.15
MP-PP-10	Mini Plug to Phono (RCA) Plug	10'	3.49	3.14	2.79
PP-PP-10	Phono (RCA) Plug to Plug	10'	3.49	3.14	2.79
PP-PP-25	Phono (RCA) Plug to Plug	25'	5.19	4.67	4.15
PP-PJ-10	Phono (RCA) Plug to Jack	10'	3.49	3.14	2.79
PP-PJ-25	Phono (RCA) Plug to Jack	25'	5.19	4.67	4.15
SPP-SPP-10	Standard Phone (1/4") Plug to Plug	10'	4.29	3.86	3.43
SPP-SPP-25	Standard Phone (1/4") Plug to Plug	25'	5.99	5.39	4.79
SPP-SPJ-10	Standard Phone (1/4") Plug to Jack	10'	4.29	3.86	3.43
SPP-SPJ-25	Standard Phone (1/4") Plug to Jack	25'	5.99	5.39	4.79
SPP-MP-10	Standard Phone (1/4") Plug to Mini Plug	10'	3.99	3.59	3.19
SPP-MP-25	Standard Phone (1/4") Plug to Mini Plug	25'	5.99	5.39	4.79
SPP-PP-10	Standard Phone (1/4") Plug to Phono (RCA) Plug	10'	3.99	3.59	3.19
SPP-PP-25	Standard Phone (1/4") Plug to Phono (RCA) Plug	25'	5.99	5.39	4.79

Reference Guide



Audio Adaptor Cables

PART NO.	DESCRIPTION	1-4	5-49	50 +
SP-2-C	Stereo Phone (1/4") Jack to Mini Plug	\$3.29	\$2.96	\$2.63
SP-4-C	Phono (RCA) Plug to Two Parallel Phono (RCA) Jacks	3.29	2.96	2.63
SP-5-C	Phono (RCA) Jack to Two Parallel Phono (RCA) Plugs	3.29	2.96	2.63
D5P-4PP	Din 5-Pin Plug to Four Phono (RCA) Plugs	8.99	8.09	7.19
SPP-PJT	Dual Standard Phone Plugs to Phone Jack	5.99	5.39	4.79

XLR Audio Cables

Microphone Extension Cables

XLRP-XLRJ-15	15'	\$24.95	\$23.70	\$22.45
XLRP-XLRJ-25	25'	34.95	33.20	31.45
XLRP-XLRJ-50	50'	44.95	42.70	40.45
XLRP-XLRJ-75	75'	64.95	62.20	59.45
XLRP-XLRJ-100	100'	94.99	89.76	85.04

XLR to Mini, Phono and Standard Phone Cables (10')

XLRP-MP-10	XLR Plug to Mini Plug	\$13.79	\$13.10	\$12.41
XLRP-MJ-10	XLR Plug to Mini Jack	13.79	13.10	12.41
XLRJ-MP-10	XLR Jack to Mini Plug	13.79	13.10	12.41
XLRJ-MJ-10	XLR Jack to Mini Jack	13.79	13.10	12.41
XLRP-PP-10	XLR Plug to Phono Plug	13.79	13.10	12.41
XLRP-PJ-10	XLR Plug to Phono Jack	13.79	13.10	12.41
XLRJ-PP-10	XLR Jack to Phono Plug	13.79	13.10	12.41
XLRJ-PJ-10	XLR Jack to Phono Jack	13.79	13.10	12.41
XLRP-SPP-10	XLR Plug to Standard Phone Plug	26.99	25.64	24.29
XLRP-SPJ-10	XLR Plug to Standard Phone Jack	26.99	25.64	24.29
XLRJ-SPP-10	XLR Jack to Standard Phone Plug	26.99	25.64	24.29
XLRJ-SPJ-10	XLR Jack to Standard Phone Jack	26.99	25.64	24.29

Microphone Cable 2 Conductor with Shield

CMC-2-100	100' reel	\$ 65.00
CMC-2-500	500' reel	289.00

Audio Cable CAC-2 2 Conductor with Shield

CAC-2-100	100' reel	\$ 26.00
CAC-2-500	500' reel	115.00
CAC-2-1000	1000' reel	205.00



CA-7

CA-7 Audio and Video Cable Tester

- A single instrument that does the job previously requiring two separate instruments
 - Accepts 3-pin XLR, standard (1/4") phono, BNC, UHF, "F", Phono (RCA), and (3.5mm) Mini plugs
 - Tests for shorts, broken conductors, continuity
 - No meters or technical skills required
 - Built-in lights indicate test conditions
 - 9V battery included
- CA-7 \$72.00

Two Phono (RCA) Plugs, Stereo both ends

PART NO.	DESCRIPTION	1-4	5-49	50 +
4PP-C-1.5	1 1/2'	\$2.09	\$1.88	\$1.67
4PP-C-3	3'	2.69	2.42	2.15
4PP-C-6	6'	3.19	2.87	2.55
4PP-C-10	10'	4.19	3.77	3.35

Video Adaptors

PART NO.	DESCRIPTION	1-4	5-49	50 +
BNC				
BT	BNC Jack, Plug, Jack (T)	\$9.49	\$8.54	\$7.59
BT-J	BNC Jack, Jack, Jack (T)	7.79	7.01	6.23
B-BL	BNC Jack to Jack (Barrel)	5.29	4.76	4.23
BP-BL	BNC Plug to Plug (Barrel)	8.09	7.28	6.39
BJ-BP-L	BNC Jack to Plug (Right Angle)	9.49	8.54	7.59
UHF				
UT	UHF Jack, Plug, Jack (T)	\$4.99	\$4.49	\$3.99
UJ-UP	UHF Jack to Plug (Push-On)	3.99	3.59	3.19
U-BL	UHF Jack to Jack (Barrel)	1.99	1.79	1.59
UJ-UP-L	UHF Jack to Plug (Right Angle)	4.99	4.49	3.99
"F"				
F-BL	"F" Jack to Jack (Barrel)	\$1.59	\$1.43	\$1.27
FJ-FP	"F" Jack to Plug (Push-On)	2.79	2.51	2.23
FJ-FP-L	"F" Jack to Plug (Right Angle)	3.19	2.87	2.55
Phono (Video)				
PT	Phono Jack, Plug, Jack (T)	\$4.09	\$3.68	\$3.27
PT-J	Phono Jack, Jack, Jack (T)	4.49	4.04	3.59
PJ-BL	Phono Jack to Jack (Barrel)	1.99	1.79	1.59

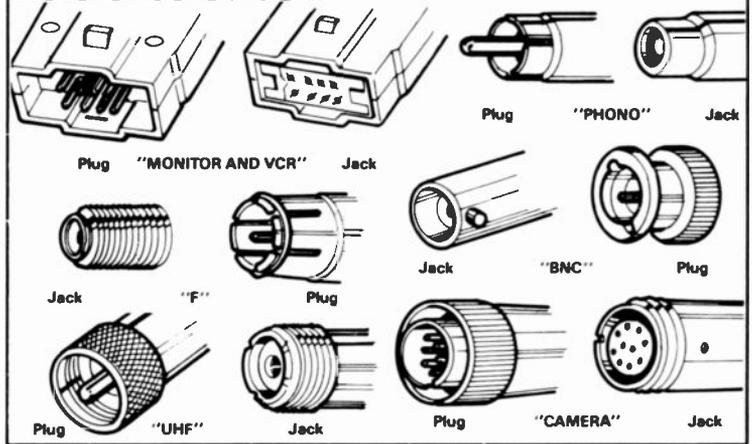
Between Series: BNC, UHF, "F", & Phono (Video)

BP-UJ	BNC Plug to UHF Jack	\$5.69	\$5.12	\$4.55
BJ-UP	BNC Jack to UHF Plug	5.09	4.58	4.07
FP-BJ	"F" Plug to BNC Jack	5.09	4.58	4.07
FP-UJ	"F" Plug to UHF Jack	4.59	4.13	3.67
FJ-BP	"F" Jack to BNC Plug	5.79	5.21	4.63
FJ-UP	"F" Jack to UHF Plug	4.59	4.13	3.67
FJ-MP	"F" Jack to Mini Plug	4.99	4.49	3.99
MP-UJ	Mini Plug to UHF Jack	2.99	2.69	2.39
PP-BJ	Phono Plug to BNC Jack	4.99	4.49	3.99
PP-UJ	Phono Plug to UHF Jack	2.39	2.15	1.91
PP-FJ	Phono Plug to "F" Jack	4.69	4.22	3.75
PJ-BP	Phono Jack to BNC Plug	6.29	5.66	5.03
PJ-UP	Phono Jack to UHF Plug	4.39	3.95	3.51
PJ-FP	Phono Jack to "F" Plug	4.39	3.95	3.51

Video Cables

PART NO.	DESCRIPTION	1-4	5-49	50 +
Molded Video Cables — Flexible Coax				
BNC Plug to Plug				
BB-C-1.5	1 1/2'	\$ 10.39	\$ 9.35	\$ 8.31
BB-C-3	3'	10.99	9.89	8.79
BB-C-6	6'	12.69	11.42	10.15
BB-C-10	10'	13.99	12.59	11.19
BB-C-25	25'	16.99	15.29	13.59
BB-C-50	50'	23.99	21.59	19.19
"F" Plug to Plug - Push-On				
FF-C-1.5	1 1/2'	\$ 5.99	\$ 5.39	\$ 4.79
FF-C-3	3'	6.29	5.66	5.03
FF-C-6	6'	6.99	6.29	5.59
FF-C-10	10'	7.99	7.19	6.39
FF-C-25	25'	10.99	9.89	8.79
FF-C-50	50'	16.99	15.29	13.59
BNC Plug to UHF Plug				
BU-C-3	3'	\$ 7.99	\$ 7.19	\$ 6.39
BU-C-10	10'	10.99	9.89	8.79
BU-C-25	25'	11.99	10.79	9.59
BU-C-50	50'	20.69	18.62	16.55
Phono (RCA) Plug to Plug—Video				
PP-PP-CV-1.5	1 1/2'	\$ 7.29	\$ 6.56	\$ 5.83
PP-PP-CV-3	3'	7.49	6.74	5.99
PP-PP-CV-10	10'	9.99	8.99	7.99
PP-PP-CV-25	25'	13.29	11.96	10.63
BNC Plug to Phono (RCA) Plug				
B-PP-C-6	6'	\$ 9.39	\$ 8.95	\$ 7.51
B-PP-C-10	10'	12.39	11.15	9.91
B-PP-C-25	25'	15.49	13.94	12.39

Reference Guide



PART NO.	DESCRIPTION	1-4	5-49	50 +
UHF Plug to Phono (RCA) Plug				
U-PP-C-6	6'	\$ 8.39	\$ 7.55	\$ 6.71
U-PP-C-10	10'	11.69	10.52	9.35
U-PP-C-25	25'	14.69	13.22	11.75

EIAJ Multi-Pin Cable Assemblies

EIAJ 8-Pin VTR & Monitor Cables				
E8P-E8P-5	5'	\$ 28.89	\$ 27.44	\$26.00
E8P-E8P-10	10'	30.99	29.44	27.89
E8P-E8P-25	25'	42.29	40.17	38.06
E8P-E8P-50	50'	58.89	55.94	53.00
E8P-E8P-100	100'	108.89	103.44	98.00

EIAJ 10-Pin Camera Extension				
E10P-E10J-5	5'	\$ 41.99	\$ 39.89	\$ 37.79
E10P-E10J-10	10'	45.99	43.69	41.39
E10P-E10J-25	25'	66.49	63.16	59.84
E10P-E10J-50	50'	96.99	92.14	87.29
E10P-E10J-100	100'	158.99	151.04	143.09

EIAJ 10-Pin Hook-Up Cable				
E10P-E10P-5	5'	\$ 43.99	\$ 41.79	\$ 39.59
E10P-E10P-10	10'	49.99	47.49	44.99
E10P-E10P-25	25'	67.99	64.59	61.19
E10P-E10P-50	50'	98.49	93.56	88.64
E10P-E10P-100	100'	158.99	151.04	143.09

Camera Cable (JVC)				
E10P-E12P-10	10'	\$53.99	\$51.29	\$48.59

Professional 14-Pin Camera Cable				
E14P-E14J-25	25'	\$126.99	\$120.64	\$114.29

Multi-Pin Adaptors

E8J-BL	EIAJ 8-pin "GOOF" Plug	\$24.95
E8J-P	EIAJ 8-pin Dubbing Adaptor	24.95
E14P-J	EIAJ 14-pin Adaptor	56.95

Professional 14-Pin Camera Cables
(Equivalent to Sony CCQ) for use with Sony and JVC cameras. EIAJ 14-Pin Plug to EIAJ 14-Pin Jack.

PART NO.	DESCRIPTION	1-4	5-49	50 +
E14P-E14J-5	5'	\$ 88.95	\$ 84.50	\$ 80.05
E14P-E14J-10	10'	97.95	93.05	88.15
E14P-E14J-15	15'	107.95	102.55	97.15
E14P-E14J-25	25'	126.99	120.64	114.29
E14P-E14J-50	50'	197.99	188.09	178.19
E14P-E14J-75	75'	247.99	235.59	223.19
E14P-E14J-1C	100'	297.99	283.09	268.19

Video Connectors

BNC		1-4	5-49	50+
BP	BNC Plug for RG59/U Cable, Solder	\$4.09	\$3.68	\$3.27
BP-C	BNC Plug for RG59/U Cable, Crimp	3.59	3.23	2.87
BP-CA	BNC Crimp Plug for RG59/U	3.69	3.32	2.95
BP-CK	BNC Crimp Plug for RG59/U	3.59	3.23	2.87
BP-SC	UHF Plug for RG59/U Cable, Crimp	2.59	2.33	2.07
BP-E	BNC Plug for RG59/U Cable, Fast-Fit	3.69	3.32	2.95
BP-C-8281	BNC Plug for 8281 Cable, Crimp	3.69	3.32	2.45
BP-E-8281	BNC Plug for 8281 Cable, Fast-Fit	5.69	5.12	4.55
BJ-CM	BNC Jack, Chassis Mount	2.29	2.06	1.83
B-BLCM	BNC Jack to Jack (Barrel), Chassis Mount	7.49	6.74	5.99
B-TM	BNC 75 ohm Terminator	3.69	3.32	2.85

UHF				
UP	UHF Plug & Adaptor for RG59/U Cable, Solder	\$2.29	\$2.06	\$1.83
UP-C	UHF Plug for RG59/U Cable, Crimp	2.49	2.24	1.99
UP-E	UHF Plug for RG59/U Cable, Fast-Fit	4.99	4.49	3.99
UP-E-8281	UHF Plug for 8281 Cable, Fast-Fit	3.49	3.14	2.79
UJ-CM	UHF Jack, Chassis Mount	3.39	3.05	2.71
U-BLCM	UHF Jack to Jack (Barrel), Chassis Mount	4.49	4.04	3.59
U-TM	UHF 75 ohm Terminator	4.59	4.13	3.67

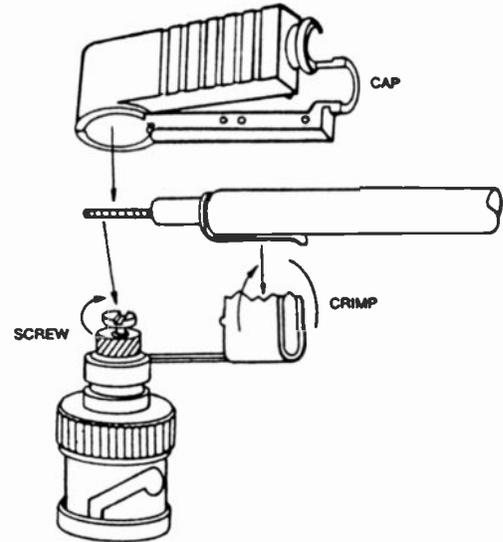
"F"				
FP	"F" Plug for RG59/U Cable, Crimp	\$.49	\$.44	\$.39
FP-E	"F" Push-on Plug-RG59/U Cable, Fast-Fit	.69	.62	.55
FP-ES	"F" Plug for RG59/U Cable, Fast-Fit	.79	.71	.63
FJ-CM	"F" Jack, Chassis Mount	.49	.44	.39
F-BLCM	"F" Jack to Jack (Barrel), Chassis Mount	1.99	1.79	1.59
F-TM	"F" 75 ohm Terminator	.49	.44	.39

Phono (Video)				
PP-V	Phono Plug for RG59/U Cable, Solder	\$.99	\$.89	\$.79
PP-C	Phono Plug for RG59/U Cable, Crimp	.89	.80	.71
PJ-CM	Phono Jack, Chassis Mount	.99	.89	.79
P-BLCM	Phono Jack to Jack (Barrel), Chassis Mount	3.19	2.87	2.55
P-TM	Phono 75 ohm Terminator	2.29	2.06	1.83

EIAJ Monitor and VCR Connectors				
EBP	8-pin Plug, Cable End	\$7.99	\$7.19	\$6.39
EBJ	8-pin Jack, Cable End	7.99	7.19	6.39
EBJCM	8-pin Jack, Chassis Mount	3.59	3.23	2.87
EBPCM	8-pin Plug, Chassis Mount	3.59	3.23	2.87

EIAJ VCR and Editor Remote Control Connectors				
E20P	20-pin Plug, Cable End	\$14.99	\$13.49	\$11.99
E20JCM	20-pin Jack, Chassis Mount	5.79	5.21	4.63
E20J	20-pin Jack, Cable End	15.09	13.58	12.07
E20PCM	20-pin Plug, Chassis Mount	5.39	4.85	4.31
E33P	33-pin Plug, Cable End	22.49	20.24	17.99
E33JCM	33-pin Jack, Chassis Mount	17.99	16.19	14.39
E33J	33-pin Jack, Cable End	22.49	20.24	17.99
E33PCM	33-pin Plug, Chassis Mount	17.99	16.19	14.39
E34P	34-pin Plug, Cable End	20.09	18.08	16.07
E34JCM	34-pin Jack, Chassis Mount	7.99	7.19	6.39
E34J	34-pin Jack, Cable End	18.59	16.73	14.87
E34PCM	34-pin Plug, Chassis Mount	6.89	6.20	5.51
E45P	45-pin Plug, Cable End	18.89	17.00	15.11
E45JCM	45-pin Jack, Chassis Mount	8.99	8.09	7.19
E45J	45-pin Jack, Cable End	18.99	17.09	15.19
E45PCM	45-pin Plug, Chassis Mount	8.39	7.55	6.71

Camera Connectors				
E10P	10-pin Plug, Cable End	\$16.99	\$15.29	\$13.59
E10J	10-pin Jack, Cable End	16.99	15.29	13.59
E10JCM	10-pin Jack, Chassis Mount	11.09	9.98	8.87
E10PCM	10-pin Plug, Chassis Mount	18.49	16.64	14.79
E12P	12-pin Plug, Cable End (JVC)	21.09	18.98	16.87
E12J	12-pin Jack, Cable End (JVC)	18.89	17.00	15.11
E12JCM	12-pin Jack, Chassis Mount (JVC)	11.49	10.34	9.19
E14P	14-pin Plug, Cable End	36.95	33.25	29.56
E14J	14-pin Jack, Cable End	36.95	33.25	29.56
E14JCM	14-pin Jack, Chassis Mount	23.00	20.70	18.40
E14PCM	14-pin Plug, Chassis Mount	23.00	20.70	18.40
D6P	6-pin Plug, Cable End (B & W Cameras)	6.79	6.11	5.43
D6J	6-pin Jack, Cable End (B & W Cameras)	3.39	3.05	2.71
D6JCM	6-pin Jack, Chassis Mount (B & W Cameras)	3.49	3.14	2.79
D8P	8-pin Plug, Cable End (Hitachi, NEC)	4.59	4.13	3.67
D8J	8-pin Jack, Cable End (Hitachi, NEC)	3.59	3.23	2.87
D8JCM	8-pin Jack, Chassis Mount (Hitachi, NEC)	1.99	1.79	1.59



Solderless Molded Look Video Connectors

		1-4	5-49	50+
SRF-BP	Solderless Rapidfit BNC Plug	\$3.89	3.50	\$3.11
SRF-FP	Solderless Rapidfit "F" Plug	1.49	1.34	1.19
SRF-PP	Solderless Rapidfit Phono Plug	1.49	1.34	1.19
SRF-UP	Solderless Rapidfit UHF Plug	2.49	2.24	1.99
SRA-BP	Solderless Right Angle BNC Plug	3.89	3.50	3.11
SRA-FP	Solderless Right Angle "F" Plug	2.09	1.88	1.67
SRA-PP	Solderless Right Angle Phono Plug	1.59	1.43	1.27
SRA-UP	Solderless Right Angle UHF Plug	2.49	2.24	1.99

Bulk Video Cable

RG59/U Solid Center Conductor CVC-59

CVC-59-100	100 ft. reel	\$ 25.95
CVC-59-500	500 ft. reel	99.95
CVC-59-1000	1000 ft. reel	177.75

RG59/U Stranded Center Conductor CVC-59S

CVC-59S-100	100 ft. reel	\$ 24.95
CVC-59S-500	500 ft. reel	109.95
CVC-59S-1000	1000 ft. reel	188.95

Belden 8281 75 ohm Precision Broadcast Coax Cable

8281-500	500 ft.	\$369.00
8281-1000	1000 ft.	739.00

EIAJ 8-Pin VCR Cable CVC-8

CVC-8	1-499 ft.	\$1.00 per ft.
	500-999 ft.	.90 per ft.
	1000 + ft.	.80 per ft.

EIAJ 10-Pin Camera Cable CVC-10

CVC-10	1-499 ft.	\$1.99 per ft.
	500-999 ft.	1.79 per ft.
	1000 + ft.	1.59 per ft.

EIAJ 14-Pin Camera Cable CVC-14

CVC-14	1-499 ft.	\$2.10 per ft.
	500-999 ft.	1.99 per ft.
	1000 + ft.	1.89 per ft.

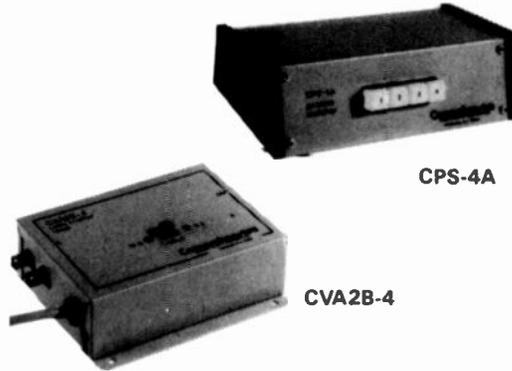
20-Pin Remote Control Cable CVC-20

CVC-20	1-499 ft.	\$1.95 per ft.
	500-999 ft.	1.75 per ft.
	1000 + ft.	1.56 per ft.

Video Distribution Amplifier

Overcome line loss, provide additional equipment outputs and line equalization, or any combination of these. 4 output Video Distribution Amplifier contains two input connectors to permit signal looping, thereby allowing the units to be "ganged" if more than four outputs are needed. Mounts easily on any flat surface.

CVA2B-4 \$199.95



Passive Video Switchers

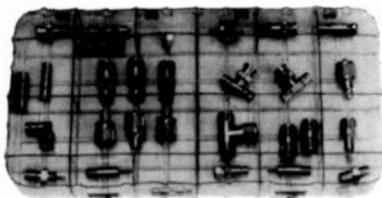
Passive video switchers with audio pass-along offer a fast simple way to interconnect video and audio equipment. Pushbuttons select the input and automatically terminate the other video inputs, for constant impedance.

CPS-4A 4 pair video with audio pass-along \$145.00
CPS-8A 8 pair with audio pass-along \$210.00

Comprehensive has recognized the benefits of making all types of video supplies and accessories, and below is listed a small sampling of what is available.

VDAP-1 Video Adaptor Kit

Adapt and interface with Video Connectors—includes 75 ohm terminators.



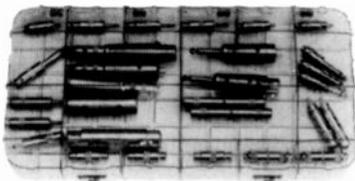
Contents:

- | | | |
|------------------------------------|---------------------------------|----------------------------|
| (2) BNC Jack, Plug, Jack (T) | (2) "F" Jack to Jack (Barrel) | (1) Phono Plug to UHF Jack |
| (1) BNC Jack, Jack, Jack (T) | (1) Phono Jack to Jack (Barrel) | (1) Phono Plug to "F" Jack |
| (2) BNC Jack to Jack (Barrel) | (3) BNC Plug to UHF Jack | (1) Phono Jack to BNC Plug |
| (1) BNC Plug to Plug (Barrel) | (3) BNC Jack to UHF Plug | (1) Phono Jack to UHF Plug |
| (1) BNC Jack to Plug (Right Angle) | (1) "F" Plug to BNC Jack | (1) Phono Jack to "F" Plug |
| (1) UHF Jack, Plug, Jack (T) | (1) "F" Jack to BNC Plug | (2) BNC 75 ohm Terminator |
| (2) UHF Jack to Jack (Barrel) | (1) "F" Jack to Mini Plug | (1) UHF 75 ohm Terminator |
| | (1) Phono Plug to BNC Jack | (1) "F" 75 ohm Terminator |

VDAP-1 \$105.00

ADAP-1 Audio Adaptor Kit

Adapt and interface with Audio Connectors.



Contents:

- | | | |
|---------------------------------------|------------------------------------------|-------------------------------------|
| (3) Mini Plug to Phono Jack | (2) Standard Phone Plug to Mini Jack | (1) Standard Phone Plug to XLR Jack |
| (3) Mini Plug to Standard Phone Jack | (2) Standard Phone Plug to Phono Jack | (1) XLR Plug to Phono Jack |
| (2) Mini Jack to Jack (Barrel) | (2) Standard Phone Jack to Jack (Barrel) | (1) XLR Plug to Standard Phone Jack |
| (3) Phono Plug to Mini Jack | (1) Phono Plug to XLR Jack | (1) XLR Plug to Plug (Barrel) |
| (2) Phono Plug to Standard Phone Jack | | (1) XLR Jack to Jack (Barrel) |
| (3) Phono Jack to Jack (Barrel) | | |

ADAP-1 \$105.00

Field Interface and Repair Kits

The Monster

Shooting on location is like going on safari; small problems that are a nuisance in the studio are monsters to contend with in the field. The "location" jungle is filled with monsters. To tackle them, you need a monster of your own.

The Monster is everything you need to make standard and emergency audio and video hook-ups in the field. Twenty audio and video adaptors. Seventy-three audio and video connectors, including crimp-on, solder-on, emergency fast-fit and right angle types. Plus cables, tools—even a soldering iron and flashlight are included. It all comes packed in the



Monster

revolutionary Roly Kit tool box, and the whole package comes to you at a very special package price.

The Monster Includes:

- (1) Soldering Iron, (1) Tool Set, (24) Assorted Adaptors, (68) Assorted Connectors, (1) BNC Terminator, (1) BNC Crimp Tool, (1) Emergency Solder Pack, (1) Electrician's Knife, (1) Mini Mite Lite, (5) Assorted Cables, (1) Tool Kit, (1) Roly Kit Tool Case

Monster \$399.00

MSTR-A Audio Monster

Monster peace of mind for the audiophile. Helps prevent unwanted "silent movie syndrome" on your next location shoot.

The Audio Monster Includes:

- (23) Assorted Adaptors, (28) Assorted Connectors, (2) Chassis Mounts, (10) Assorted Cables, (1) Tool Kit, (1) Solder, (1) Emergency Solder Pack, (1) Mini Mite Lite, (1) Soldering Iron, (1) Roly Kit Tool Case

MSTR-A Audio Monster \$260.00



PC-2 Character Generator Board

Generate Broadcast Quality Characters with an IBM Compatible Personal Computer

- 40ns resolution
- Random page access
- 64 colors
- 32 font styles including graphic font, edge, shadows, and italics
- Preview/program mode
- RGB or composite NTSC video output
- Built-in keyer
- 4 speeds of roll and crawl

Now you can use your IBM PC or compatible computer as a full-featured character generator without sacrificing your other computer applications.

The heart of the PC-2 system is a plug-in board that fits in your computer's expansion slot and gives it the ability to generate broadcast quality characters for production work whenever you need it.

The PC-2 is easy to use, half the price of comparably equipped CGs and extremely versatile. It puts command menus right up on the computer screen while you work, so there are no commands to memorize, no thick manuals to slow you down.

For characters, it offers four types of letter fonts in varying sizes, plus one graphic font and up to 64 colors. With italics, edging, background striping, drop shadows, and as many as eight colors per line, you can create credit rolls, titles, and crawls in an endless variety of styles.

PC-2's powerful editor lets you insert or delete characters or whole lines at once with full cursor movement anywhere on the screen. Left and right justification, centering and proportional spacing ensure your text always looks good.

Put two independent crawl lines at any of four speeds in either direction anywhere on the screen. PC-2 contains its own keyer so it's easy to key names or text over your pictures or even create striped background screens. Make text come on-screen from either direction or appear in a teletype-like effect. Credits roll up or down as quickly as you like.

PC-2 can call up from 1 to 19 pages in a file, and chain 8 files together for 152 pages of text. It also loops pages for continuous crawls or rolls.

The PC-2 can combine with other Comprehensive Video software to turn any IBM PC or compatible computer into a powerful production work station.

Specifications

Resolution:	40ns (1000 x 512 pixels)
Character Colors:	64
Background Colors:	64
Colors On Screen Simultaneously:	64
Colors Per Line:	8
Characters Per Line:	10-62
Font Styles:	30
Graphic Symbols:	74
Edge and Shadow Options:	Plain Shadows (short and long) Projections (short and long) Outlines (open and silhouette) Italics
Cell Block Frame Height:	32/64 lines
Effective Character Height Range:	20-64 lines approx.
Maximum Script Lines Per Page:	13
Font Styles Per Line:	16
Font Styles Per Page:	30
Edit Functions:	Insert, delete, auto-centering, justification, left or right (per line or per entire page)
Roll Speeds:	4 (3/4, 1 1/2, 3 1/2, 7 sec/page)
Crawl Speeds:	4 each for 2 independent lines (2, 4, 8, 16 char/sec)
Background Stripes:	31 choices in 16 colors
Flash:	Character by character
Pages of Memory:	200 on a floppy disk; 12,000 with 20M byte hard disk
Output:	RGB 1V peak, non-composite video PRG 1V p-p, composite video PRV 1V p-p, composite video KEY 1V p-p, RGB
Input:	1V p-p, composite video (required)
Hardware Requirements:	IBM PC, XT, AT or compatible with 256K (maximum 640K) 2 expansion slots

PC-2 Plug-in board for IBM PC or true compatibles (requires 4.77MHz with minimum 256K memory)	\$2995.00
PC-2S Turnkey system with 2 disk drive IBM XT compatible computer and character generator	\$3995.00
PC-2/RGB-10 Cable for analog RGB, sync and key from PC-2 10' . . . . .	.79.95

Edit Master™

Turn your personal computer into the world's most powerful cuts-only editing system

Edit Master brings the features and capabilities of sophisticated computer editing systems to cuts only editing. Edit Master consists of a set of 3 compact and easy to install hardware interfaces and a control program for MS-DOS computers.

Edit Master works with either time code or control track, and is compatible with NTSC and PAL standards. You have complete control of all tape transport functions from your computer's keyboard, including variable-speed tape shuttle.

You can mark in and out points on the fly, or with tape paused. You can then preview, perform and replay the edit. Edits that have already been performed may be re-opened, modified and rehearsed at any time.

Edit Master is the perfect tool for off-line editing. Dissolves, wipes and keys are performed as cuts, but are entered into the list in their designated form, ready for assembly during the on-line edit.

You have available a generous 900-event memory, along with high-powered list management capabilities which include re-edit with ripple, block move and delete, and multi-mode automatic list cleaning, plus many other features.

Text notes may be added to edits in memory. You can search the list by note or note fragment.

Auto assembly of edit lists may be performed in either A-mode (sequential) or B-mode (checkerboard). Single events, groups of events or the entire list can be enabled or disabled for assembly.

Edit Master provides frame-accurate control of virtually all of today's popular editing recorders and players, from half-inch industrial to one-inch broadcast. It's the perfect way to move up to time code editing. Its local area network design leaves room for future growth. Its compact size also makes it an ideal portable editing system. With the hardware components in a briefcase and using a laptop computer, you can now edit even on location.

Edit Master is also fully compatible with Edit Lister, Edit Tracker, with the D-Link 8" disk drive, and with other editing systems that save and load edit lists as MS-DOS text files. It supports CMX, Convergence and Grass Valley list formats.

Edit Master supports the following VTRs: Ampex VPR 3, VPR 6, VPR 80; JVC CR-850, CR-600, CR-8250, CR-6650, BR-8600; Panasonic MII AU-650, AU-500, AG-6500, AG-7500; Sony BVU, BVW and BVH series, VO-5800, VO-5850, Type VII, Type IX

Edit Master requires an MS-DOS compatible computer with at least 256K memory, an RS-232 serial port and two disk drives or a hard disk.

An optional color coded keyboard using industry standard key layout is also available.

The Edit Master package includes Edit Master software, manual and 2 VTR hardware interfaces and one master computer interface. A set of keyboard overlays is provided for use with a standard PC keyboard.

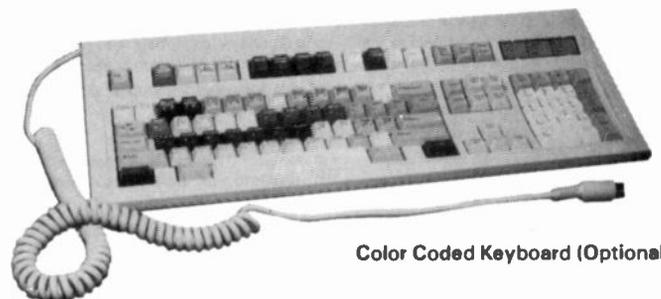
Note: Interfaces are available for the following machines: Sony Type 7 with BKU-701, Type 9 with BKU-701, JVC CR-850, 600 Panasonic MII, Ampex VPR-3, VPR-6 and VPR-80. When ordering an inter-format system or additional node, please specify the model number of your player and/or recorder machines.

*Edit Master's distributed-processing Network Design allows for expansion. Users will be able to upgrade to A/B Roll and beyond with hardware and software updates to be offered.

EM-2-S5U	For Sony 5850, 5800	.....	\$3995.00
EM-2-J85	For JVC BR-8600, 8250, 6650	.....	.3995.00
EM-2-AG6	For Panasonic AG-6500	.....	.3995.00
EM-2-AG7	For Panasonic AG-7500	.....	.3995.00
EM-2-SBV/TC	For Sony BVU Series without built-in time code reader	.....	.3995.00
EM-2-SBV	For Sony BVU, BVW and BVH Series with built-in time code reader	.....	.3495.00
Color coded keyboard (optional)		.....	.650.00



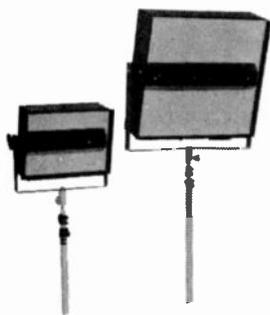
Edit Master System



Color Coded Keyboard (Optional)



VTR Hardware and Master Computer Interfaces



Ace

Deuce

*Provides a Delicate
Lighting Balance
For All Your
Photography Needs*

**SOFTOUCH™
SOFTLIGHTS**

• Available in two different sizes and lamp capacities to meet any softlight application • Simpler to maneuver in "tight locations" than umbrella rigs • Feature swiveling center lamp supports, insuring smooth, even illumination and fast, simple re-lamping of the instrument • Special white reflector paint faithfully reproduces the exact color temperature of the lamp, even after years of rigorous use • Made of the finest lightweight yet heavy duty materials available and are shipped ready to work (no cumbersome setting up to contend with)

Softouch "Ace"

Our most compact softlight. Suitable as small fill light for one or two subjects or for small product applications. Available lamp types include 300, 500, 650, 750 and 1000W at 120V and 800W at 240V. Comes equipped with 16' line cord, parallel blade U-ground plug. (Two "Aces" on stands make an ideal "quick interview" package.) 7 lbs. 5 oz.

ST-Ace \$315.00

Softouch "Deuce"

"All-around" location softlight. Uses same lamp choices as Softouch "Ace", but accommodates two lamps for up to 2000W capacity. Independent switching permits either left, right, or both lamps to be illuminated. Comes equipped with 16' line cord, parallel blade U-ground plug. 14 lbs. 9 oz.

ST-Deuce \$415.00



Compact Tripod with Fluid-Effect Head

Compact and lightweight, this tripod is specially designed for today's lightweight industrial and consumer color cameras.

Collapsed Length: 20"

Extended Length: 54"

Weight: < 6 lbs.

Tripod/head Capacity: 18 lbs.

6144 \$169.00



**True All-Digital Stereo Compact Disc
Sound Effects and Production Music Libraries**

For television, radio, film or video production.

The ultimate in digital sound effects packaged in a convenient library of 10 compact discs.

Digitally Mastered at the Source.

All-digital stereo technology yields exceptionally clear, clean, and precise tones; without the noise, distortion, wow or flutter that occurs when the original recording is made from LPs or analog tapes.

From top to bottom, start to finish, Comprehensive's sound effects collection is meticulously recorded, produced, and mastered in state of the art all-digital stereo.

Over 650 different effects in one set of CD's.

Each CD has up to 50-55 minutes of stereo sound effects, individually all-digitally sourced from nature, man and machine; delicate to dynamic, from shout to sigh, from aerosol to zipper.

Fast Identification.

Each of the 10 CD volumes is color-coded so you can instantly recognize the particular volume you need.

Easy Access.

Each sound effect is indexed, alphabetically as well as by track location, on the individual CD cover cases.

Versatility.

Sound effects can be used both in front of or behind narration or other programming, with amazing fidelity at any playing level.

Virtually indestructible.

While this collection is one of the most useful of production tools, CDs never have to be replaced due to "over-use."

SEL-CD 10 CD set housed in sturdy plastic rack. \$595.00

Buy Out Music Production Library

Now you can add texture and richness to your audio and visual presentations.

No "needle drop," annual clearances or program charges—all clearance fees are covered by the purchase of the albums.

With over 145 different musical motifs, each individually all-digitally sourced.

Each CD in the set contains up to 50-55 minutes of specially selected stereo music arrangements in varying lengths.

Contemporary Music Volume 1 features 23 tracks, in a variety of moods and lengths; from 30 seconds up to 3 minutes.

Contemporary Music Volume 2 features 16 tracks, in diverse moods and lengths; from 2+ minutes up to 4.43 minutes.

Contemporary Music Volume 3 features 20 tracks, more moods, many lengths; from 30 seconds up to 4.10 minutes.

30/60 Collection contains 62 tracks, full style range; in the favorite 30 second, full minute lengths.

Classical/Jazz Collection contains 8 classical tracks and 12 jazz tracks in lengths from 2+ to 4+ minutes.

Set of 5 CD's housed in sturdy rack.

PML1-CD \$995.00





Lighting Kits in New "Carry-Light" Cases

Virtually all lighting kit suppliers face a similar challenge—selecting component pieces that best handle the requirements of the largest number of users. Comprehensive kits are therefore divided into two general categories: kits featuring a full assortment of accessories for a wide variety of locations, and kits that offer the bare necessities, but provide extra room for accessories of your choice. Either way, Comprehensive lighting kits offer you a substantial savings over purchasing individual components.

Our most popular kits are now available in Carry-Light soft carrying cases. Constructed of 400 Denure nylon pack cloth and the highest standard webbing, zippers, buckles, and velcro strips, these lightweight cases absorb shock, provide long-lasting structural support, and include pockets for accommodating scrims, umbrellas, modular mounts, and light control accessories.

See your Comprehensive dealer for additional kits.

Lighting Kits in Carry Light Cases

B-2/CLC

- (1) VL-601 light
- (1) VL-601 VF focusing light
- (1) VL-BD-2 barndoors for VL-601 VF
- (1) GUH Gel/umbrella holder
- (1) MS modular stud
- (1) U-30 Umbrella (30")
- (2) LS-2 light stands
- (2) DYH lamps
- (1) C-2 kit case
- Size: 8 1/4" H x 10" W x 25" L
- Weight: 18 lbs., 5 oz.
- (Lamps included) \$554.00

B-3/CLC

- (1) VL-601 light
- (2) VL-601 VF focusing light
- (1) VL-BD-1 barndoors for VL-601
- (1) VL-BD-2 barndoors for VL-601 VF
- (1) GUH gel/umbrella holder
- (1) MS modular stud
- (1) U-30 umbrella (30")
- (1) VLS-1 single scrim for VL-601
- (1) VLS-V single scrim for VL-601-VF
- (3) LS-2 light stands
- (3) DYH lamps
- (1) C-2 kit case
- Size: 8 1/4" H x 10" W x 25" L
- Weight: 25 lbs.
- (Lamps included) \$759.00

ENG-3 CLC

- (2) K-600 focusing lights
- (1) VM-300 focusing light
- (2) KBD barndoors for K-600
- (1) DFK diffusion filter for K-600
- (1) DIV dichroic filter for VM-300
- (1) CSMV camera mount for VM-300
- (1) VC-30 30V battery cable for VM-300
- (1) HGMV handgrip for VM-300
- (1) SAMV stand adaptor for VM-300
- (3) TRS ministands
- (2) DYS lamps
- (1) FNB lamp
- (1) EPL lamp
- (1) KC case
- Size: 16" H x 6 3/4" W x 22" L
- Weight: 23 lbs., 5 oz.
- (Lamps included) \$1159.00

BLK-1200/CLC

- Basic 1200W Video Light Kit
- Compact enough to take everywhere
 - Ideal for small studios and small budgets
 - Accepts add-on accessories as your needs grow

Includes:
 (2) VL-601—Quartz light in fixed, medium focus flood position. American made, of strong lightweight aluminum construction, black pebble grain finish
 (2) DYH—120V 600W, 3200°K degree lamps for VL-601
 (2) LS-2—Compact light stands; 23" storage length, 98" extended
 (1) Case 2—carrying case of rugged, high density polyethylene.
 Dimensions: 8 1/2" H x 10 1/2" W x 25 1/2" L
 Weight: 15 lbs.

BLK-1200/CLC \$469.00

FLK-2000/CLC Professional

- 2000W Flood Light Kit
- Reliable, durable, true quality
 - Broad light pattern illumination
 - For large objects or large groups
 - Can serve as set, fill, or key light

Includes:
 (2) MF-10—Flood lights, made by SRL Ianiro Aldo of Italy, internationally known specialists in professional lighting equipment. Comes with integral 4-way barn doors, accessory holder, in-line switch, line cable 5/8" (16mm) mount receptacle
 (2) FHM—120V 1000W 3200°K lamps for MF-10
 (2) LS-2—Compact light stands; 23" storage length, 98" extended
 (1) Case 2—carrying case of rugged, high density polyethylene
 Dimensions: 8 1/2" H x 10 1/2" W x 25 1/2" L
 Weight: 20 lbs.

FLK-2000/CLC \$697.00

PLK-2000/CLC Versatile Econo-Kit

- Functionally multi-purpose kit
- Sturdily made for enduring use
- Ready for diverse situations
- Packed with value

Includes:
 (2) K-600—focusing spot unit with smooth, even range. Includes integral accessory holder, chassis switch, line cable, 5/8" (16mm) mount receptacle, safety glass; plus:
 (2) DYS/DYV/BHC—120V, 600W, 3200°K lamps for K-600
 (2) KBD—4-way barndoors
 (1) HGK—Handgrip
 (1) M-250—mini light system—complete with safety glass, 2-way barndoor, chassis switch, 120V line cable, and set of 120V, multi mirror lamps:
 (1) ELH 300W, 3500°K spot beam pattern
 (1) ENH 250W, 3250°K narrow flood beam
 (1) EXX 250W, 3300°K flood beam pattern
 (1) SAMV—for M-250 light mounting on stand or clamp

- (1) HGMV—handgrip for M-250
- (3) TRS—mini stands—for K-600 and M-250

(1) KC—Sturdy molded carrying case: 16" H x 6 3/4" W x 22" L
 Weight: 26 lbs.

PLK-2000/CLC \$889.00

BLP-300/CLC

Affordable, yet professional battery/light package featuring the VM-300 focusing spotlight. Kits come complete for either camera mounted or handheld operation and include VM-300 light, FCR 12V/100W lamp, HGMV handgrip, CSMV camera mount, VCCL connecting cable and fitted polyethylene case.
 BLP-300 With VB-412 4A hour/12V NiCad battery and charger . . \$389.00

How to Select Lights Wisely

A Primer on Lighting for Video
 Introduces a beginning videographer to the basics of lighting. This easy to read booklet provides information for the selection of lighting fixtures and accessories for studio and location television production. The booklet illustrates with photos and diagrams the various types and combinations of lighting setups. It explains special words, names and expressions associated with lighting. It describes how to use fixtures correctly, how to control and place light, and how to determine the appropriate number of lights and fixtures for various situations.



NEW
 Lighting for Video was developed and produced by Comprehensive as a service to the industry. A complementary copy of the booklet can be obtained from your authorized Comprehensive dealer.



CONRAC

MONOCHROME MONITORS

2600 Series 9" Medium and High Resolution Monochrome Monitors

- 9" diagonal CRT
- 750 lines minimum resolution
- P4 or P45 phosphor standard; many other phosphors available
- Wide range of scan frequencies; up to 34kHz
- 12, 25 or 30MHz video bandwidths
- 50 fL brightness

The various models in the 2600 9" series give you a choice of high performance, low cost monitors to best fit your application. Excellent linearity, geometry and raster size stability ensure consistently superior display quality.

2620C9 9" CRT Broadcast Monitor

Additional features are added to the 2600 to create the 2620. Switchable pulse cross, underscan and notch filter are provided as front panel controls. In addition, an audio speaker with volume control, VTR input connector and AFC select are included to give you the features and flexibility you require in broadcast and video production environments. The 2620 is also available in many rackmount configurations.

The 2620 is capable of displaying a minimum of 10 discernible shades of gray. This highly stable, high performance monitor also features 525/60 or 625/50 line rates, 12VDC operation, composite video or external sync, solid-state circuitry, single board design for easy maintenance and service, front panel adjustments for display height, vertical hold and horizontal hold and convenient brightness, contrast and volume controls.

2620C9 \$460.00
 Rackmounts 175.00

2640C9 9" Medical Monochrome Monitor

The 2640 offers a crisp, stable and distortion-free display for critical evaluation of images generated by CT scanners, MR, ultrasound and many other medical diagnostic equipment. High video bandwidth, high scan rates and switchable reverse video are additional features of the 2640.

2640C9 \$695.00

2680C9 9" CRT Medical High Performance Monitor

A P45 phosphor CRT, greater brightness stability (G2 regulation), 25MHz video and dynamic focus—all standard features—the 2680 easily meets the stringent requirements for a medical display. Analysis of images generated by medical diagnostic equipment is an application best suited for the 2680.

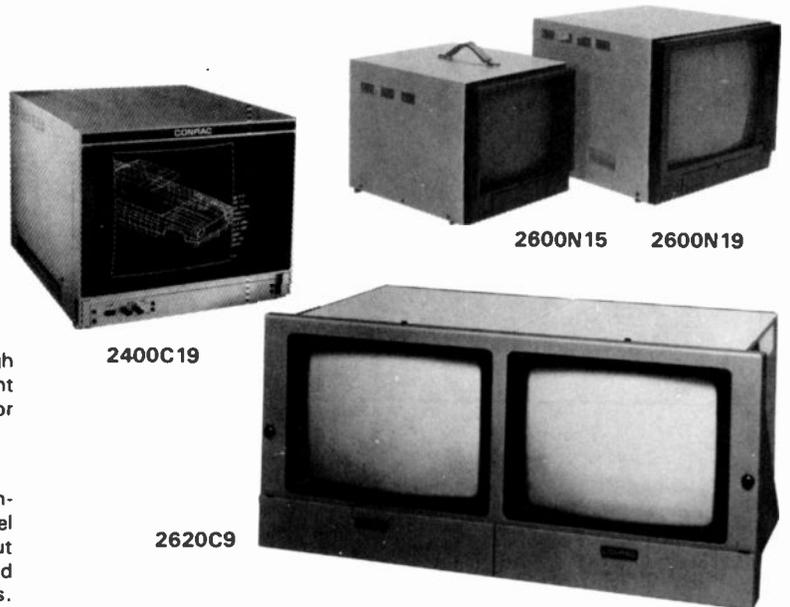
2680C9 \$1695.00
 2680N9 1585.00

2600 Series 15"/19" Low to High Resolution Monochrome Monitor

- 15" and 19" CRT sizes
- 800 line resolution
- 25MHz video bandwidth
- Non-synchronous operation
- Internal/External sync
- Dynamic focus
- Differential video input
- Modular electronics
- Back porch clamp (jumper select sync tip)

The 2600 Series monochrome raster scan monitors for broadcast, computer display, medical and other high resolution applications. Premium components, excellent geometry and linearity, and careful craftsmanship provide for consistently superior display quality.

2600N15 Chassis only \$1295.00
 2600NR15 Chassis only (from rackmount model) . . . 1395.00
 2600C15 Cabinet 1395.00
 2600N19 Chassis only 1495.00
 2600NR19 Chassis only (from rackmount model) . . . 1595.00
 2600C19 Cabinet 1595.00



2400C19

2600N15

2600N19

2620C9

2400 High Resolution Monochrome Raster Scan Displays

- 1280 horizontal x 960 vertical pixels, at 1225 line scan resolution
- 19" diagonal, 90° deflection, 19V CRT
- 50 fL calibration, 150 fL maximum
- 50Hz to 40MHz, -3dB video bandwidth
- 15kHz-37kHz interlaced or non-interlaced. Up to 3 selectable line rates optional—525/60, 875/60, 1024/60, or customer specification

The 2400 is ideally suited to applications requiring a high resolution, high performance monochrome display. Such demands may be found in computer-aided design (CAD), computer-aided manufacturing (CAM), medical imaging, process control and similar sophisticated systems.

2400 C19 19" Cabinet model (plastic) \$3225.00
 2400 C19 19" Cabinet model (metal) 3495.00
 2400 R/S19 19" Rackmount with slides 3225.00
 2400 N19 19" Chassis only 3045.00

QQA Series High Resolution Monochrome Monitors

- 3 switch-selectable preset line rates, from 500-1225 lines, internally adjustable
- Locks to any field rate, from 37 to 60 fields per second
- Variable aspect ratio; width and height controls are continuously adjustable to provide a range sufficient to adjust from a full to a square raster
- Differential video input to minimize hum and other extraneous pickup on long video cables
- Accepts composite video or non-composite video plus separate composite sync
- Dynamic focus
- Linearity within ± 1.5% of picture height
- DC restoration: Keyed sync tip, keyed back porch, or zero DC restoration may be selected
- Video bandwidth flat within ± 1dB to 30MHz
- Video polarity inversion, switch selectable from the front panel, option
- Separate horizontal and vertical sync input option

The QQA series high resolution monitors are used widely in such applications as medical X-ray, displays of varying scan rates, document viewing, high resolution television, and display of computer-generated images.

QQA15/C 15" Cabinet model \$3490.00
 QQA15/RS 15" Rackmount with slides 3570.00
 QQA15/N 15" Chassis only 3260.00
 QQA17/C 17" Cabinet model 4335.00
 QQA17/RS 17" Rackmount with slides 4435.00
 QQA17/N 17" Chassis only 3970.00

Prices and Specifications Subject to Change Without Notice.



CONRAC

COLOR MONITOR SYSTEM

6545/6550 Micromatch™ Color Monitor System

- Automatic setup with 6550 Micromatch Photometer
- Soft-touch user controls
- SMPTE "C" Phosphors (Colormatch™)
- Beam current feedback and comb filter
- Auto-sensing of NTSC and PAL B signals
- 13" or 19" in-line dot matrix CRTs
- Selectable RGB or decoder inputs

Designed for the professional studio environment, its advanced technology sets standards in performance, stability and operation. Critical evaluation of broadcast signals, color balancing and matching, animation and graphics are among the many uses.

Available in 13" and 19" screen sizes. For ready access and convenience, all user controls are mounted on the front panel. The 6545 is set up at the factory to match broadcast standards, however, if you desire to change the factory default settings to better fit your environment or professional preferences, just use the soft-touch controls. Your new settings can be stored in memory, and by using Conrac's exclusive 6550 photometer, new settings can be duplicated on other 6545 monitors in just a few seconds—automatically. Whether you use default settings or your own, patented signal processing circuitry assures unequalled stability.

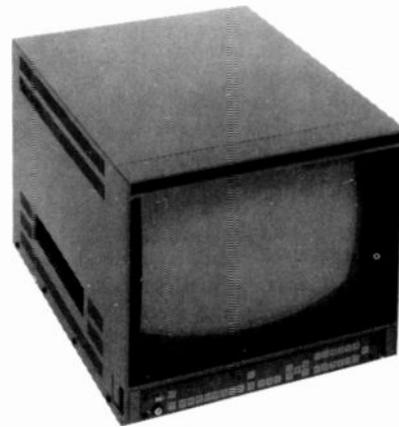
Front panel controls provide convenient, quick and precise control of all critical parameters, soft-touch controls and accurate digital electronics replace tricky knobs and potentiometers.

The parameters of the display are stored in two areas of working memory. Initially, one memory area contains the factory presets (default) and these parameters are used at power-up. The other memory area is your "working" memory which changes at the touch of a front panel control. At any time, you can store your working settings into default memory (replacing the factory settings) for future reference as you adjust the 6545, and other 6545s, to suit your application. When desired, the front controls can be locked out preventing unauthorized entry to the memory settings. Some controls can be operated remotely via a rear panel jack.

Specifications

Visual Performance

Resolution:	> 800 TV lines
Linearity and Geometry:	± 1.5% of raster height
Black Level Stability:	< 1% change of peak luminance from 10% to 90% APL
Raster Size Stability:	< 0.4% change from 0 to 100% APL at 20fL peak luminance
Max. Usable Brightness:	60 fL with a sine ² window
Interlace:	2:1 > 90%
Aspect Ratio:	4:3
CRT Type:	13V or 19V precision-in-line gun, dot mask, clear faceplate
Pitch:	13V: 0.31mm 19V: 0.44mm



6545C19



6550



Phosphor Colorimetry:	American Standard Phosphors (Colormatch)		
Chromaticity	Phosphor	X	Y
Coordinates (± 0.005 Tolerance):	Red	0.630	0.340
	Green	0.310	0.595
	Blue	0.155	0.070
Convergence	Display Portion	13V	19V
Max. Deviation (mm):	Center circle = height	0.5	0.5
	Elsewhere	0.7	0.9
Color Stability:	Photometer readings of red, green and blue displays show differential variations of less than 1% over a 500-hour period. The color temperature of white does not change by more than one MPCD (Minimum Perceptible Color Difference) unit between monochrome and color input signals		
Protection:	High voltage shut-down with loss of horizontal or vertical deflection		
Frequency:	47-63Hz		
Power:	200W max.		
Weight:	13"	75 lbs.	
	19"	85 lbs.	

Options

Component video (special quote)	
6545RS19	19" monitor with rack slides and bezel \$5565.00
6545C19	19" monitor with cabinet \$565.00
6545Y19	19" monitor with cabinet and ceiling or pedestal mount capability \$615.00
6545RS13	13" monitor with rack slides and Bezel \$375.00
6545C13	13" monitor with cabinet \$295.00
6545Y13	13" monitor with cabinet and ceiling or pedestal mount capability \$425.00
6550	Micromatch Photometer (optional) \$1795.00

6129AHK Post-Production Switcher

Six Levels of Video:

- Background level
- Level 1 (A Bus)
- L2 (C Bus)
- Insert Chroma key (option)
- DSK matte
- DSK insert/outline (option)

Effects Generator:

- Two ME systems
- 32 patterns (standard) for ME1
- 32 patterns (option) for ME2
- ME2 shares ME1 generator when second pattern option not installed
- Each ME system has keyer
- MIX/WIPE with independent MIX and WIPE in each ME system
- Symmetry, Hard/Soft, Borders, Positioners

Chroma Keying:

- RGB Chroma keyer standard uses buses for video
- Second Chroma keyer RGB or Encoded (option) has separate encoded input and is an additional video level
- 2 modes switch in, with background fade out or dissolve foreground in

Luminance Keys:

- 2 keyers on in each ME system Wipe key, Mix key, Mask key
- Downstream key (matte)
- DSK with shadow and border (option)

Pulse Drive System:

- Inputs: Sync and Subcarrier (360° adj.) PAL requires additional Blanking & B. Gate
- Genlock Sync Generator (option) Auto change-over on loss of inputs

Signal Processing:

- Blanking processor
- Test Mode for system timing
- Dual clamps on all video inputs
- Master Fade to Black

Video Inputs:

- 8 looping primary
- 2 external ME key inputs
- 4 inputs for optional DSK
- RGB and ENC for optional Chroma key
- RGB for standard Chroma key

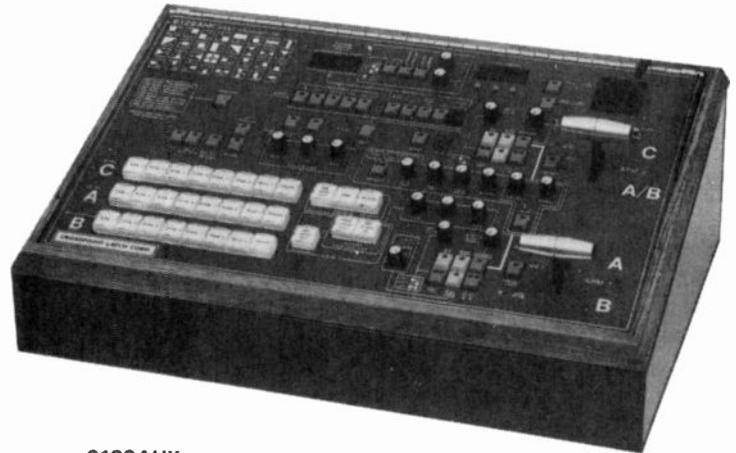
Downstream Keyers:

- 2, standard matte keyer optional matte or insert keyer with drop shadow and outline (outline only in matte mode)
- 4 input selector for optional DSK

Colorizers:

- Three, one background, two for borders (one border colorizer for DSK fill)

Over a background video signal, the 6129AHK can insert two video signals each with a different pattern, a chroma key between the two pattern levels, a matte DSK over that, with a second DSK having border and drop shadow capability (insert or matte key) over the entire combination. Its Insert Chroma keyer is an additional video input which permits foreground dissolve-in or background dissolve-out. Each Mix-Effects system has its own keyer which can be wiped, masked, or mixed in. Fader arms can be delegated to Effects transitions, Chroma keyer, DSK and Fade to Black. All fader arm operations can be controlled by 0-999 Frame auto transitions, GPI or Panel triggerable (Five ramps).



6129AHK

Automation is very sophisticated. Two modes, five independently triggerable, resettable ramps with different durations, and 100 Sequences which can run all stored analog functions smoothly between Events (border color, positioner, symmetry etc.) Automated effects can be controlled from Editor.

Specifications

Video Inputs:	8, looping
Signal-to-Noise:	> 65dB
Crosstalk:	> 53dB
Path Difference:	± 1°
Differential Phase:	< 1°
Differential Gain:	< 0.04%
Tilt:	< 0.25%
Power:	110/220V, 70W
Black Burst Outputs:	4
Genlock Inputs (option):	1
Pulse Inputs:	Sync, subcarrier (PAL requires Burst Gate and Blanking)
Weight:	45 lbs.
Dimensions:	Control panel table mount— 20.5" x 12.5"—3.5" front 7" rear Rackmount: 19" x 12.5"—3.5"D Electronics: 19" x 7"—20"D

6129AHK \$10,995.00

Options

PCC1001846	Editor module (specify editor) Smart Interface	\$1,500.00
PCC1001731	Convergence Interface	1,500.00
PCC1001193	Insert Chroma keyer (RGB)	1,675.00
PCC1000695	Insert Chroma keyer, encoded	1,675.00
PLA9000510	Downstream keyer, outline, drop shadow ..	1,995.00
PCC1001695	Genlock Sync Generator NTSC Version ..	1,000.00
PCC10002322	Genlock Sync Generator PAL Version	1,000.00
PCC1001314	Second Pattern Generator	1,087.00
PCC1002386	Next Event Preview	1,200.00
	Stereo Audio follow, seven inputs; (6800); Auto Disc (7215)	
PCC1002433	16 video inputs	1,995.00

CROSSPOINT LATCH CORP.

SWITCHERS/ INTERFACE UNIT

8200 Dual TBC Full Switcher

• 5 input video switcher with 2 built-in TBC's • 2 levels of keys (1 insert key one matte key) • Mix key, wipe key, mask key and Mosaic key • 16-line windows on TBC's with digital effects • 8-bit luminance and two 6-bit chroma channels • Mosaic, posterization, push, pull and slide • Separate outputs for each TBC • Blanking processor and test mode for timing • 12 wipe patterns with joystick positioner • Variable soft edges, colored borders • Auto transitions GPI triggerable • Background colorizer • Genlockable sync generator (RS170A) • 4 blackburst outputs • 2 advanced blackburst outputs • 2 advanced sync outputs • 2 input audio mixer • Audio follow and breakaway

8200 \$ 9,795.00

Accessory Models

6045 Color Bars and RGB Chroma Keyer \$ 895.00
 6065 Encoded Chroma Keyer 1,428.00
 6053 BVE800 Trigger Box 175.00
 6800 Stereo Audio Follow Mixer 3,623.00
 6061 Expansion Pattern Generator
 (32 matrix patterns) 1,800.00
 8200C Super VHS TBC's, Composite Switcher 10,995.00

7282 Editor Interface Unit

This option allows the 8200 to communicate serially with editors or computers and to perform frame accurate transitions under editor control. RS232/RS422.

7282 \$2,995.00

Parallel to Serial Converter (PCC-1002370) 895.00

6112 Production Post-Production Switcher

• 8 inputs, 4 buses • 2 mix effects systems • 12 patterns on each ME • Wipe, mix, mix/wipe modes • 2 positioners • Downstream keyer with matte and insert key modes • Downstream keyer accepts external border input • Pattern modulator • Bordered wipes • Adjustable soft edges • Chroma keyer can be switched into either ME system • Each ME has internal, external and chroma keyer • Blanking processor

6112 \$7,995.00

Accessory Models

6029 Genlock Unit \$1,000.00
 6800 Stereo 7 Input Audio Mixer 3,623.00
 6700 RGB Matrix Switcher 1,500.00
 RGB Chroma Keyer 1,675.00
 Encoded Chroma Keyer 1,675.00

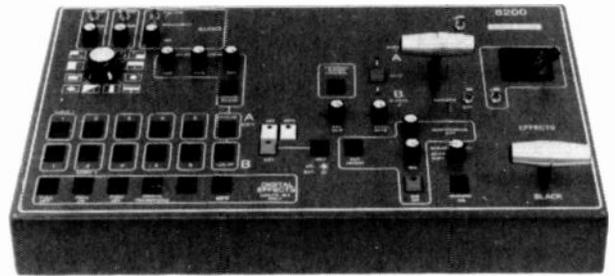
6109 Production Switcher

• 3 buses, 7 inputs • 32 patterns • RGB chroma keyer • Auto transitions GPI triggerable • Downstream keyer with matte and insert modes • Automatic preview • Pattern modulator • Colorizer • Colored borders • Variable soft edges • Blanking processor

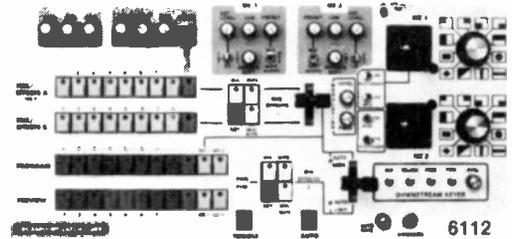
6109 \$6,995.00

Accessory Models for 6109

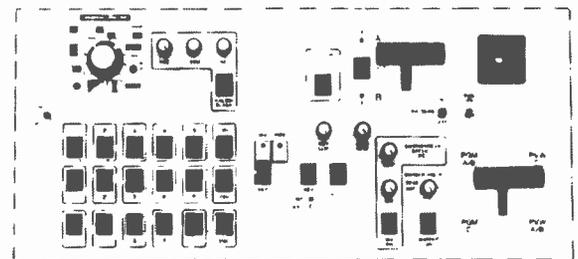
6029 Genlock Unit \$1,000.00
 6800 Stereo 7 Input Audio Mixer 3,623.00
 6700 RGB Matrix Switcher 1,500.00
 7209 Computerized Option 3,105.00
 Editor Interface Boards (7209) 1,500.00
 Genlock 1,000.00
 Second Chroma Keyer
 (RGB or Enc) 1,675.00



8200



6112



6119

6700 RGB Matrix Switcher

• 8 sets of 3 inputs • Designed to switch RGB signals for chroma keyers • Follows inputs on 6112, 6124, 6139 switchers

6700 \$1,500.00

6119 Compact Self Contained Production Switcher

• Built-in genlockable sync generator (RS170A in genlock mode) • 5 inputs, 3 buses • 2 levels of keying • Master fade-to-black • Auto transitions GPI triggerable • 12 wipe patterns with true joystick positioner • Variable soft edges • Adjustable colored borders • Colorizer • Dissolve to a split screen • Key invert on DSK • 2 fader arms • 4 black burst outputs • Test mode for system timing

6119 \$2,995.00

Accessory Models

6045 Color Bars and RGB Chroma Keyer \$ 895.00
 6065 Encoded Chroma Keyer 1,428.00
 6053 BVE800 Trigger Box 175.00
 6800 Stereo Audio Follow Mixer 3,623.00
 6061 Expansion Pattern Generator
 (32 matrix patterns) 1,800.00

Editor Interface Unit

This option allows the 6119 to communicate serially with editors or computers and to perform frame accurate transitions under editor control RS232/RS422.

PCE 1002150 \$2,850.00

Accessory Model

6055 Parallel to Serial Converter 895.00
 (For Convergence editors only. Must accompany PCE 1002150.)

PZM®, PCC®, GLM™ and CM Microphones and Accessories

PZM (Pressure-Zone Microphone) works on a principle of sound detection, utilizing the pressure zone at an acoustic boundary to eliminate phase-cancellation problems common to other microphones.

The active element in a PZM mike is an electret-condenser capsule, mounted so it faces the boundary and lies within the pressure zone. All incoming sound is received free of coloration caused by phase interference between direct and reflected sound. The sound pickup pattern of the PZM is hemispherical with no axis.

The PZM family of microphones will reproduce sound levels up to 150dB without distortion. Whispered conversations thirty feet away are clearly reproduced.

The GLMs (Great Little Microphones) are miniature condenser microphones of professional quality. They attach to musical instruments or clothing for sound reinforcement and recording. A full line of mounting accessories is available.

PZM-30RB, 30RG Studio PZM, 5" x 6" boundary plate, black or gold, XLR connector. Emphasized high-frequency response \$349.00

PZM-30FS Studio PZM with flat high end. 6" x 5" silver-colored boundary plate, XLR connector349.00

PZM-6RB, 6RG Low-profile PZM for conference or plexiglass panel. Emphasized high-frequency response, 2 1/2" x 3". Male XLR connector on 15' cable, black or gold.349.00

PZM-6FS Low-profile PZM, flat high end. Silver-colored boundary plate, 2 1/2" x 3". Male XLR connector on 15' cable349.00

PZM-20RG Mounts flush with a table, or in a standard 4" x 4" electrical box. Built-in electronics adapt the unit for phantom powering.319.00

PCC-160 Supercardioid surface-mounted microphone for stage floors, lecterns, and news desks. Increases gain-before-feedback and rejects unwanted sounds to the rear. Male XLR connector on 15' cable275.00

PH-4 48V phantom power supply for all types of microphones. XLR connectors for four mikes. Slave units (PH-4S) can be daisy chained for up to twenty PZM mikes per system. 12" x 7 1/10" x 1 3/4". Ears available for rackmounting. Operates on 120 or 240VAC189.00

PZM-180 Table-top, handheld or adaptor-mounted microphone. Built-in power supply interface, phantom power or internal battery. Fiber-reinforced high-impact plastic body and boundary. 7" long. XLR connector189.00

PZM-12SP Black, phantom only139.00

GLM-100 Miniature omnidirectional condenser microphone. High SPL capability; reduced pickup of handling noise and wind noise. Male XLR connector on 8' cable199.00

GLM-100/E Comes without connector for connection to a wireless mike transmitter98.00

GLM-100/ENG Miniature omnidirectional electret-condenser microphone. Battery or phantom powered. Wide, smooth frequency response (80Hz-15kHz). Includes tie mount and two styles of windscreens for outdoor use239.00

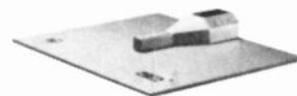
GLM-100/D Low profile. Dual lavalier omnidirectional condenser microphone. Wide-range frequency response (50-18kHz). Very high overload level (150dB SPL) and very low vibration pickup379.00

GLM-200 Miniature hypercardioid condenser microphone. Increases gain-before-feedback; reduces pickup of leakage, background noise and room acoustics. Male XLR connector on 8' cable229.00

GLM-200/E Comes without connector for connection to a wireless mike transmitter (through a bass-boost interface)110.00

GLM-200/D Low profile. Dual lavalier unidirectional condenser microphone. Rejects background noise and room acoustics.429.00

GLM-OHM Boom stand mount. Boom arm length is 60"; boom diameter is 1/4"49.00



PZM-30R



CM-200



PZM-6R



PCC-160



PZM-180



PH-4



PZM-20R



GLM-100

CM-100 PZM® Hand-held mike for stage vocals. Natural sound. Omnidirectional. Extremely low handling noise and pop. Lo-Z balanced. \$189.00

CM-200 Hand-held cardioid condenser mike for stage vocals/instruments. Smooth, articulate sound. Very low handling noise and pop. Lo-Z balanced209.00

CM-300 Differoid™ Hand-held differential condenser mike for stage vocals. Cardioid. Warm, crisp sound. Extremely high gain-before-feedback. Lo-Z balanced259.00

Add \$50.00 for wood handles for CM select series mikes.

Sound Grabber Black, Hi-Z, built-in battery power supply . . . \$ 99.00

PH-4S Slave unit for PH-4119.00

PH-1 Single channel battery phantom unit69.00

A240 2' x 2' boundary99.00

ASA1 Mike stand adaptor15.00

RMP Kit Rack ears for PH-4 or PH-4S.15.00

CM-1 Video camera mount accessory for Sound Grabber use with ASA120.00

WS-1 Windscreen for PCC-16029.00

GLM-DM Mounts a GLM to a drum4.50

GLM-CM Mounts a GLM to a cymbal.29.00

GLM-TM Mounts a GLM to a tie or garment7.00

GLM-TT A "tie tac" accessory for GLM.4.50

GLM-UM Universal clip GLM accessory7.50

GLM-HM Mounts a GLM to a horn.16.50

GLM-WS2 GLM windscreen4.50

GLM-SM Surface mount accessory.7.00

GLM-SP Stick pin mounting accessory7.00

PZMicrophone®, PZM, Pressure Zone Microphone, PCC and Phase Coherent Cardioid are registered trademarks, and GLM™ is a trademark of Crown International, Inc.



Micro-Tech® 600, 1200, Macro-Tech™ 600, 1200, 2400, 10,000 Stereo Power Amplifiers

The Micro-Tech and Macro-Tech series of amplifiers are miniaturized yet high-technology stereo power amplifiers for professional sound reinforcement and studio monitoring. Each of the amplifiers provides enormous power within a low-profile package (3.5" high).

Patented circuitry allows extreme voltage swings without putting output transistors in series; thus provides lower distortion and greater reliability. Reliability is further enhanced by a redundant power supply. The Micro-Tech uses an "Output Device Emulator Protection" (ODEP) circuit which simulates the output transistors. With this circuit, the amplifier can detect and compensate for overheating and overload. The unit also is protected against output shorts, open circuits, mismatched loads, overall overheating, and high-frequency overloads.

Efficient heat sinking and a self-contained forced-air cooling system prevent overheating and prolong component life. The direction of airflow may be reversed, if necessary to work with the rack cooling system.

The amplifier may be operated in stereo or in mono for more power.

The Macro-Tech versions are similar, with these additions: Extra rugged, aluminum-extruded front panel with rack handles; Front-panel display board with indicators to monitor the protection circuit, signal presence, and overload; Front-panel volume controls; 3-pin balanced inputs; PIP panel for plug-in peripherals; High performance front end.

Micro-Tech 600 (300W/ch into 2 ohms)	\$ 949.00
Macro-Tech 600	1199.00
Micro-Tech 1200 (600W/ch into 2 ohms)	1199.00
Macro-Tech 1200	1449.00
Macro-Tech 2400 (800W/ch into 4 ohms)	1899.00
Macro-Tech 10,000 (10,000W mono 10.5" high)	9995.00

D-75 Single or Dual Channel Power Amplifier

The Crown D-75 power amplifier, requiring only 1 3/4" (4.45cm) of vertical rack space, was designed to operate safely and continuously into a variance of load requirements. The D-75 provides 35W per channel minimum continuous average power (both channels operating) into an 8 ohm load over a bandwidth of 20Hz-20kHz at a rated sum total harmonic distortion that is 0.05% of the fundamental output voltage. The frequency response of the unit varies no more than ±0.1dB from 20Hz-20kHz at 1W into 8 ohms. Features of the D-75 include active balanced inputs, Cannon XLR connectors, an easily accessible mono-stereo switch, and front panel LEDs indicating overloads and signal presence. A special feature of the D-75 is the provision for isolating chassis ground from electrical ground. \$524.00

D-150A-2 Single or Dual Channel Power Amplifier

The Crown D-150A-2 is a single or dual channel power amplifier designed for precision amplification of frequencies from DC Hz to 20kHz. The design of the D-150A-2 provides extremely low harmonic and intermodulation distortion with very low noise. A switch on the rear of the unit allows stereo or mono operation with no internal wiring changes. In the mono mode, the D-150A-2 is capable of a 50V balanced line output. The unit operates on AC current from 120V to 240V. 80W continuous average power per channel into 8 ohms at .05% THD.

The D-150A-2 embodies the simplest and yet most accurate distortion display available in any audio product. The IOC (Input-Output Comparator) senses any form of amplifier non-linear behavior and reports its existence through front panel LEDs. Slew-induced distortion, protection circuit activation, and clipping distortion will all be detected by the IOC circuit at levels below the rated distortion of the amplifier. Thus, the amplifier becomes a valuable tool in the hands of the user to facilitate proper amplifier-speaker-environment matching, as well as a continuous monitor of the purity of the signal reproduction through the amplifier under actual operating conditions \$749.00

DC-300A-2 Single or Dual Channel Power Amplifier

The Crown DC-300A-2 is a single or dual channel power amplifier designed for precision amplification of frequencies from DC to 20kHz, 0Hz-20kHz. The design of the DC-300A-2 provides extremely low har-



Micro-Tech 1200



D-75



DC-300A-2 Series II

monic and intermodulation distortion with very low noise. A switch on the rear of the unit allows stereo or mono operation with no internal wiring changes. In the mono mode, the DC-300A-2 is capable of a 70V balanced line output. The unit operates on AC current from 120V to 240V. 155W continuous average power per channel into 8 ohms at .05% THD.

The DC-300A-2 embodies the simplest and yet most accurate distortion display available in any audio product. The IOC senses any form of amplifier non-linear behavior and reports its existence through front panel LEDs. Slew-induced distortion, protection circuit activation, and clipping distortion will all be detected by the IOC circuit at levels below the rated distortion of the amplifier. Thus, the amplifier becomes a valuable tool in the hands of the user to facilitate proper amplifier-speaker-environment matching, as well as a continuous monitor of the purity of the signal reproduction through the amplifier under actual operating conditions.

The DC-300A-2 contains output protection circuitry pioneered by Crown. This circuitry protects the unit completely against shorted, mismatched, or open loads and completely eliminates the need for DC fuses and mode switches to protect the amplifier. With this unique protection system, the DC-300A-2 can safely drive any speaker load, resistive or reactive, without any fear of harming the amplifier. The speakers can be paralleled with no deterioration of sound quality since changing one load impedance only affects the maximum power available, not the ability of the amplifier to produce clean sound.

The DC-300A-2 has two totally separate direct-coupled amplifier circuits employing dual integrated circuit op amp input stages and silicon transistors in succeeding stages. The DC-300A-2 exhibits essentially flat frequency and phase response down to DC and eliminates thumping from non-symmetrical wave forms. Output stages utilize Crown class AB + B circuitry in which the driver transistors carry the quiescent bias current while the output transistors serve only as boosters which sense and deliver large currents \$1049.00



VIDEO PROJECTION SCREENS

VIDEO PROJECTION SCREENS

Various models available with Glass Beaded or nongloss Mat White surface, both flame retardant and mildew resistant.

TRIPOD MODEL SCREENS

Picture King

- Extra heavy-duty tripod • Spring roller in embossed metal case • Camlok metal roller system • Automatic fabric lock • Automatic leg lock • Extra heavy extruded gable type constructed aluminum legs • Full range height adjustment • Plunger locks for positive stops • Built-in keystone eliminator

Size H x W	Nominal Diag. Size	Glass Beaded	Mat White	Suggested Retail
Picture King				
64" x 84"	100"	11-3125-040	11-3125-330	\$296.00
72" x 96"	10'	11-3145-040	11-3145-330	322.00

MANUAL WALL/CEILING SCREENS

Model B™

- Large, ruggedly constructed screen • No rub, flat back case • Grooved metal rollers on larger sizes • May be hung from wall, ceiling or map rail hooks

Model C™

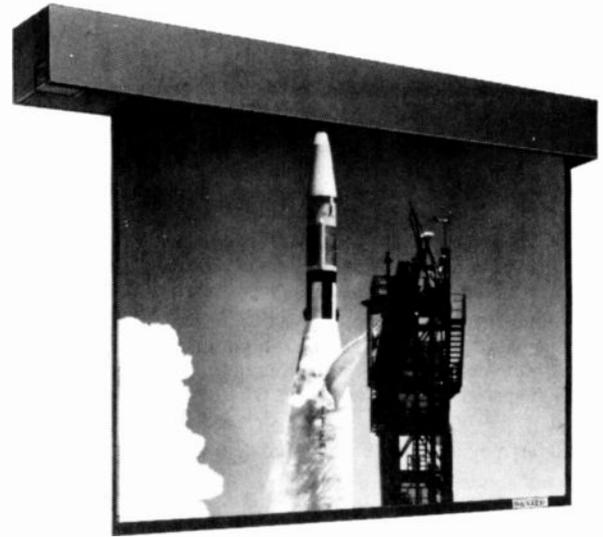
- Floor stand to fit all sizes, optional at extra cost • Slat saddle distributes pull on heavy fabric for easier operation and longer life • Pull cord furnished • Case ball bearing mounted roller ends have sturdy metal supports concealed by heavy-duty end caps designed with built-in brackets for easy installation on wall or ceiling

Size H x W	Nominal Diag. Size	Glass Beaded	Mat White	Suggested Retail
Model B				
64" x 84"	100"	11-7125-040	11-7125-330	\$176.00
72" x 96"	10'	11-7145-040	11-7145-330	210.00
Model C				
64" x 84"	100"	11-9125-040	11-9125-330	\$280.00
72" x 96"	10'	11-9145-040	11-9145-330	290.00

Perm-Wall Screens

- Custom screens • Wall mounting • No legs • No case • Permanent installation

Size H x W	Nominal Diag. Size	Surface	Da-Lite Number	Suggested Retail
45" x 60"	6'	Da-Mat	12-2885-030	\$273.00
45" x 60"	6'	Da-Tex	12-2885-090	287.00
45" x 60"	6'	Pearlescent	12-2885-190	225.00
45" x 60"	6'	Super Wonder-Lite	12-2885-140	230.00
63" x 84"	100"	Da-Mat	12-2925-030	338.00
63" x 84"	100"	Da-Tex	12-2925-090	460.00
63" x 84"	100"	Pearlescent	12-2925-190	361.00
63" x 84"	100"	Super Wonder-Lite	12-2925-140	354.00
72" x 96"	10'	Da-Mat	12-2975-030	400.00
72" x 96"	10'	Da-Tex	12-2975-090	541.00
72" x 96"	10'	Pearlescent	12-2975-190	440.00
72" x 96"	10'	Super Wonder-Lite	12-2975-140	443.00



Senior Electrol

ELECTRIC WALL/CEILING SCREENS

Cosmopolitan® Electrol®

- Whisper-quiet screen with fingertip operation • Picture surface centered • Custom crafted for visual presentations • Walnut grain vinyl covered steel case

Board Room Electrol®

- Picture surface centered • Sturdy wood case • Comes assembled ready for in-ceiling installation

Senior Electrol®

- Automatic electric operation • Heavy-duty motor driven • Complete with three position control switch and metal hangers for either wall or ceiling installation • Strong wood case

Size H x W	Nominal Diag. Size	Glass Beaded	Mat White	Suggested Retail
Cosmopolitan Electrol				
64" x 84"	100"	12-8125-040	12-8125-330	\$647.00
72" x 96"	10'	12-8145-040	12-8145-330	665.00
Boardroom Electrol				
64" x 84"	100"	12-7125-040	12-7125-330	\$1287.00
72" x 96"	10'	12-7145-040	12-7145-330	1300.00
Senior Electrol				
64" x 84"	100"	12-5125-040	12-5125-330	\$1074.00
72" x 96"	10'	12-5145-040	12-5145-330	1083.00

PORTABLE SCREENS

Fast-Fold

- Free standing portable frame • Screen grommeted and suspended in frame on springs • Frame and legs 1" square hard alloy structural aluminum tubing etched and anodized • Frame height adjustable on legs in 6" increments • Folding frame can be tilted for keystone

Size H x W	Nominal Diag. Size	Surface	Da-Lite Number	Suggested Retail
63" x 84"	100"	Da-Mat	12-2091-030	\$ 425.00
63" x 84"	100"	Da-Tex	12-2091-090	611.00
63" x 84"	100"	Pearlescent	12-2091-190	465.00

Reditilt Junior RTJ Life Column

Tripod/Head

- "Quick Change" camera show
- Friction drag screw
- One handle locks pan and tilt simultaneously
- Reversible center post

Load Capacity: 10 lbs.
 Min. Height: 24"
 Max. Height: 52"
 Elevation Adjustment: 16"
 Center Post: 7/8" Dia.
 Leg Diameters: 3/4" x 7/8"
 One Way Tilt Head: ± 90°
 Head Pan Rotation: 360°
 Weight: 2 3/4 lbs.
 Material and Finish: Clear and Black Anodized Alum.

RTJ \$59.00



RTJ

Reditilt Super RTS Lift Column

Tripod/Head

- "Quick Change" camera screw
- Friction drag screw
- One handle locks pan and tilt simultaneously
- Reversible center post

Load Capacity: 15 lbs.
 Min. Height: 31"
 Max. Height: 67"
 Elevation Adjustment: 20"
 Center Post: 1 3/8" Dia.
 Leg Diameters: 1 1/8" x 1 1/4"
 Two-Way Tilt Head: ± 90°
 Head Pan Rotation: 360°
 Weight: 4 3/4 lbs.
 Material and Finish: Clear and Black Anodized Alum.

Reditilt RTS \$112.00



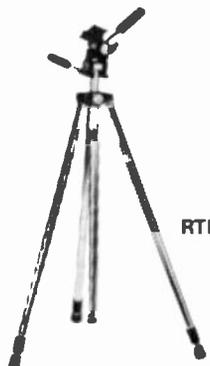
RTS

Reditilt Pro RTP Lift Column Tripod/Head

- "Quick Change" camera screw
- Friction drag screw
- One handle set pan and tilt simultaneously
- Reversible center post

Load Capacity: 10 lbs.
 Min. Height: 31"
 Max. Height: 68 1/2"
 Elevation Adjustment: 18"
 Center Post: 7/8" Dia.
 Leg Diameters: 3/4" x 7/8"
 Two-Way Tilt Head: ± 90°
 Head Pan Rotation: 360°
 Weight: 3 3/4 lbs.
 Material and Finish: Clear and Black Anodized Alum.

RTP \$83.00



RTP

Reditilt Mini-20 RTM-20 Lift Column Tripod/Head

- "Quick Change" camera screw
- Friction drag screw
- One handle sets pan and tilt simultaneously
- Reversible center post

Load Capacity: 10 lbs.
 Min. Height: 20 1/2"
 Max. Height: 53"
 Elevation Adjustment: 12"
 Center Post: 7/8" Dia.
 3 Section Leg Dia.: 5/8" x 3/4" x 7/8"
 One-Way Tilt Head: ± 90°
 Head Pan Rotation: 360°
 Weight: 2 3/4 lbs.
 Material and Finish: Clear and Black Anodized Alum.

RTM-20 \$67.00

RTM-15

Same as above except minimum height 15", maximum height 40"

RTM-15 \$63.00



RTM-20

DRG/F-10

Geared Elevation Tripod/Head

Minimum Height: 30"
 Maximum Height: 64"
 Elevation Adjustment: 18"
 Lift Center Post: 1 3/8" dia.
 Leg Diameters: 1 1/8" x 1 1/4"
 Weight: 5 lbs.
 Material and Finish: Clear and Black Anodized Alum.

DRG/F-10 \$166.00



DRG/F-10

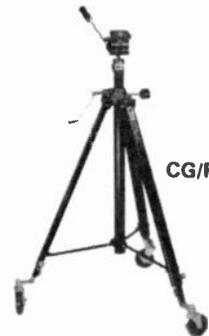
CG/F-10

Geared Elevation Tripod/Head

- Adjustable flat or pointed feet
- Accepts CW-1 slip-on wheels

Minimum Height: 29"
 Maximum Height: 67"
 Elevation Adjustment: 16"
 Geared Center Post: 1 3/8" dia.
 Outer Leg Section: 3/4" x 1 1/2"
 Inner Leg Section: 5/8" x 1"
 Weight: 7 lbs.
 Material and Finish: Clear and Black Anodized Alum.

CG-F-10 \$204.00



CG/F-10

RTM/F-10

Lift Column Tripod/Head

Minimum Height: 28"
 Maximum Height: 65"
 Elevation Adjustment: 20"
 Center Post: 1 3/8" dia.
 Leg Diameters: 1 1/8" x 1 1/4"
 Weight: 4 3/4 lbs.
 Material and Finish: Clear and Black Anodized Alum.

RTM/F-10 \$155.00



RTM/F-10

PSG-34 Geared Elevation Pedestal

Load Capacity: 100 lbs.
 Min. Height: 42"
 Max. Height: 58"
 Elevation Adjustment: 18"
 Geared Center Post: 1 7/8" Dia.
 Weight: 30 lbs.
 Steel Center Column: 4" Dia.
 Base Spread: 32"
 All Swivel Deluxe Wheels: 4" Dia.
 Material: Cast Alum Base Steel Tube Center Post, Black Baked Enamel

PSG-34 \$534.00



PSG-34

PS-34

Same as above except with "Floating Action" spring loaded center post and central wheel brake control \$467.00

PSG-43 Pedestal

Load Capacity: 100 lbs.
 Min. Height: 43"
 Max. Height: 60"
 Elevation Adjustment: 18"
 Geared Center Post: 1 7/8" Dia.
 Weight: 30 lbs.
 Steel Center Column: 4" Dia.
 Base Spread: 30"
 All Swivel Deluxe Wheels: 4" Dia.
 Material: Cast Iron Base
 Finish: Black baked enamel

PSG-43 \$430.00



PSG-43

DOT-X™ CLOSED CIRCUIT VIDEO MONITORS

6VM917

• Professional 6" monitor • 600 lines horizontal resolution • 100% solid-state circuitry • Desktop or console mount design • Fast AFC circuit • 8MHz video bandwidth • Heavy-duty single chassis construction • Continuous DC restoration • Regulated power supply for stable operation • Time-lapse VTR capability • Easy-to-remove chassis assembly • Inter-compartment shielding prevents crosstalk • Coaxial connectors mounted at 60° angle • Front-mounted major controls and adjustments • External sync provisions • Metal cabinet • 7" x 5⁷/₈" x 10⁷/₈" • 8³/₄ lbs.

6VM917.....\$380.00

6VM917T

• Triple-six monitor • Three 6" monitors in a row with rack/desktop metal cabinet • 7" x 17¹/₄" x 10⁷/₈" • 28 lbs.

6VM917T.....\$1060.00

9VM1030

• General purpose 9" monitor • 1000 lines horizontal resolution • Convenient up-front operating controls • Simplified service adjustments • Time lapse VTR capability • Heavy-duty single chassis construction • 100% solid-state circuitry • Fast AFC circuit • Regulated power supply for stable operation • Switchable underscan standard • 7.95" x 8.82" x 11.02" • 13.5 lbs.

9VM1030.....\$205.00

12VM1050

• 12" monitor • 20MHz bandwidth • 1000 lines horizontal resolution • Carrying handles • Switchable underscan standard • Time-lapse VTR capability • Rugged, heavy-duty single chassis construction • 100% solid-state circuitry • Regulated power supply • Fast AFC circuit • Metal cabinet • 10.47" x 11.57" x 12.01" • 18 lbs.

12VM1050.....\$247.00

14VM1060

• Low profile 14" monitor • 20MHz bandwidth • 1000 lines horizontal resolution • Carrying handles • Metal cabinet • Switchable underscan standard • Heavy-duty single chassis construction • 100% solid-state circuitry • Fast AFC circuit • Regulated power supply for stable operation • Time-lapse VTR capability • 10.31" x 15.37" x 12.5" • 24 lbs.

14VM1060.....\$299.00

15VM939

• 15" screen • 100% solid-state circuitry • 1000 line (or better) resolution • Front panel operating controls • Regulated power supply • Plug-in module incorporation of major components • CRT bleeder discharge system • Superior gray scale • Time-lapse VTR capability • Fast AFC circuit • 15MHz video bandwidth • Switchable DC restoration • Complies with federal rules governing X-radiation • Metal cabinet • 10¹/₂" x 15⁵/₈" x 12⁷/₈" • 29 lbs.

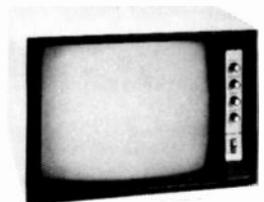
15VM939.....\$570.00

17VM922

• 17" screen • Silicon 100% solid-state circuitry (except CRT) • 800 line (or better) resolution • Front-panel operating controls • Regulated power supply • Fast AFC action for optimum VTR operation • Bleeder discharge systems for CRT • Black



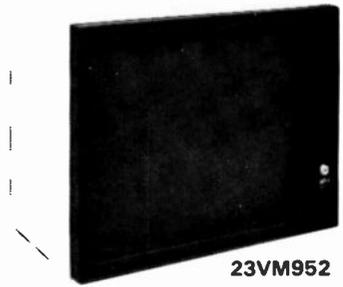
6VM917



15VM939



17VM922



23VM952

porch clamp • 15MHz video bandwidth • Switchable DC restoration • Time-lapse VTR capability • Superior gray scale • All major components; incorporated in plug-in modules • Metal cabinet • 15" x 16¹/₄" x 11⁷/₈" • 33 lbs.

17VM922.....\$674.00

23VM952

• 23" CRT display monitor • Front "slide out circuitry" for reduced down time and on-the-spot servicing • Also permits in-the-wall installation in areas where rear access is impossible • 20MHz video bandwidth • Switchable DC restoration • 800 lines horizontal resolution • Silicon 100% solid-state circuitry • All major controls are front mounted • Power supply is regulated • Superior gray scale and VTR capability • 17³/₄" x 22¹/₂" x 16¹/₂" • 60 lbs.

23VM952.....\$830.00

Rackmounts

9-1030 RMD	Dual rackmount for two 9VM1030 monitors.....	\$60.00
12-1050 RMK	Rackmount kit for 12VM1050 monitor.....	60.00
14-1060 RMK	Rackmount kit for 14VM1060 monitor.....	60.00
15-939 RMK	Rackmount kit for 15VM939 monitor.....	60.00
17-922 RMK	Rackmount kit for 17VM922 monitor.....	60.00
23-952 CYA	Ceiling yoke adaptor for 23VM952 monitor.....	60.00

Monitor Options

Non-switchable underscan available for most models.
P-4 phosphor standard.
Other EIA phosphors available.
190041-00 Adjustable ceiling mount, 360° swivel, includes yoke.



Screens For Wall Or Ceiling

Electrically Operated Screens

Targa—Our most popular electric screen for video projection. Sizes through 15' diagonal. Walnut woodgrain vinyl on steel case mounts easily to wall or ceiling. Motor in roller design permits viewing surface to be centered in case. Smooth, quiet operation.

Envoy—Adds a touch of class to your video presentation. Screen is recessed in the ceiling—invisible when not in use. At the touch of a switch, the automatic ceiling closure opens and the screen appears. Closure may be painted to match ceiling. Sizes through 15' diagonal.

Rolleramic—For really big screen presentations—sizes through 25' diagonal. All-wood case may be recessed in the ceiling or painted to match its surroundings.

Targa—Walnut woodgrain steel case, 57/8" H x 4 3/4" W. Matte white or glass beaded for front projection. (Also available in Cineflex rear or Duoflex dual projection.)

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Matte White or Glass Beaded Price
5'	34.5" x 46.5"	39" x 50"	57"	34	\$586.00
6'	42" x 56.5"	47" x 60"	67"	35	596.00
6 1/2'	48.5" x 65.5"	53" x 70"	77"	40	609.00
7'	48.5" x 65.5"	53" x 70"	77"	40	609.00
8'	58" x 79"	63" x 84"	92"	49	640.00
100"	58" x 79"	63" x 84"	92"	49	640.00
10'	71" x 92"	76" x 95"	103"	55	655.00
11'	76.25" x 104"	81" x 107"	115"	62	697.00
150"	87" x 116"	92" x 119"	127"	65	774.00
15'	104" x 140"	109" x 143"	151"	80	817.00

Envoy—Electric screen with motor-in-roller and automatic ceiling closure. All-wood case is 7 1/2" H x 7 9/16" W

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Price
5'	34.5" x 46.5"	39" x 50"	65"	65	\$1217.00
6'	42" x 56.5"	47" x 60"	75"	70	1232.00
6 1/2'	48.5" x 65.5"	53" x 70"	85"	80	1252.00
7'	48.5" x 65.5"	53" x 70"	85"	80	1252.00
8'	58" x 79"	63" x 84"	99"	90	1268.00
100"	58" x 79"	63" x 84"	99"	90	1268.00
10'	71" x 92"	76" x 96"	111"	95	1274.00
11'	76.25" x 104"	81" x 108"	123"	110	1334.00
150"	87" x 116"	92" x 120"	135"	125	1386.00
15'	104" x 140"	109" x 144"	159"	135	1462.00

Rolleramic—Heavy-duty electric screen. Specify wall or ceiling brackets. All-wood case is 9 1/8" H x 9 1/8" W.

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Price
5'	34.5" x 46.5"	40" x 50"	74"	105	\$1019.00
6'	42" x 56.5"	47" x 60"	84"	110	1031.00
6 1/2'	48.5" x 65.5"	54" x 70"	94"	120	1042.00
7'	48.5" x 65.5"	54" x 70"	94"	120	1042.00
8'	58" x 79"	63" x 84"	108"	135	1055.00
100"	58" x 79"	63" x 84"	108"	135	1055.00
10'	71" x 92"	76" x 96"	120"	145	1065.00
11'	76.25" x 104"	82" x 108"	132"	155	1131.00
150"	87" x 116"	92" x 120"	144"	170	1177.00
15'	104" x 140"	109" x 144"	168"	190	1228.00
200"	118" x 158"	123" x 162"	192"	275	1383.00
20'	140" x 188"	145" x 192"	222"	320	1608.00
250"	148" x 198"	153" x 202"	232"	365	1803.00
25'	176" x 236"	181" x 240"	270"	430	1998.00

Electric Screen Accessories

Extra Drop sq. ft./\$2.50

115V Multiple Station Controls

2-Station \$131.00
3-Station 197.00

Low Voltage Controls

Single Station Control (Basic Package) \$231.00
2-Station Control 308.00
3-Station Control 385.00
Extra Stations ea./77.00
Wireless Transmitter/Receiver (Basic Package Required) 104.00
Extra Transmitters ea./81.00

Key Operated Switches

Power Supply Switch (On/Off) \$ 64.00
3-Position Control Switch 131.00

Video Interface Control 85.00

NOTE: All electric screens are standardly furnished with one 115V control switch.

Manually Operated Screens

Cineperm—Wall-mounting version of Cinefold. 1" tubular aluminum frame installs easily to wall. Snap-on surfaces in flexible matte white or Cineflex are interchangeable for either front or rear projection. Replacement surface can be installed in less than 5 min. in the event of damage. Excellent for bars, discos, etc. Virtually any size, from 7 1/2' diagonal. Call for more information.

Luma—Wall/ceiling screen. Walnut woodgrain steel case 3 1/4" H x 2 7/8" W.

Spring-roller screen available in sizes through 100" diagonal.

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Matte White or Glass Beaded Price
5'	34.5" x 46.5"	39" x 50"	53"	12	\$ 76.00
6'	42" x 56.5"	47" x 60"	63"	14	95.00
6 1/2'	48.5" x 65.5"	53" x 70"	73"	16	120.00
7'	48.5" x 65.5"	53" x 70"	73"	16	120.00
8'	58" x 79"	63" x 84"	87"	21	173.00
100"	58" x 79"	63" x 84"	87"	21	173.00
10'	71" x 92"	76" x 96"	99"	24	208.00

Luma 2—Similar in design to the Luma. Luma 2 is built with heavy-duty components for ease of operation and longer life. Available in sizes from 10' through 15' diagonal. Case in walnut wood-grain steel is 5 3/16" H x 4 3/4" W.

Nominal Diagonal	Viewing Area	Overall Size	Case Length	Shipping Wt. (lbs.)	Price
10'	71" x 92"	76" x 95"	99"	39	\$286.00
11'	76.25" x 104"	82" x 107"	111"	45	318.00
150"	87" x 116"	92" x 119"	124"	50	370.00
15'	104" x 140"	109" x 143"	148"	75	486.00
Floor Stand				25	310.00

Floor Stand fits all sizes. Specify whenever ordering a Luma 2 for use with a Floor Stand.

Accessories for Luma or Luma 2

Item	Price
Glass Beaded	\$.315
Cineflex Rear	\$.695
Duoflex Dual Projection	\$.825
Extra Drop	sq. ft./\$ 2.50
16"-25" Adjustable Brackets	21.50
12" Extension Brackets	15.50
6" Extension Brackets	8.00
T-Bar Twist Clips	7.20

Fabric Cut To Size

Prices are per square foot.

Fiberglass Matte White	\$.300
Flexible Matte White	\$.300

Frames of tubular aluminum, wood or steel—by quotation.

Portable Projection Screens

Tripod Screens

Diplomat—World's finest tripod screen. Walnut woodgrain vinyl on steel case. Built-in keystone eliminator. Gabled aluminum legs are held securely in place by Bell Leg Lock. Heavy-duty components throughout. Available in sizes through 10' diagonal. Carrying case available.

Nominal Diagonal	Viewing Area	Overall Size	Shipping Wt. (lbs.)	Matte White or Glass Beaded Price	Carrying Case Price
5'	34.5" x 46.5"	39" x 50"	23	\$176.00	\$27.50
6'	42" x 56.5"	47" x 60"	27	191.00	29.00
6 1/2'	48.5" x 65.5"	53" x 70"	30	210.00	31.00
7'	48.5" x 65.5"	53" x 70"	30	210.00	31.00
8'	58" x 79"	63" x 84"	35	292.00	39.00
100"	58" x 79"	63" x 84"	35	292.00	39.00
10'	71" x 92"	76" x 96"	38	319.00	43.00

Cinefold—Portable projection screen. Folding tubular aluminum frame and legs store in compact ABS carrying case (included). Interchangeable snap-on viewing surfaces in flexible matte white for front projection and Cineflex for rear projection.

Nominal Diagonal	Viewing Area	Overall Size	Shipping Wt. (lbs.)	Matte White Complete Price	Front Screen Surface Only Price
6'	43" x 56"	47" x 60"	43	\$ 286.50	\$105.00
6 1/2'	48.5" x 65.5"	52.5" x 69.5"	44	297.00	114.00
7 1/2'	50" x 69.5"	54" x 74"	45	318.50	118.00
8'	58" x 79"	62" x 83"	49	420.00	139.00
100"	58" x 79"	62" x 83"	49	420.00	139.00
10'	68" x 92"	72" x 96"	51	453.50	172.00
150"	68" x 92"	72" x 96"	51	453.50	172.00
15'	104" x 140"	108" x 144"	70	595.00	237.00
200"	122" x 164"	126" x 168"	78	709.00	447.00
250"†	144" x 192"	156" x 204"	250	2335.00	698.50
25'	180" x 240"	192" x 252"	275	2924.00	1050.00

*Heavy-duty legs are recommended with this size.

†This size requires truss-style construction.

Cinefold Accessories

Item	Price
Heavy-Duty Legs (Pair)	
Instead of T-Legs	\$.126.00
In Addition to T-Legs	\$.212.50
Anti-Sway Stabilizers (pair)	70.00
Extra Handy Cranks	1.00
Extra ABS Carrying Case	
For Complete Unit	135.00
For Surface Only	110.00

ElectraMount

Motorized Ceiling-Recessed Video Projector Mount

- Video projector protector
- Accommodates virtually any ceiling-mounted video projector
- 3-position low voltage switch is standard

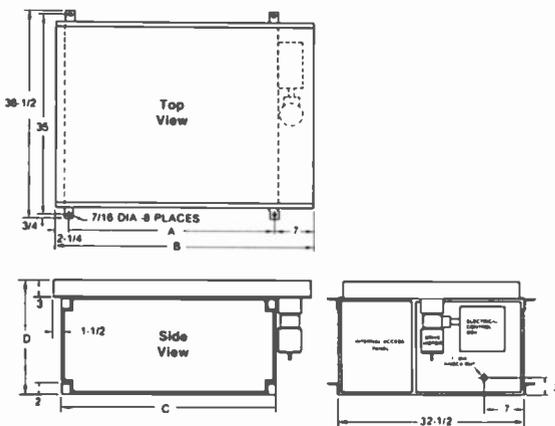
The ElectraMount is the ideal video projector mount. To begin a presentation, touch a switch and watch it descend. After the show, flip the switch and it retracts into the ceiling—safe from dust, smoke, and tampering.

Four models fit almost any video projector. Projector suspends from a steel grid, which is raised and lowered simultaneously with the closure by means of four 1" diameter threaded steel rods. Projector and operating mechanism are fully enclosed in a protective steel housing. The steel ceiling closure is available in off-white baked enamel, or recessed to accept ceiling tile.

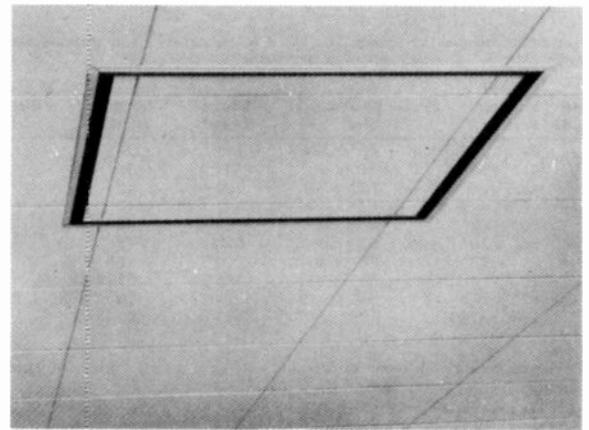
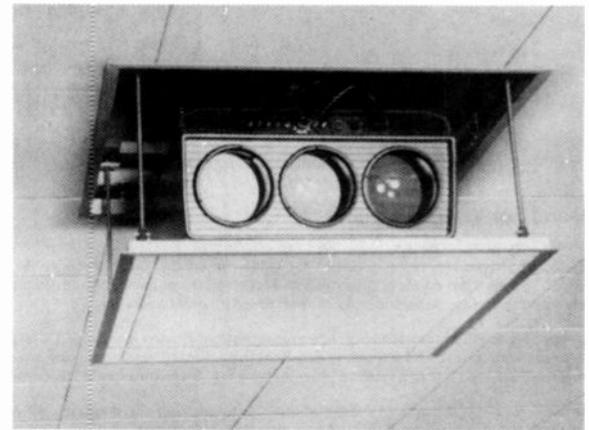
Ceiling-Recessed Video System

Operate the ElectraMount in tandem with a Draper motorized screen using the video interface control. Touch the switch—or optional wireless remote control—and the ElectraMount begins to descend. When it stops, the video projector comes on and the motorized screen descends. At the end of the presentation, flip the switch and the ElectraMount and screen will rise automatically as the projector shuts off. The ElectraMount and any electric screen may also be operated independently using any of Draper's motorized screen controls.

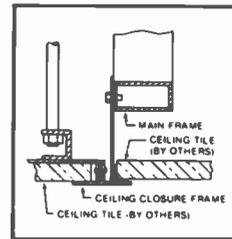
Dimensional Drawings



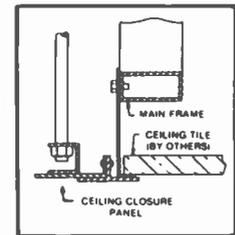
Model	A	B	C	D
S	35 1/2"	44 3/4"	37"	20"
E	43 1/2"	52 3/4"	45"	20"
K	35 1/2"	44 3/4"	37"	26"
J	47 1/2"	56 3/4"	49"	24"



Closure Options



Ceiling Tile



Baked Enamel

	Model S	Model E	Model K	Model J
Max. Projector Size:	12" H x 25 1/2" W x 27" L	12" H x 25 1/2" W x 37 1/2" L	18" H x 25 1/2" W x 27" L	16" H x 25 1/2" W x 41 1/2" L
Overall Dimensions:	20" H x 36 1/2" W x 44 3/4" L	20" H x 36 1/2" W x 52 3/4" L	26" H x 36 1/2" W x 44 3/4" L	24" H x 36 1/2" W x 56 3/4" L
Min. Clearance Above Ceiling:	24"	24"	30"	28"
Ceiling Opening (+ 5/16", -0):	28 1/2" W x 31" L	28 1/2" W x 39" L	28 1/2" W x 31" L	28 1/2" W x 43" L
Ceiling Closure:	29 1/2" W x 32" L	29 1/2" W x 40" L	29 1/2" L x 32" L	29 1/2" W x 44" L
Downward Travel:	12"	12"	18"	16"
Net Weight:	150 lbs.	175 lbs.	165 lbs.	190 lbs.
Shipping Weight:	265 lbs.	275 lbs.	275 lbs.	290 lbs.
Price:	\$2785.00	\$2930.00	\$2930.00	\$3230.00

Extra vertical travel—any amount, up to a maximum (standard plus extra travel) of 48" — \$400.00

Each additional inch of extra vertical travel requires a corresponding increase in clearance above ceiling.



Graphics Factory

Graphics Factory Video Graphics Workstation

Graphics Factory combines the power of a character generator, a paint system, a still store, and a 3-D animation system into a single, integrated unit. Its modular design lets you customize to fit your own specific needs. And as your needs change, Graphics Factory changes with you, with easy hardware and software upgrades.

Designed to produce the highest quality results in the least amount of time, Graphics Factory thrives in a production environment. Its anti-aliased text and graphics exceed the most exacting post-production standards. Yet it is rugged and reliable enough to be at home in a remote truck. It's easy to use, flexible and fast.

Graphics Factory plays back full-color animation in real time, eliminating hours of costly single-frame tape recording. A built-in sequencer and macro programming language make special effects and live presentations a breeze. And true dual user capability gives you the power of two Graphics Factories at your fingertips.

Graphics Factory features two 4:2:2 digital, component frame buffers. With 8M bytes of memory per plane, full-color, pixel by pixel images can be displayed. On board memory holds up to several seconds of fairly complicated animation. Dual Iomega disk drives accept 20M byte cartridges for storing up to 20,000 text pages per disk. Two keyboards, two GVG CV-25N NTSC encoders and a CV-95N sync generator are standard.

There is ample room for plug-in circuit boards to expand memory, enhance speed, or upgrade functions as needs or technology change. Each model builds on the one before.

Model GF-30

A dual channel, true dual user character generator. Each operator controls a single channel, keyboard and status monitor for advanced text functions, typing over full-color backgrounds, and playing back sequences and animations. All functions are available to each user at the same time. And, Dubner's well-known effects and on-line help screens are only keystrokes away. Plus, "K" programming language provides a convenient shortcut for creating and reproducing animated effects. With "K", any sequence of keystrokes can be used immediately or recorded for use later on. GF-30 is the first step toward the most sophisticated graphics tool you'll ever need.

Model GF-40

A dual channel, full-color video paint system. Each independent, display plane has a linear key output. Additional hardware includes painting tablet with pressure sensitive stylus and 4-field, NTSC frame grabber. With workstations for character generation and paint, GF-40 includes the text and animation functions of GF-30, plus color correction, color crawl inhibit, motion elimination and advanced painting system software. All brushes and graphics are anti-aliased. Functions and effects are accessed via the keyboard for on-air use or from on-screen menus using the tablet. Integrating the best features of Dubner's stand-alone paint systems, GF-40's user-friendly design combines the power of paint and text manipulation in a single unit.

Models GF-35/45/55

The Library/Still Store option to turn Graphics Factory into an image archiving and retrieval system, and on-line, two-channel still store. Hardware includes a 300M byte fixed disk, callup panel and full-color frame grabber as required.

Model GF-50

For 3-D modeling, rendering and animation. Hardware includes a special function keyboard and 300M byte fixed disk. The Modeler creates, stores, and edits three-dimensional objects. The Animator groups these objects into scenes and animates them. And finally, the Renderer controls the construction and composition of three-dimensional images. Intensive software design for GF-50 will continue, stretching the standard for excellence in the demanding video production market.

Specifications

Interface

Connections:	Serial I/O	DE-9, RS422 (12)
	SCSI I/O	50 pin disk
	Interface (2)	DB-25
	GIPIB in	DB-25
	GIPIB out:	DB-25
	CPU-1 Term	DB-25
	CPU-2 Term	DB-25
	I, O Proc	DB-25
	Spare Pcrts	DB-25 (3)

Video Inputs:

Genlock	1.0V p-p comp.
Sync	4.0V p-p
Blanking	4.0V p-p
Subcarrier	2.0V p-p

Video Outputs Channel A

Status Monitor	1.0V p-p mono, comp.
Red	0.7V p-p non-comp (2)
Grn	0.7V p-p non-comp (2)
Blue	0.7V p-p non-comp (2)
Red w/Cursor	0.7V p-p non-comp
Grn w/Cursor	0.7V p-p non-comp
Blu w/Cursor	0.7V p-p non-comp
Sync	4.0V p-p (3)
Linear Key	1.0V p-p comp
Hard Key	1.0V p-p comp
NTSC	1.0V p-p comp

Channel B

Status Monitor	1.0V p-p mono, comp.
Red	0.7V p-p non-comp (2)
Grn	0.7V p-p non-comp (2)
Blue	0.7V p-p non-comp (2)
Red w/Cursor	0.7V p-p non-comp
Grn w/Cursor	0.7V p-p non-comp
Blu w/Cursor	0.7V p-p non-comp
Sync	4.0V p-p (3)
Linear Key	1.0V p-p comp
Hard Key	1.0V p-p comp
NTSC	1.0V p-p comp

CCIR-601 Output (opt)

PAL Output (opt)

Power

Consumption:	Mainframe	650W nominal
	Standard keyboard	5W ea.
	Special function keyboard	15W maximum

Power

Requirements: Dedicated 30A service

Power Source: 105-135VAC, 60Hz

Dimensions:

Mainframe	28" H x 19" W x 21 1/2" D
Disk drive frame	3 1/2" H x 19" W x 24" D
Keyboard	2 1/2" H x 21" W x 8 1/2" D

GF-30	.....\$ 55,000.00
GF-35	.....70,000.00
GF-40	.....75,000.00
GF-45	.....85,000.00
GF-50	.....95,000.00
GF-55	.....100,000.00

DPS-1 Video Painting System

- 4, 2, or 1-field NTSC frame buffer • Keyboard and status display
- Tablet • 10M byte omega drive for storage and recall of up to 8 pictures • Color selection: by hue, saturation, and luminance or from the picture; all legitimate NTSC colors allowed • Millions of colors displayable simultaneously • Cut and paste • Targeted color correction: contrast, brightness, hue • Frame averaging • Fill • Motion suppression
- X, Y, Z, tilt, scale and perspective • Pictures in internal memory
- Posterize • Mosaic • Magnify • Compatible with CBG-2 3rd plane
- Brushes: Hard and soft solid, airbrush, transparency (window) soft and hard, square, stamp, luminance, wash, calligraphy, multi-color, soft and hard trim, fuzz, smear; all brushes anti-aliased • Soft stencils, reverse stencil • Emboss • Cropping • Draw lines and curves (anti-aliased) • Color ramps: vertical, horizontal, diagonal, 4-way • Tilt and pressure sensitive stylus • Text generation (anti-aliased)

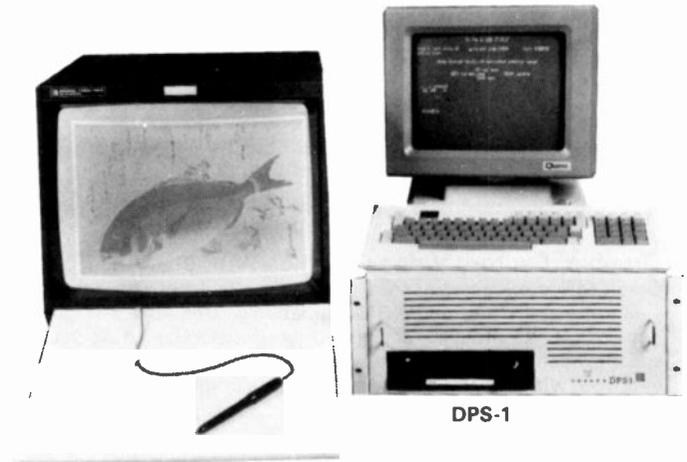
Options

- VTR control • Animation • Larger disk drives

The DPS-1 is a full-color video painting system that grabs images from any NTSC source for storage and modification. For perfect picture quality, the DPS-1 stores and uses all four fields of the NTSC color sequence.

The DPS-1 is based on software innovation that allows the composite NTSC signal to be digitally sampled and manipulated without decoding and re-encoding.

DPS-1\$23,000.00



DPS-1

TBS-20 Turbo Paint System

- + 20 Meg cartridge disk • Image manipulation along the X, Y, and Z axis • Rotate with roll • Pitch and yaw • Perspective moves • Both real time and frame by frame effects • Automatic assembly onto disk
- VTR and still store • Digitizing tablet and Grass Valley Group™ • 9505 sync generator

Options

- 300M byte disk
- 2 gig optical laser disk that stores 2000 stills

The Turbo Paint System incorporates leading edge technology to increase process speed and memory making it more powerful than its small brother the DPS-1 Painter.

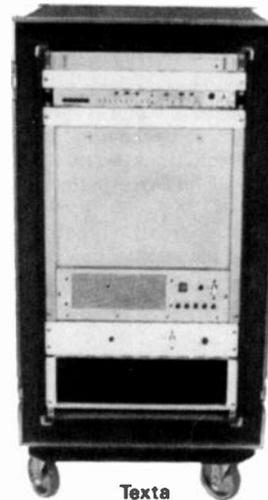
TBS-20\$40,000.00

Texta Video Graphics Generator

- Proportional spacing • 9-speed roll • Crawl and slow reveal • Diagonal typing • 3-D shadows • 64-color logo characters • Scanwipe
- Tumble • Timed roll • Animate any sequence of frames in real time
- Unlimited border and shadow combinations • Optional second channel permits read next previewing, dual user operation, merged output for creating complex imagery and curve drawer software • Options include a Video Digitizer, for creating new fonts and logos, a weather service interface, for receiving hourly satellite pictures and forecasts, and a tablet with pen and four-button "mouse" drawing directly into Texta's display memory • Texta disks are fully compatible with the CBG-1 and CBG-2 and can be used for playback on Dubner's 20-K character generators • Texture mapping on dual channel systems permits design of 3-D objects and "mapping" of a flat Texta graphic onto geometric shapes • Can store over 500 fonts and 20,000 pages of text on twin removable disk cartridges • Full-screen image composition, combining text and a variety of graphic tools: Lines, Grids, Ellipses, Scale, Rotate, Area Fill, and more • Anti-aliasing circuitry generates over 16 million intermediate shades • Palette of 4096 colors
- Texta 500 adds full color NTSC paint system

Texta

400	Single channel Texta—Basic configuration	\$42,000.00
410	Single channel Texta—Studio configuration	48,500.00
420	Dual channel Texta—Basic configuration	49,500.00
430	Dual channel Texta—Production configuration	56,000.00
440	Dual channel Texta—Studio configuration	59,500.00
450	Dual channel/dual user Texta—Studio configuration	62,500.00
460	Dual channel Texta—Graphic configuration	69,500.00
470	Dual channel/dual user Texta—Graphic configuration	72,500.00
480	Dual channel Texta—3-D configuration	89,500.00
490	Dual channel/dual user Texta—3-D configuration	92,500.00
500	Dual channel Texta—3-D animator, NTSC paint system, picture grab and still store	96,500.00



Texta

Options

401-N	GVG CV24N color encoder	\$ 1,500.00
401-C	Cox color encoder	3,600.00
403	Video digitizer/font compose module	5,000.00
404	Merged output	4,000.00
405	Digitizing tablet with pen	6,000.00
406	Preview plane	6,500.00
407	Additional I/O ports	2,000.00
408	Additional keyboard	3,000.00
409	Curve drawer	10,000.00
412-4	Megomem (4M board of RAM)	5,000.00
413	Printer	1,500.00
428	Recall keypad	1,200.00
433	Interface for weather graphics	3,000.00

10-K/20-K Character Generators

- Full function real-time character generators • 30 standard fonts with border and drop shadow edges are included. Additional packages of styles and sizes available on disk. Foreign language fonts and keyboards available • Optional packages of 16 high-resolution typefaces are used to build fonts in any size from 4 to 150 (upper case height) scan lines high • Kerning, spacing, positioning, coloring, and edging—by letter, row or page, with user controllable complete overlap and tuck • Separate background plane for “weaving,” with unlimited weave capability • 256 simultaneous colors, from a total 16.7 million for characters, edges and backgrounds—selectable by palette, RGB, or HSV • Sophisticated digital filtering produces graphics with 16 intermediate shading levels of any color. Both character and edges are generated this way • Complete directories with user comments, selectable by message type • Full sequence control of message time, speed, type, and duration • Alphanumeric message storage, up to 31 digits in any order • Full-color edit output with cursor and adjustable safe-title marks • Integrated sync generator, encoder, and linear downstream keyer • Menu-driven • Separate menu screen output for prompts, error messages, system information and “preview text” • Help key, along with a “help screen display” for every operational key on the keyboard • Recordable tabs and justified tabs (right, left, and center) • Centering and positioning—top, middle, bottom in both horizontal and vertical • Instant italicizing of any font—right or left, in multiple positions • Automatic message retype, with different font, color, or edge • Multiple playback choices—fade, wipe, and reveal, for any message in any sequence • Linear key signal output for anti-aliased fonts • As many as 4 plug-in keyboards • GPI trigger controls sequences • User-formattable disks • 4M bytes of internal memory, allowing approximately 24 fonts and 1,000 text pages on line, depending on size • Anti-aliased and standard fonts • Flash • 40ns start or stop, 80ns minimum width, no maximum (up to full screen). The “apparent resolution” of anti-aliased font is < 10ns • Characters or background colors from 1 to 485° scan lines (full screen) • Horizontal linear adjustment range of -17/+1µs. Phase adjustment continually variable through 360° • Compatibility: Dubner CBG and Texta: Animations and graphics can be transferred to a 20-K cartridge on a 20-K; and to a 10-K diskette on a 10-K equipped with optional lomega drive. Full Color Graphics: CBG Third Plane, Textra 500 and DPS-1 full color images can be converted on a 20-K to a 20-K background with reduced color resolution

Dubner 20-K and 10-K Character Generators are identical systems, except for the disk drive.

The 20-K system includes a 10M byte lomega cartridge disk drive.

Cartridge contains system software and standard fonts. Approximately 10,000 text pages fit on a disk. Background graphics, fonts and animations reduce text storage capacity.

A connector for additional external disk drives is standard. An lomega disk drive connected to a 10-K functions as a 20-K.

The 10-K features a 1M byte 5 1/4" floppy disk drive.

Diskette capacity is 800K. Four diskettes included contain system software, standard fonts and messages. Approximately 1,000 text pages fit on a diskette. Background graphics and animations reduce text storage capacity.

*PAL Specifications available upon request.

Specifications

Video Inputs

Genlocking: 1.0V p-p NTSC black burst or composite video. 4.0V p-p sync and blanking may be used alternatively

Background: 1.0V p-p NTSC composite video for internal keying

Video/Key Outputs

R, G, B: 0.7V p-p non-composite video for use with external encoder or RGB monitor



10-K/20-K

Air:	1.0V p-p character generator NTSC composite video
Edit:	1.0V p-p NTSC composite video with cursor
Mixed:	1.0V p-p composite video with character generator keyed into background. (Linear key with anti-aliased fonts)
Status/	
Preview:	1.0V p-p monochrome video showing status messages or preview of next display
Key:	1.0V p-p keying signal for use with external keyer; composite or non-composite; output is linear (256 steps) for external linear keyers when anti-aliased fonts are used
10-K	\$ 15,000.00
20-K	18,500.00

Options

Presentation Graphics Software

Combines versatile text composition and high resolution fonts with multi-faceted graphical displays. 16.7 million colors to choose from with 256 displayable simultaneously \$2,500.00

K-Dig Digitizer

Hardware/software product for anti-aliased camera capture. 16 level gray scale. Includes font compose software \$4,000.00

K-PNT Painting

Combines the ease of K Series text operation with the artistry of K-Paint design. With an artist's tablet and stylus and K-paint software, this hardware/software option offers a separate interface for using font compose software. Choose 256 colors from a palette of 16 million or match screen color directly for fills and brushes \$5,000.00

5-K Character Generator

• Full resolution font character generator • Included as standard are: floppy disk storage of images and text pages, 256 colors on-screen from the full 16,700,000 possible, and eight regular fonts or four anti-aliased fonts with four sizes each on line for instant access • Gives the operator selection of different colors for the character itself and for its edge and shadow • Sequencing of moves and pages has nine selectable speeds • Animation playback of up to 40 frames from the Dubner Texta or DBG-2 is possible, plus displaying all backgrounds from Texta and CBG-2 • All the pre-packaged Backgrounder programs will run on the Dubner 5-K

5-K \$9,500.00

SERIES 5300 DISTRIBUTION EQUIPMENT

Series 5300 Distribution Equipment mounts in a 5-1/4" x 19" rackmounting frame (13.34 x 48.26 cm). The frame has a total of twenty mounting spaces. Two power supply modules can be used to provide redundant power supply operation. All amplifier modules include "on-board" power regulators, fuses and blown fuse indicators. AC input power is 115/230 VAC \pm 10%, 50/60 Hz.

FR-5300B Frame

Module Mounting Frame. Provides twenty spaces for Series 5300 modules. All modules can be installed without soldering. (Frame shown with modules installed.)

Size: 5-1/4"H x 14-1/4"D x 19"W Net Weight: 9 pounds

PS-5305B Power Supply Module

Power Supply Module. Mounts in FR-5300B Frame and provides unregulated dc for amplifier modules. Requires four spaces in frame. Two power supplies can be installed for redundant operation.

AD-5370B 5 Output Audio Distribution Amplifier Module

High performance audio distribution amplifier module. Indefinite short circuit protection. Can be used in same frame with other Series 5300 modules.

DA-5310B Dual 1 Input 2 Output Video Distribution Amplifier Module

Video Distribution Amplifier Module for high performance video systems. Two identical amplifier sections on one module, each providing 1 terminating input to 2, 75 ohm outputs. Equalization available for up to 1000 ft. (305 m) of cable.

DA-5310B/10A Video DA, Non Equalized

DA-5310B/11A Video DA, Equal., Belden 8281, Unbal. In.

DA-5310B/21A Video DA, Equal., WECO 16 PEVL, Bal. In.

DA-5310B/22A Video DA, Equal., WECO 760, Bal. In.

DA-5320B 5 Output Video and Subcarrier Distribution Amplifier Module

Video Distribution Amplifier Module for high performance video systems. Sync-Tip reference maintains dc level with changing APL. Equalization available for up to 1000 ft. (305 m) of cable.

DA-5320B/10A Video DA, Non-Equalized

DA-5320B/11A Video DA, Equal., Belden 8281, Unbal. In.

DA-5320B/12A Video Equalizer, 30MHz

DA-5320B/21A Video DA, Equal., WECO 16, PEVL, Bal. In.

DA-5320B/22A Video DA, Equal., WECO 760, Bal. In.

DA-5330B 10 Output Video and Subcarrier Distribution Amplifier Module

Video Distribution Amplifier Module for high performance video systems. Sync-Tip reference maintains dc level with changing APL. Equalization available for up to 1000 ft. (305 m) of cable.

DA-5330B/10A Video DA, Non-Equalized

DA-5330B/11A Video DA, Equal., Belden 8281, Unbal. In.

DA-5330B/21A Video DA, Equal., WECO 16 PEVL, Bal. In.

DA-5330B/22A Video DA, Equal., WECO 760, Bal. In.

DA-5340B 4 Output Video Distribution Amplifier Module

4-Output Video Distribution Amplifier Module and Frame Adaptor for high performance video systems. 1 high impedance looping input and 4, 75 ohm outputs provided.

EQ-5350 Post-Equalizing Amplifier Module

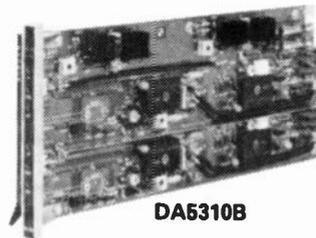
Post-Equalizing Amplifier Module. Provides up to 24dB of equalization at 8 MHz. Will equalize up to 3000 ft. (914.4m) of Belden type 8281 cable or 5000 ft. (1524 m) of WECO 16 PEVL. Provides 2,75 ohm outputs.

EQ-5350B/51A Post-Equalizing Amp., Belden 8281, Unbal. In.

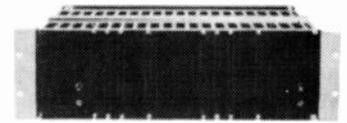
EQ-5350B/61A Post-Equalizing Amp., WECO 16 PEVL, Bal. In.

LA-5353B Unbalanced to Balanced Line Amplifier Module

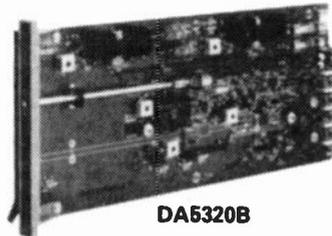
75 ohm unbalanced input, 124 ohm balanced line driving amplifier module. Available with pre-equalization for up to 2500 ft. (762 m) of WECO 16 PEVL cable to provide 7500 ft. (2286 m) equalized circuit when used with EQ-5350B/61A.



DA5310B



FR5300B



DA5320B



DA5330B
5300 Series

LA-5353B/10A Line Amplifier, Non Equalized

LA-5353B/22A Line Amplifier, Equalized, WECO 760

LA-5353B/41A Line Amplifier, Equalized, WECO 16 PEVL

PD-5360B 5 Output Pulse Distribution Amplifier Module

Pulse Distribution Amplifier Module for high performance video systems. Regenerative input, linear output with controlled, adjustable, rise time. Front panel input pulse presence indicator. Normal output with up to 1000 ft. (305 m) Belden 8281 input cable.

Series 5300 Blank Filler Panels

BP-5390A Blank Filler Panel. Mounts in FR-5300B Frame and fills one unused amplifier space. Net Weight: 4 oz.

BP-5391A Blank Filler Panel. Mounts in FR-5300B Frame and fills two unused amplifier spaces. Net Weight: 5 oz.

BP-5392A Blank Filler Panel. Mounts in FR-5300B Frame and fills four unused amplifier spaces. Net Weight: 6 oz.

CC-5398A Power Supply Service Cable

Power Supply Service Cable. Allows power supply to be extended from frame for maintenance.

CE-5396A Module Extender

Module Extender for all Series 5300 modules (except power supply). Allows modules to be extended from frame for maintenance. Net Weight: 2 lbs.

CN-9860A Cable Mating Connector

Cable Mating Connector. For use with Western Electric type 760 or equivalent 124 ohm balanced cable. Mates with Trompeter BJ-77.

CN-9861A Cable Mating Connector

Cable Mating Connector. For use with Western Electric type 16 PEVL or equivalent 124 ohm balanced cable. Mates with Trompeter BJ-77.

FA-5308A Frame Adaptor, Power Supply, 18" Power Cord

FA-5309A Frame Adaptor, Power Supply, 72" Power Cord

FA-5315A Frame Adaptor, Unbal. In.

FA-5316A Frame Adaptor, Bal. In.

FA-5335A Frame Adaptor, Unbal. In.

FA-5336A Frame Adaptor, Bal. In.

FA-5345A Frame Adaptor, Unbal. In.

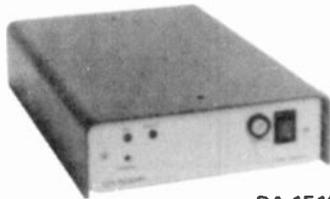
FA-5355A Frame Adaptor, Unbal. In.

FA-5356A Frame Adaptor, Bal. In.

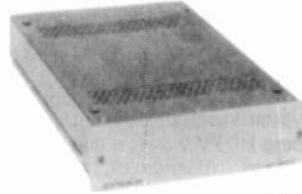
FA-5357A Frame Adaptor, for 1 x 5 Audio

FA-5375A Frame Adaptor, Audio

SP-5359A Transient Protection



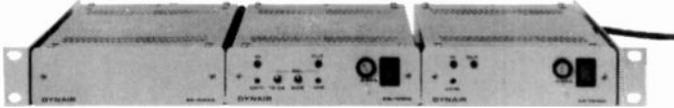
DA-1510B



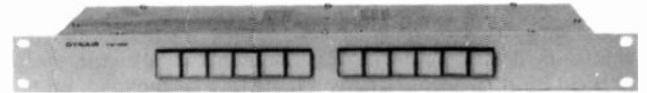
BP-1502B



SW-1540B



FR-1500A



VS-12D

SERIES 1500 VIDEO DISTRIBUTION AMPLIFIERS

Series 1500 distribution and switching products may be used as self-contained, standalone units for desktop or custom mounting. For rack-mounting applications, units can be installed in the FR-1500A rackmounting frame which occupies only 1 3/4" (4.45cm) of standard 19" rack space. All units are equipped with BNC type signal connectors unless otherwise noted. Mating connectors are not included.

DA-1510B

Video Distribution Amplifier. Provides four isolated 75 ohm source terminated outputs from one high impedance looping input.

- Input: 75 ohm unbalanced, high impedance looping, 1V p-p, BNC connectors
- Outputs: 4, 75 ohm source terminated, 1V p-p, BNC connectors
- Gain: Adjustable ± 3 dB
- Frequency Response (ref. 1MHz): 100kHz-10MHz: ± 0.5 dB; 30MHz: +1, -2dB
- Tilt: < 1% line or field
- Differential Gain: 0.25% at 5MHz, 10-90% APL, 1V p-p output
- Differential Phase: 0.25° at 5MHz, 10-90% APL, 1V p-p output
- Hum and Noise: 65dB RMS below 1V p-p, 10MHz bandwidth
- Size: Module only, 1 1/16" H x 5 3/4" W x 9" D (4.32 x 14.61 x 22.86cm); mounted in MB-1504A deskmount, 2" H x 6" W x 9 1/4" D (5.08 x 15.24 x 23.50cm)
- Power: 115-230VAC $\pm 10\%$, 50/60Hz
- Net Weight: 2 1/2 lbs. (1.13kg)

FR-1500A

Rackmounting Frame. Provides mounting for three (3) Series 1500 units in standard equipment racks. A captive screw fastener at the rear of the frame, and a guide pin at the front, secures each unit, allowing equipment to be used in mobile applications.

- Size: 1 3/4" H x 19" W 9 1/4" D (4.45 x 48.26 x 29.21cm)
- Net Weight: 2 1/2 lbs. (1.13kg)

BP-1502B

Blank Module. Fills one unused space in FR-1500A Frame

- Net Weight: 1 1/4 lbs. (0.57kg)

MB-1504A

Deskmount Kit. For one Series 1500 unit. Includes rugged aluminum cover, rubber feet, and hardware.

- Net Weight: 13 oz. (0.37kg)

PULSE DISTRIBUTION AMPLIFIERS

PD-1515B Pulse Distribution Amplifier

Provides 4 isolated, source terminated outputs from 1 high impedance looping input. Regenerative input, linear output. Normal output with up to 1000' (305m) Belden 8281 input cable.

- Input: 2-4V p-p negative pulses, 75 ohm unbalanced differential, high impedance bridging, BNC connectors
- Common Mode Rejection: > 60dB, 50-400Hz, ± 30 V reference chassis ground
- Outputs: 2-4V p-p negative pulses, 4 each 75 ohm source terminated, BNC connectors
- Output Return Loss: > 35dB at 5MHz
- Output Isolation: > 40dB at 5MHz
- Output Rise Time: 130ns
- Gain: Adjustable to 2-4V p-p
- Hum and Noise: 75dB RMS below 4V p-p
- Overshoot

and Ringing: < 1.0% • Tilt: < 1.0% • Size: 1 1/16" H x 5 3/4" W x 9" D (4.32 x 16.61 x 22.86cm); mounted in MB-1504A deskmount, 2" H x 6" W x 9 1/4" D (5.08 x 15.24 x 23.50cm) • Power: 115/230VAC -10%, 50/60Hz • Net Weight: 3 lbs. (1.36kg)

EQ-1530B 1 x 2 Post Equalizing Amp. Unbal.

EQ-1531B 1 x 2 Post Equalizing Amp. Bal.

EQ-1532B 1 x 1 Pre-Equalizing Amp. Bal.

PASSIVE VIDEO SWITCHERS

Multiple input to single output locally controlled terminating video switchers. Units have extra contacts for user wiring of audio-follow or external cue lights.

VS-6D Video Switcher

Video Switcher. Provides passive switching of from one to six inputs to a single output. Incorporates switch-controlled terminations. Equipped with separate auxiliary switch section for user wiring of unbalanced audio, balanced audio, external cue lights, or other secondary functions. For lighted pushbutton operation, order LK-1541A Lighting Kit shown below.

- Inputs: Six (all except operating channel terminated in 75 ohms)

- Output: One
- Connectors: BNC
- Size: 1 3/4" H x 19" W x 6 1/2" D (4.45 x 48.26 x 16.51cm)
- Net Weight: 2 1/2 lbs. (1.13kg)

VSA-6D 6 x 1 Passive Video Audio Switcher

VS-12D Video Switcher

Video Switcher. Same as VS-6D but with 12 inputs.

- Inputs: Twelve (all except operating channel terminated in 75 ohms)

- Output: One
- Connectors: BNC
- Size: 1 3/4" H x 19" W x 6 1/2" D (4.45 x 48.26 x 16.51cm)
- Net Weight: 2 1/2 lbs. (1.13kg)

VSA-12D 12 x 1 Passive Video Audio Switcher

LK-1541A Optional Lighting Kit

Lighting Kit. For use with passive switchers. Provides 6VDC at 100mA to power lamps provided with switcher. Calculator style plug-in transformer with 6' (1.82m) cable.

- Connector: Miniature male, 3.5mm (mates with Switchcraft No. 41 jack provided on rear of switcher)
- Primary Power: 115VAC, 60Hz
- Net Weight: 6 oz. (0.17kg)

SW-1540B 6-Input, 1-Output Passive Video Switcher

6-Input, 1-Output Passive Video Switcher. Switch controlled 75 ohm inputs. Separate auxiliary contacts included for user wiring of secondary switching functions. Lighted pushbuttons with use of LK-1541A Lighting Kit. Shown with optional MB-1504A.

- Inputs: 6 (all except input selected, 75 ohm terminated), BNC connectors

- Output: 1, BNC connector
- Switching: Break-before-make

- Size: Module only, 1 1/16" H x 5 3/4" W x 9" D (4.32 x 14.61 x 22.86cm); mounted in MB-1504A deskmount, 2" H x 6" W x 9 1/4" D (5.08 x 15.24 x 23.50cm)
- Net Weight: 2 1/2 lbs. (1.13kg)

Series 1600 Video and Audio Switching Systems

The Series 1600 Video and Audio Switching Systems provide 16 input/1 output high performance switching for standard HDTV video, audio, SMPTE/EBU Time Code. The Series 1600 also provides a unique triple 5 input/1 output video switch unit that can be used for RGB switching in raster scan graphics and chroma-key applications. Each switching matrix is housed in a 1³/₄" H x 19" W x 9¹/₂" D rackmount chassis (4.45 x 48.26 x 24.13 cm).

The control system allows local and a choice of either remote parallel control using Dynair control panels, or external serial control through a 300 baud RS-423 port. Switching units can be grouped, up to four levels, to provide video, multiple video (RGB), audio, multiple audio (stereo) and audio-follow-video systems.

SVA-500A 16 x 1 Video Switcher

Video Switcher, self-contained, for local and parallel remote control.

Inputs: 16, high impedance looping, 1.0V p-p nominal
Outputs: 1, dual 75 ohm, source terminated
Output Isolation: > 40dB at 5MHz

Connectors,

Input-Output: BNC

Crosstalk Isolation: > 60dB at 5MHz (worst case)

Frequency Response: 100kHz-5MHz, ± 0.1dB; 8MHz, ± 0.3dB (1MHz reference)

Bandwidth: 35MHz

Differential Gain: 0.1% with 1V p-p output, 10-90% APL at 5MHz

Differential Phase: 0.1° with 1V p-p output, 10-90% APL at 5MHz

Hum and Noise: 65dB RMS below 1V p-p, 10MHz bandwidth

Power: 115/230VAC ± 10%, 50/60Hz

SVA-501A 16 x 1 Video Switcher

Video Switcher, same as SVA-500A except equipped for local and serial remote control.

Control Bus: Serial data control, RS-423 (RS-232 compatible) levels, 300 baud, 3 conductor cable (transmit, receive, common)

SVA-502A 16 x 1 Video Switcher

Video Switcher, same as SVA-500A and SVA-501A but for slave control only. Controlled from switcher parallel control bus only. (Model CC-1639A Control Bus Jumper Cable required.)

SAA-512A 16 x 1 Audio/Time Code Slave Switcher

Audio Switcher, self-contained, for slave control only. Controlled from switcher control bus only. (Model CC-1639A Control Bus Jumper Cable required.)

Inputs: 16 balanced high impedance bridging + 24dBm max., at 600 ohms

Common Mode Rejection: > 60dB, 50-120Hz;

Output: 50dB, 30Hz-15kHz

Output: 1 balanced low impedance, short-circuit protection, + 24dBm max. with 600 ohm load

Connectors,

Input-Output: Screw terminal

Gain: Adjustable to unity

Crosstalk Isolation: > 80dB below max. output to 15kHz (worst case)

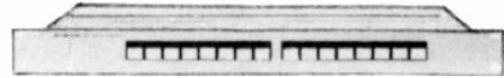
Frequency Response: 30Hz-20kHz; ± 0.2dB

Harmonic Distortion: 0.1% to 15kHz, +8dBm in/out; 0.25% to 15kHz max. in/out

Hum and Noise: -75dBm max.

SVA-520A 5 x 1 RGB Video Switcher

Video Switcher, self-contained, for local and parallel remote control. Same as SVA-500A but with three 5 in/1 out sections.



SVA-500A and SVA-501A



SVA-520A and SVA-521A

SVA-521A 5 x 1 RGB Video Switcher

Video Switcher, self-contained, for local and serial remote control. Same as SVA-501A but with three 5 in/1 out sections.

SVA-522A 5 x 1 RGB Video Slave Switcher

Video Switcher, same as SVA-520A and SVA-521A but for slave control only. Controlled from switcher parallel control bus only. (Model CC-1639A Control Bus Jumper Cable required.)

SCA-530A 5 x 1 Remote Control Panel (Parallel)

Master Parallel Remote Control Panel, rackmounting. For remotely controlling SVA-520A.

Status: Active input pushbutton, lighted

Control Bus: 8 conductor cable for power and control, 500' (150m) max.

Control Bus

Connector: 9-pin "D" subminiature

Size: 1³/₄" H x 19" W x 1¹/₂" D (4.45 x 3.81 x 48.26cm)

SCA-531A 16 x 1 Remote Control Panel (Parallel)

Master Parallel Remote Control Panel, rackmounting. For remotely controlling SVA-520A.

Status: Active input pushbutton, lighted

Control Bus: 8 conductor cable for power and control, 500' (150m) max.

Control Bus

Connector: 9-pin "D" subminiature

Size: 1³/₄" H x 19" W x 1¹/₂" D (4.45 x 3.81 x 48.26cm)

SSA-542A

16 x 1 sync switcher, slave control.

SSA-552A

5 x 1 sync switcher, slave control.

CC-1639A Control Bus Jumper Cable

Control Bus Jumper Cable, 9" (22.86cm). For control of slave matrices, Models SVA-502A, SAA-512A, and/or SVA-522A.



SE-3

SE-3 Production Switcher/Special Effects Generator

- 3 mix-effects circuits, 2 border generators
- 1 color background, 2 color matte generators
- Front-panel programmable with up to 5,000 steps
- Quad splits
- Re-entrant effects
- ECHOLab's patented Soft Take
- 1 3/4" front panel depth
- 12 video inputs total, 10 are looping impedance or 75 ohm terminated, inputs 1 and 2 are black and color background. Composite or non-composite, sync or non-sync sources may be used
- 5 keying inputs, comp or non-comp, must be synchronous Genlock source (black or composite video). 75 ohm terminated

The SE-3 makes exceptional performance available for a low price. A powerful built-in Z-80 microcomputer replaces most of the digital logic found in other switchers and also allows user programming.

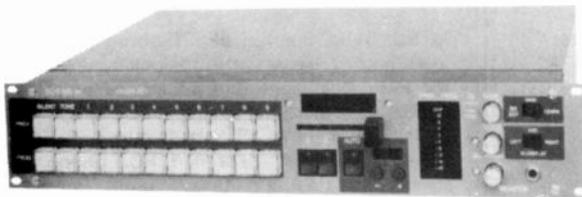
SE-3 \$12,200.00

Options

- SYSCAL System Calibration program for SE-3 \$ 285.00
- APL-3 Apple offline storage program for SE-3 875.00
- RPS-3 Remote Power Supply for SE-3 front panel 100.00
- DSG-3 Drop Shadow Generator (15 lines) for SE-3 titler 2,250.00
- NTSC-3 NTSC encoded chromakey generator for SE-3 1,650.00
- RGB-3 RGB chromakey generator for SE-3 1,650.00
- SERIAL-3 SMPTE serial interface 2,225.00
- SPK-3 Spare parts kit for SE-3 1,000.00
- SVC-3 Service manual for SE-3 (basic unit includes 1) 50.00
- OPS-3 Operators manual for SE-3 (basic units include 2) 25.00
- EXT-3 Extender board for SE-3 (basic unit includes 1) 100.00

Upgrades

SE-3 to SE-6 upgrade (includes CPU, EFF, FPL, TLY, DSK swap) \$12,000.00



AFS

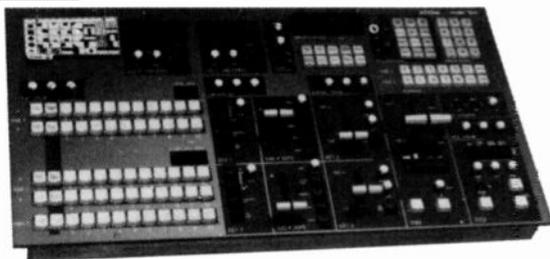
AFS-Audio Follow Switcher

- 9 inputs plus silent and tone, voiceover. Stereo optional
- 600 ohm balanced line, XLR type connectors
- Programmable, computer controlled audio switching and fading
- SMPTE link to ECHOLab's SE-3 or edit controllers
- Parallel link to other video switchers

The AFS is a computer-controlled switcher for audio mixing in a video environment. Intended to complement the SE-3 switcher, the AFS can be a stand alone programmable mixer or it can be controlled by the SE-3 or other video switchers. In this mode, the AFS will automatically switch audio to follow video, that is, selecting direct bus video 5 will cause the AFS to switch to audio source 5. Up to four sources can be designated as audio-only and will not respond to video switching.

Eleven input sources are selectable, including a low distortion 450Hz tone and silent, and voiceover can be added to the output. Pushing a single button will select its input in the normal fashion, and if two or more buttons are pushed simultaneously all buttons will remain lit and all sources will be selected

- AFS-M Monaural \$4,500.00
- AFS-S Stereo 5,500.00
- AFS-D Audio follow stereo daughter board 1,000.00
- SPK-A Spare parts kit for AFS 500.00
- SVC-A Service manual for AFS (basic unit includes 1) 50.00



SE-6

SE-6 Production Switcher

- Quad splits, re-entrant effects
- ECHOLab's patented Soft Take
- Computer control of all switching and effects
- Front-panel programmable with up to 200 shots or 500 transitions
- Contact closure editing interface (standard) will initiate any pre-programmed event
- Remote fully digitized control panel with two wires to chassis
- 12 video inputs total, 10 are looping impedance (47K ohm) or 75 ohm terminated. Two inputs are internally generated black and background colors. Composite or non-composite sync or non-sync sources may be used
- 6 linear keyers (Key 1-Key 5 and CGEN), one RGB or composite chromakeyer. Key 1, Key 3, and CGEN may be used with cut and fill signals

The SE-6 adds convenience and flexibility for fast-paced teleproduction. Two independent mix-effects systems and direct bus switching handle up to 12 video inputs, including black and background. Two built-in Z-80A microprocessors handle digitization of front panel controls (no heavy cables) and allow full control by edit controllers as well as user programmability. A front-panel programming system has been developed for enhanced ease of use.

The SE-6 is used in two modes: In production mode, the switcher is a normal 5-bus switcher. In program mode, the programming capability is turned on with a keyswitch, and the programming keypad is used to store control sequences for later playback. Any operation which can be done manually can also be programmed.

- SE-6 \$19,900.00
- DSG-6 Drop shadow generator (15 lines) for SE-6 titler 2,250.00
- NTSC-6 NTSC encoded chromakey generator for SE-6 1,650.00
- RGB-6 RGB chromakey generator for SE-6 1,650.00
- SERIAL-6 SMPTE Serial interface 2,225.00
- SPK-6 Spare parts kit for SE-6 1,300.00
- EXT-5 Extender board for SE-6 (basic unit includes 1) 100.00
- SVC-6 Service manual for SE-6 (basic unit includes 1) 50.00
- OPS-6 Operators manual for SE-6 (basic unit includes 2) 45.00

DV-5 Production Switcher

- Designed for teleproduction and post-production in small and medium-sized broadcast studios
- Automatic calibration
- 12 inputs, including black and background
- 3 keyers
- 3 digital color generators
- Front-panel programmable with TimeTracker
- Two mix-effects systems for effects and autotake
- Switching power supply
- Soft Take
- Computer control of all switching and effects
- Contact-closure editing interface will initiate any pre-programmed event
- Remote fully digitized control panel with two wires to chassis
- 39 wipe patterns
- Command will return 28 parameters to factory calibration

The DV-5 video switcher is a compact and powerful tool for advanced teleproduction. Innovative circuit design allows packaging in a compact two rack-unit chassis and a 12 1/4" remote front control panel. The electronics chassis uses just two printed circuit cards.

Built-in computers handle advanced features such as front-panel programmability, calibration, and fault diagnosis.

The DV-5 is used in two modes: Production or Programming. In Production Mode, the switcher allows control of wipe patterns and effects. In programming Mode, a keypad is used to store control sequences for later playback. When sequences have been programmed, they may be recalled in Production Mode for fast accurate recreation of effects that are difficult or impossible to perform manually.

Specifications

Effects Pattern

Generator: 40 patterns available; border, symmetry, normal-reverse, soft controls

Take Pattern

Generator: 4 patterns plus mix, key and effects

Downstream Keyer: Fill with matte or external character generator video; fade-to-black; reverse keys

Color Generators: Three, background/border/DSK; digitally settable

Effects Keyer: Mix/Wipe/Key; keyer is internal, external, DVE, or chroma. Key mask and key reverse

Edit Control Interface: Optional RS-422 or 423 interface to popular edit controllers

Audio Follow: Optional 10-input audio follow switcher is available

Chroma Keyer: Optional RGB or NTSC chroma keyer

Drop Shadow

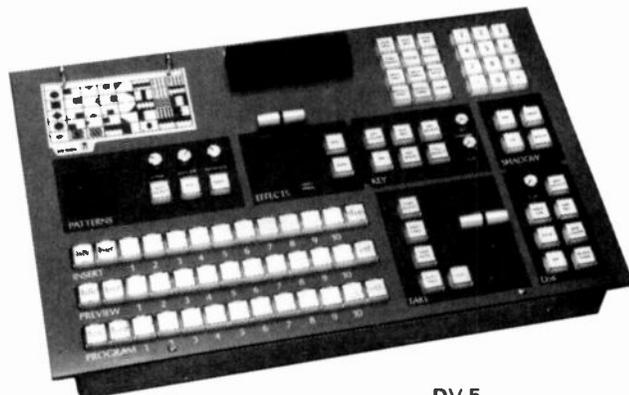
Generator: Optional Drop Shadow Generator with variable 0-15 line drop, black or white pre-shadow, outline

Programmable: Time Tracker follows control movements, or normal mode follows button pushes. 6 full panel setups can be stored or optionally to 99. Up to 999 step sequences of control operations can be stored. Expandable, battery backed-up CMOS memory allows optional multiuser memory areas with password protection

Video Inputs: 10, looping impedance, 1V p-p composite or non-composite, synchronous or non-synchronous video inputs. 1, Character Generator Fill. 1, Digital Video Effects (DVE). 1, Genlock input. 1 DSK fill

Key Inputs: 1, External chroma key; 75 ohm terminated. 1, External Effects key; 75 ohm terminated. 1, Character Generator key; 75 ohms terminated. 3, looping impedance Red/Green/Blue chroma-key inputs. 1 DSK Video Key

Video Outputs: 1, Preview; 1V p-p 75 ohm source terminated. 2, Program, 1V p-p 75 ohm source terminated. 1, DVE feed from insert bus. 3, Black, 1V p-p 75 ohms source terminated



DV-5

Sync Inputs: NTSC: Sync, Blank, CBF; 75-ohm terminated, 2-4V p-p; or use optional genlock sync generator PAL: PAL ident flag added, external PAL sync generator required

Data: 1, Tally connector, 10 form C relays. 2, BNC, RS-423 link to front panel. 1, RCA phono jack for contact closure editing. 1, 9-pin D connector for RS-232 or RS-422 link to edit controller. 1, 9-pin D connector for RS-232 or RS-422 link to DVE or Audio Follow Switcher

Differential Phase: .5°

Differential Gain: .5%

Bandwidth: .1dB-6MHz

Path Length: ± 1°

Absolute Delay: 170ns

Program Output

Isolation: 45dB

Crosstalk: 52dB at 3.58MHz

Fade Linearity: 1%

Signal-to-Noise Ratio: 65dB signal to RMS noise, unweighted

Power Consumption: .65W, 110 or 220V, 50-60Hz

Mechanical: Control panel: 12 1/4" x 2" x 19" rackmountable. Chassis: 3 1/2" x 18" x 19" rackmountable. Shipping weight: 34 lbs.

DV-5 \$9995.00

Options

DSG-5 Drop Shadow Generator (15 lines) for DV-5 titler \$2000.00

GLS-5 Genlock Sync Generator for DV-5 1000.00

RWP-5 Rotary Wipe Package for DV-5650.00

QSP-5 Quad Split Package for DV-5500.00

MEX-5 Memory Expansion for DV-5350.00

BPS-5 Back-up Power Supply for DV-5650.00

NTSC-5 NTSC encoded chromakey generator for DV-5 1650.00

RGB-5 RGB chromakey generator for DV-5 1650.00

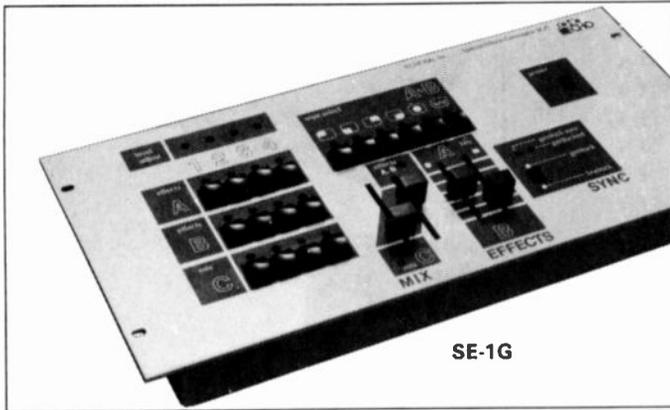
Serial-5 SMPTE Serial interface to any editor controller using the GVG100 protocol 1500.00

SPK-5 Spare Parts Kit for DV-5 1000.00

EXT-5 Extender board for DV-5 300.00

SVC-5 Service manual for DV-550.00

OPS-5 Operators Manual for DV-5 (basic units includes 1)45.00



SE-1G Special Effects Generator

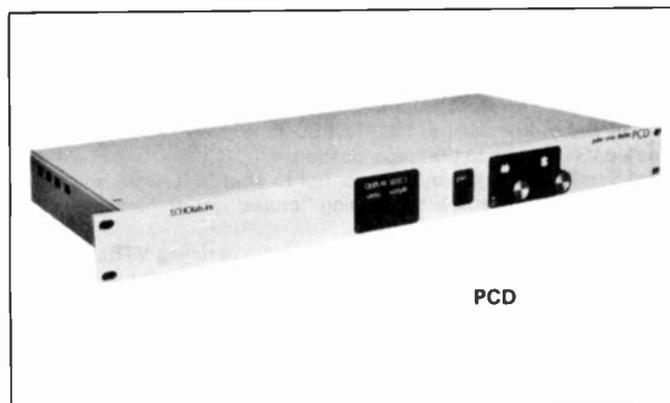
- Compact, versatile
- Six special effects
- Accepts up to 4 composite or non-composite cameras, plus keying camera
- Internal RS-170 B & W sync generator with genlock

The SE-1G is a color special effects generator packaged in an attractive desk-top or rackmount box. Extensive use of large scale integrated circuits contribute to the unit's small size. Its unparalleled flexibility and ease of use will enhance all small to medium studio productions. The SE-1G will accept up to four composite or non-composite TV cameras, as well as a keying camera. Six effects are provided, including four corner inserts, a non-positionable circle wipe and keying. An internal RS-170 sync generator with genlock capability may be locked to composite video applied to input one.

Specifications

Audio output:	2-Conductor phone jack, loop-through to inter-com pins on camera connectors
Tally:	5-Pin Amphenol, connector; 1A 30V max; short to ground
Frequency response:	DC-8MHz \pm 1dB
Differential gain and phase:	Better than one percent and one degree at 3.58MHz
Output isolation:	Better than 30dB at 3.58MHz
Power:	115VAC-60Hz, 15W
Dimensions:	Desk-top box 3''H x 16''W x 11''D rackmount — 8 ³ / ₄ '' x 19''W x 2 ¹ / ₄ ''D
Weight:	12 Pounds shipping weight
Camera inputs:	4, 75-ohm loop-through, external termination plug
Key input:	BNC, looping impedance, 1V comp or non-comp
G/L input:	1V composite video at input 1
Sync outputs:	4, 1V black burst; 1, 4V vertical drive; 1, 4V horizontal drive. Option: 4V sync

SE-1G \$1695.00



PCD Pulse Cross Display

- Combines in one package the television monitoring and distribution instruments needed in a small studio
- Waveform sampler
- Pulse Cross display
- Distribution amplifier

The PCD is the most effective and economical tool for monitoring video quality for small studio applications. The input to be monitored is a 1V p-p composite video signal. Six SO-239 connectors provide two different types of output signals: display and distribution.

The Display outputs carry unmodified input video until either Display Select switch is pushed. Pulse cross or waveform sample displays may be selected separately or in combination. Four isolated distribution amplifier outputs are also available; these outputs are not affected by the display select switch.

Specifications

Inputs:	2 Looping or switch selectable 75 ohms termination; SO-239 connectors
Display outputs:	2; 75 ohms source terminated
Distribution outputs:	4 Isolated outputs; SO-239 connectors. 75 ohms source terminated
Frequency response:	10MHz \pm 1dB
Differential phase and gain:	Better than 1° and 1% at 3.58MHz
Output isolation:	Better than 30dB at 3.58MHz
Power:	115VAC — 50/60Hz, 4W
Dimensions:	3 ¹ / ₂ ''H x 9''W x 10''D desktop box 1 ¹ / ₄ ''H x 19''W x 10''D rackmounted 3-wire power cord
Weight:	8 Pounds shipping weight

PCD \$595.00

ECS 195 Series Editing Systems

A powerful, low cost A/B roll video edit-controller. Standard features include the ability to mix tape formats, including 1", exclusive tag features simplify backtiming for match frame edits and matching video to narration; scene store for quick storage and retrieval of key scenes, and an internal 50 edit line memory that is expandable to 200 lines.

The Console

- Joystick • Cruise • SMPTE time code or control track • High speed search • Manual bump

Edit Entry

- Switcher effects and notation • Split audio/video edits

Auto Edit Cycle

- Preview modes • Allstop • Replay • Status display generator • Dual Serial EDL ports • TwoCom • Color framed time code generator on the 195LM

Tags

- AutoTag • AutoMatch® • Scene store and recall • Syncroll • Manual bump

List Search

- JoyScrol® on the 195LM • ListScrol®

List Management

- Internal memory 50 edit line memory storage is standard on the 195; 200 edit lines are included in the 195LM • Add, delete or replace edits with or without ripple in the 195LM • Pending clean • CleanIt® • Format selection • Reel-numbers • Edit numbers • Recall edits • Renumbering

Auto Assembly

- Auto assembly provides for automatic editing of a sequence or an entire program, following the instructions in the edit list • Manual assembly calls up the next edit automatically, but actual performance of each edit list is initiated by the operator allowing for modifications or adjustments • Auto and manual assembly are available on the 195LM

Other Features

- Audio monitoring • Three channel audio insert selection • Trim function • Auto duration • Automatic dialog replacement

Engineering Notes

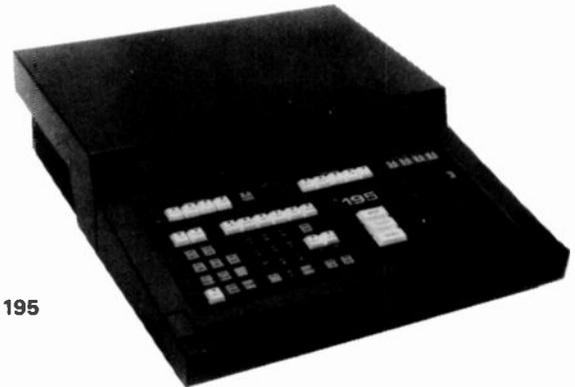
- Assemble/Insert • Time code with offset • Switcher/Mixer control • VTR interfaces • Color framing • Multiple or single monitor • Smart start • Programmable personality • Preroll/Postroll time select

ECS-195 A/B Roll, Three VTR Controller with 50 event memory, tag features, edit list in and out, add, delete and CleanIt. Includes three parallel VTR interfaces \$10,505.00

ECS-195 Plus includes all features of the ECS-195 in addition to: internal time code readers and one generator. Complete list management package including add, delete and replace with or without ripple, JoyScrol (list slaved to VTR motion), 450 event edit memory, sequential auto-assembly and Operation/Maintenance Manual. . . . \$15,000.00

200 Series Video Editing Systems

- **ActionMatch:** Calculates edit points to match action and sound anywhere within an edit segment. Audio-only or video-only inserts can be precisely matched to corresponding action or sound with joystick control and a single keystroke
- **Auto Duration:** Utilizes the trim register to set the edit duration relative to either an in or an out point
- **Auto/Manual Assembly:** Provides for automatic editing of a sequence or an entire program following the instructions in the edit list. Manual Assembly calls up the next edit automatically but actual performance of the edit relies on the operator
- **AutoMatch:** Allows the operator to create matching source and record in edit points at any location within the previous edit. This automatically provides match frame edits for A/B rolls and effect transitions
- **Auto Scene Store:** In this mode a single keystroke snapshots scene location by time code and reel number. Up to 99 locations can be stored or listed



195



204X

- **Automatic Dialogue Replacement:** ADR provides cue tones and a continuous audio record cycle for "looping" or post-dubbing of sound. It can also be used to replace video material
- **CleanIt:** CleanIt automatically cleans overlapped edits in the EDL one edit at a time during the off-line edit process. This program constantly checks the preceding edit to see if an overlap has occurred
- **Color Framing:** A Color Framing routine allows the edit system to monitor the color frame relationship for 1" VTRs based on time code
- **High Speed Search:** Allows the operator to program any tape time location (control track or SMPTE/EBU time code), and have the selected VTR search to that tape location
- **List Scroll:** Gives you joystick control to shuttle forward and backward through the edit list, including "cruise" for no-hands scrolling machines for syncroll
- **Manual Bump:** Allows for small adjustments to rolling VTRs from the keyboard to achieve precise synchronization of multiple machines for syncroll

ECS-204X

A four VTR, advanced list management A/B roll edit controller with assignable record, three built-in time code readers, 1000 line edit memory, 409 list cleaning program, CleanIt, block moves, comments, sequential and checkerboard auto-assembly. Includes three VTR interfaces, electronic control unit with rackmount kit, monitor, the PC-300 list storage program, Operation and Maintenance Manuals. Fourth VTR interface and Time Code channel optional \$19,000.00

ECS-205

An eight VTR advanced list management A/B roll edit controller with four built-in time code readers (expandable to eight), with assignable record. Includes list management and assembly features of the 204.

Includes four VTR interfaces, two electronic control units, editing console, status monitor and operations/maintenance manuals. Additional VTR interfaces and time code channels optional, monitor, the PC-300 list storage program and Operation/Maintenance Manuals \$27,000.00

ECS 900 Plus Video Edit Controller

- A six serial VTR controller
- Any serially interfaced VTR may be assigned record functions from the 1000 keyboard
- Combinations of parallel and serial interfaces may be used
- Serial time code generator is standard with optional longitudinal time code reader
- The edit decision list can be transmitted in and out of the controller via dual RS-232 serial data streams to personal computers, independent disc drives, punched tape reader/generators and printers
- An edit list of 1000 lines may be stored internally
- List management includes pending and actual addition and deletion of edit events
- The controller may be fully interfaced to most major manufacturers' production switchers for A/B roll effects
- CleanIt...The dynamic edit list cleaning program that cleans lists as edits are performed
- TenCom...Set of ten general purpose interfaces, can trigger external digital video effects units, graphics generators, audio tape decks and external VTRs
- ActionMatch...Provides single keystroke backtiming that matches audio and video points for in-scene synchronization
- AutoMatch...For single keystroke matchframing
- AutoTag...For automatically extending events from a match frame point
- ListTag...For single keystroke matchframing to any point within previously recorded material
- SyncRoll Tag...Single keystroke re-synchronization among several source and record reels for edit-by-edit synchronized rolls
- Split Audio/Video Edits...A logical keystroke/joystick sequence that quickly establishes separate in-points for audio and for video
- 99-Frame Scene Store...A separate memory that can store 99 different time code locations by reel number, accessible via two-digit addresses. Locations can be entered "on the fly" as music beats, chord changes, scene changes, etc.
- Joystick VTR Control...All interfaced VTRs can be placed in high speed forward or reverse scan, play, jog and still-frame pause from the joystick
- ListScrol...The joystick can be used to scroll and cruise the edit list through a highlighted line in the edit decision list register
- Last and Next Edit Recall...One shifted keystroke pulls any edit in the highlighted line up to the edit register for modification, trimming and/or re-recording
- Five Preview Modes...VVV, VBV, BVB, Preview-In and Preview-Out
- Manual Bump...Up to four rolling VTRs can be manually synchronized—and locked into sync—for SyncRoll
- SyncRoll...Three sources and one record VTR can be rolled "in-sync" while cuts, wipes and dissolves are performed from the keyboard of the 1000. Each transition/event is automatically loaded into the edit list
- List Management Package...Features Add, Delete and Replace, with or without Ripple
- The PC-300 personal computer program...for outboard list storage and manipulation
- JoyScrol...A feature that locks the position of the edit list to the motion of a delegated VTR



ECS 900 Plus

- Sequential auto-assembly
- 409...An advanced stepthrough list cleaning program unique to Convergence edit-controllers
- Move...A feature that can literally edit the list by defining blocks of edits and copying—or deleting—them anywhere in the list, with or without Ripple
- Comments...Entry into the list from the keyboard of an MS DOS based personal computer (with the PC-300)
- Checkerboard auto-assembly
- User bits display
- Exchange register...used for alternating active edit events

ECS 900 Plus

A complete high-end six serial VTR list management edit system with assignable record, 1000 line edit memory, list in and out, add, delete and replace with or without ripple, CleanIt and 409 list cleaning programs, block moves, comments, Joy-Scrol, sequential checkerboard auto-assembly. Includes three VTR VSI serial interfaces, one time code generator and Operations/Maintenance Manual. Three additional VSI serial interfaces and time code channels optional \$16,200.00
 TCR-4 Internal time code reader, 3 channels \$3,500.00
 TCR-1 Time code reader expansion channel for existing TCR-4 \$300.00

Accessories

Video Switcher Source cuts-only systems. Audio follow \$1,200.00
CI Character Inserter Inserts time code digits into video being recorded, providing "window dubs" 1,200.00
ICC-100/5' Interconnect cable for Parallel I/O 175.00
ICC-100/20' Interconnect cable for Parallel I/O 300.00
IFP-100 Interface Package Specify VTR manufacturer and model number (1", 3/4", 1/2") 1,000.00
JB-100 Junction Box Required for multiple connections to Parallel I/O. 200.00
PC-300 Personal computer software program (MS, DOS, IBM compatible) 200.00
SE-100 Switcher Effects Unit Audio follow video switcher with 23 wipe patterns, dissolves. 7,000.00
SWI-100/110 Switcher Interfaces Includes JB-100 and appropriate cables; specify model/manufacturer or switcher to be interfaced 2,000.00
SWI-120 Switcher Interface Includes JB-100 and appropriate cables; specify model of switcher to be interfaced . . 3,000.00

ECONOLINE® TIME CODE READER PERIPHERALS

TCR-65 Time Code Reader

- Rackmount package • 1/20 to 20 times play speed reading range • 0.4" red LED • Updates from tach pulses during code dropouts • Front panel controls for time code level and display hold • 117VAC, 60Hz, 4W max.

The TCR-65 can be used to read and decode longitudinally recorded time code from video tapes, audio tapes, and magnetic film.

The TCR-65 receives standard serial (longitudinal) SMPTE time code through a rear-mounted XLR connector and converts the code into eight digits of clock time.

The error-detection system pulse train is obtained from an external tachometer when the rear-mounted toggle switch is in the on position. When the toggle switch is in the off position, pulses are delivered by an internal code bit counter. The TCR-65 automatically switches back to time code reader mode when a good time code frame is again detected. The LED display is then loaded with the current time code data.

TCR-65 \$ 1350.00

MTG-55 Master Time Code Generator

- Drop frame or non-drop frame operation • Color frame synchronization through a rear-mounted BNC connector. This feature permits using an external 15Hz color framing pulse
- Loophrough video input/output connectors (BNC) to assure that time code transmission starts at the beginning of a frame, per ANSI-V98, 12M • A video input designed to accept composite video or composite sync • An XLR connector that provides for time code output on the rear panel

The MTG-55 outputs serial time code. Time code is formatted in hours, minutes, seconds, and frames. It is a useful instrument for indexing video and audio tapes for subsequent material location and editing.

The front panel includes six thumbwheel switches for setting initial time of day. Frames are automatically preset to zero. Other front-panel controls include an on/off switch, a drop frame/non-drop frame selector, a start button, a stop button, and a load button.

Output of the MTG-55 is 0dBm, 600 ohm, balanced.

The unit is 1 3/4" H and 10" D. It has a standard 19" W rack-mount front panel. Power required is 117VAC, 60Hz, 3W maximum.

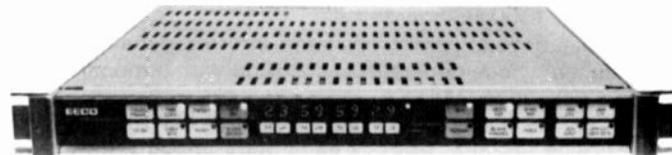
MTG-55 \$ 1350.00

TIME CODE READER/INSERTERS

Each unit can read drop or non-drop time codes and provides controls to adjust character size and screen position.

VCG-75 Video Character Generator

- Compact rackmount package • 1/20 to 20 times play speed reading range • Front panel controls for time code level, size, position, brightness, insert on/off, and display hold • 117VAC, 60Hz, 3W max.



VIG-850

The VCG-75 reads SMPTE time code from video tape or other sources and outputs this data as video characters. The output data can be burned into or superimposed over the source video on a monitor. Time code is read at 1/20 to 20 times normal playback speed, in either forward or reverse mode.

Using the VCG-75, you can correlate specific video frames with time code information without looking away from the video monitor.

Time code is received through a rear-mounted XLR connector. Video is received and transmitted through rear-mounted BNC connectors with two isolated outputs of 75 ohms each, unbalanced.

Video input and output levels are 1V p-p, nominal, NTSC format. SMPTE input sensitivity is 50mV minimum. Input impedance is 2.5K ohms.

VCG-75 \$ 1350.00

VIG-850 Premium Multi-Format Time Code Generator/Reader

- Compact, rackmount package • Generates longitudinal and VITC time code • Reads and displays longitudinal and VITC time code • Generates slaved time code from 10 commandable generator slave modes • Compatible with NTSC and PAL/SECAM video standards • Built-in broadcast quality VITC video inserter • Drop and non-drop frame • Generates, reads, and displays user bits • 105-125VAC, 47-30Hz, 30W max.

The VIG-850 can generate drop or non-drop time code with or without user bits in all modes. It incorporates techniques using microprocessor multi-level interrupt firmware programming that allows simultaneous operation of generator and reader functions.

Vertical interval time code is an integral part of the video signal. It can be read whenever a usable video picture is being reproduced at tape speeds ranging from high speed shuttle all the way down to freeze-frame. Unlike longitudinal time code, VITC does not require a dedicated track. This frees up both audio tracks for stereo programming. VITC provides tape indexing resolution down to the video field. Redundant recording methods and an integral error detection code give VITC a high immunity to dropout reading errors.

VIG-850 \$ 5490.00

ECP® 3000/ECP Graphics
Data/Graphics Projection Systems

Features Common to Both Models (Preliminary)

• f/1.0 lens capable of resolving 1024 x 1080 pixels • Electronics are capable of synchronizing over 1000 TV lines vertical • Electronic pin-cushion circuits separately correct top, bottom and sides for flat, curved, or rear screen applications • Aspect ratio 4:3 • Keystone circuitry to correct pictures for angles up to $\pm 15^\circ$ vertically from screen axis • Input level 0.5V to 2.0V p-p, $75 \pm 1\%$ terminated • Separate sync is automatically accepted in either polarity • DC restoration • Keyed clamp • Minimum video gain 40dB or 100X • Maximum video output 130V p-p drive

Vertical Deflection—Size: automatically regulated over frequency range and adjustable from 20% underscan to 10% overscan • Frequency Range: automatically locks from 45Hz to 120Hz

Horizontal Deflection—Size: automatically regulated over frequency range and adjustable to 10% overscan 10% underscan • Optional remote control receiver can be connected to projector for rear screen applications • Unit comes with 1 input module allowing 2 RGB sources to be connected. Second empty slot allows an additional input module to be installed in the projector • IR Remote Video/Data Switcher allows use of 6 additional input modules and master control of projector

• **High Voltage** 34.0kV regulated to $> \pm 1\%$

Accessories Included

• 25' signal cable, 10-pin keyed • RGB and sync splitter for BNC connections

ECP 3000 High Brightness
Data/Graphics Projection System

• **Maximum Brightness**—650 lumens peak light output, 370fL on a 6' diagonal 10 gain screen total light output

Focused Data—480 lumens, 280fL on a 6' diagonal 10 gain screen total light output • Functional 3 lens design allows simple adjustment for flat, curved or rear screens from 5' to 25' diagonal • Automatically switches to separate sync or sync on green • 60MHz bandwidth $\pm 3dB$ • Linear non-differential amplifier accommodates 8 nsec pixels and digital clock rates over 130MHz

Vertical Deflection—Retrace Time: < 300ms

Horizontal Deflection—Frequency Range: automatically locks from 15kHz to 50kHz • Retrace Time: 3.6 μ s • Can be ceiling mounted on its optional ceiling mount or on a castered cart for portable applications • 105 lbs./41.3kg

ECP3000*\$14,995.00
ECP3000 Cart499.00
ECP3000 Ceiling Mount355.00

ECP Graphics
15-80kHz Data/Graphics Projection System

• **Maximum Brightness**—500 lumens peak light output • 290fL on a 6' diagonal 10 gain screen total light output • Single lens dichroic design converges colors accurately inside the projector, not at the screen • **VARI-FOCUS**—the ECP Graphics is not a fixed focus design. Three external controls allow simple, quick adjustment of center, corner, and top to bottom optical focus for screen sizes from 6' to 12' diagonal (5' to 14' using electronic sizing) • 80MHz bandwidth $\pm 3dB$ • Linear non-differential video amplifier accommodates 6 nsec pixels and digital clock rates over 160MHz

Vertical Deflection—Retrace Time: < 300 μ s

Horizontal Deflection—Frequency Range: automatically locks from 15kHz to 80kHz • Retrace Time: < 5.0 μ s 15-34kHz, < 2.5ms 34-80kHz • Can be ceiling mounted on its optional yoke or on a castered cart or desk stand for portable applications • 100 lbs./46kg



ECP 3000



ECP Graphics

Additional Accessory Included

Projector mounting studs and knobs

ECP Graphics* 15-80kHz\$21,995.00
ECP Graphics Cart550.00
ECP Graphics Ceiling Mount200.00

ECP3000/ECP Graphics Accessories

IR Remote Switcher**\$1,495.00
RGB Loop 3/4/5 Wire Module295.00
RGB/Sync (H & V) 10-Pin Module295.00
RGB/Sync 2 Input Module295.00
Enhanced PC Module255.00
IBM PS/2 GP Analog Module295.00
GP TTL Module255.00
Monochrome 2 Input Module255.00
Quad Std. Decoder Module595.00
Case/Power Supply (For Ind. Module)***125.00
Remote IR Sensor Kit w/25' Cable150.00

* Includes (1) RGB Sync (H & V)/10 pin module plus quad standard decoder module

** Switcher includes remote control board, power supply 120/240VAC, and 100MHz output with space for six boards. Includes rackmounting adaptor brackets

*** Case/power supply module converts any interface module to freestanding unit. (Except Quad Std. Decoder which must be used with switcher or projector)

ECP is a registered trademark of Electrohome Limited.

ECP® 2000 COLOR PROJECTOR FOR COMPUTER GRAPHICS/DATA OR VIDEO TAPES

- Conveniently portable or ceiling mount
- Adaptable to most color & monochrome computers
- One cable plugs all computer & video tape signals
- Only three operating controls
- Adaptable to various screens
- Automatic positioning in relation to screen
- 1-Button remote control automatic switching between computer & video tape images
- Removable modules simplify service

The ECP 2000 color data/graphics and video projection system projects high resolution data and graphics or video from computer terminals, video cameras or videocassette recorders. With its single lens design the colors are converged automatically within the unit rather than at the screen as with common three lens projection systems. As a result, set-up time is minimal and the image is in perfect convergence at all times. By mounting the unit on an optional wheeled cart, it becomes easily portable and can be moved from room to room for various presentations.

Accessories include a 25-foot signal cable (10 pin keyed), RGB and sync splitter for BNC connections and projector mounting studs and knobs.



ECP 2000

ECP 2000	.....	\$11,995.00
ECP 2000	NTSC Decoder	495.00
ECP 2000	Cart	550.00
ECP 2000	Ceiling Mount	200.00
ECP 2000	Support Base	85.00

EDP-58XL LARGE SCREEN MONOCHROME PROJECTION MONITOR

The Electrohome EDP-58XL monochrome projection monitor is specifically designed for large screen, high resolution video displays of alphanumeric and graphic information from computer generated signals. It is uniquely designed to synchronize with almost all CRT-type computer terminals available today.*

Extremely compact, the high brightness monochrome projector permits large group viewing in normal office lighting environments. Crisp, big picture impact replaces the need for several conventional sized monitors.

The EDP-58XL is ideal for demonstrations of new computer hardware and software developments. Classroom teaching of computer programming is made easy. It is equally dramatic for customer or trade show presentations.

Lightweight, it can be moved from room to room. A precision f/1.0 lens is user focusable for 4 ft. to 10 ft. (1.2m to 3m) diagonal screens. The EDP-58XL also features a scan reverse switch for rear screen projection.

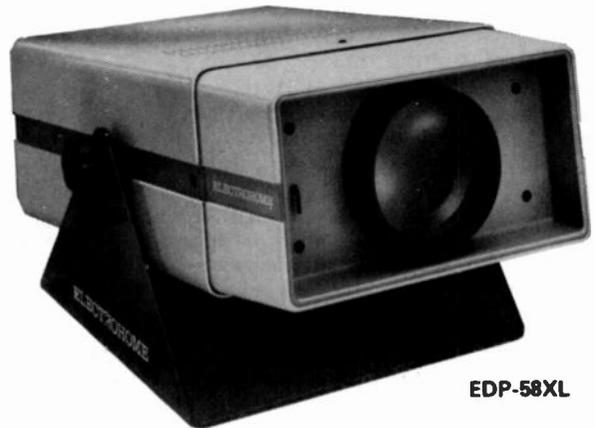
This modular, solid state unit is versatile, rugged and reliable, matching today's fast moving information needs. Set-up and operating ease, even by non-technical personnel, is inherent in the design of the EDP-58XL. It eliminates audience fragmentation and permits each viewer to enjoy maximum impact from data/graphics presentations.

The versatile, solid state EDP-58XL projection monitor is a compact 24.75" x 14" x 8" (69cm x 36cm x 21cm) and weighs only 45 lbs. (20.4kg). Designed for ceiling, pedestal or desk stand mounting, the unit offers tremendous flexibility for display presentations.

Stylish, the case and trim are made of aluminum and molded plastics. There is a rear carrying handle. A front trim protects the precision lens.

Precision optics and high speed electronics provide up to 1300 line resolution capability for sharp data/graphics display, exceeding 80 characters/line.

Easy to use operator controls are on the rear panel; service controls are accessible through the control panel. Also featured is video loop thru, keystone adjustment and D.C. restoration.



EDP-58XL

EDP-58XL	Projection Monitor	\$3195.00
EDP-58XL	High Resolution White Phosphor	3895.00

Accessories

EDP	Support Base	\$ 110.00
GP	Monochrome Module	200.00
Harness	Wiring Harness	85.00
PB-56	Pedestal Base	390.00
MY-56	Ceiling Mount	65.00
VS6-56	Curved Screen 6'	495.00
SL-1000	Elevating Legs	145.00
CC-56	25' BNC/BNC Coaxial Cable	35.00
EDP	Carry Bag	135.00

Note: Special order phosphors (other than green P1)

— A minimum of 10-12 weeks lead time prior to product shipment

— A premium of \$600.00 per unit

— Optional P45 white phosphor 4-6 weeks additional \$250

*An optional Interface Module may be needed for your particular CRT terminal.

EVM MONOCHROME VIDEO MONITORS

- Front operated A-B switching
- Standard or Vari-scan formats
- Scanguard* circuit for size stability
- Primary and major secondary controls front accessible
- Internal/external sync capability
- Excellent black level stability
- Common mode rejection
- AC cord winder (9", 12", 15", 17")
- Universal AC interlock
- Long life LED pilot light
- Wide variety of options
- P4 or P31 phosphor CRT (9", 12" and 23")
- Antiglare panel (AG)
- 12" available in Slim Line (SL) version

The EVM monitor family is available in two formats. Standard format accepts a composite video signal user adjustable from 15.75kHz to 18.0kHz. The VARI-SCAN format will accept signals from 15.75kHz to 25.0kHz. The 9" and 12" models adjust automatically, while the 15", 17" and 23" require a manual switch of a rear-mounted control and horizontal hold adjustment.

Cabinets are constructed of a Steltex textured steel for added durability. Attractive beige and earth brown tones have been utilized to further enhance the styling of each monitor design.

This full range of monochrome video monitors is available in international performance standards.

Specifications Common To All Models

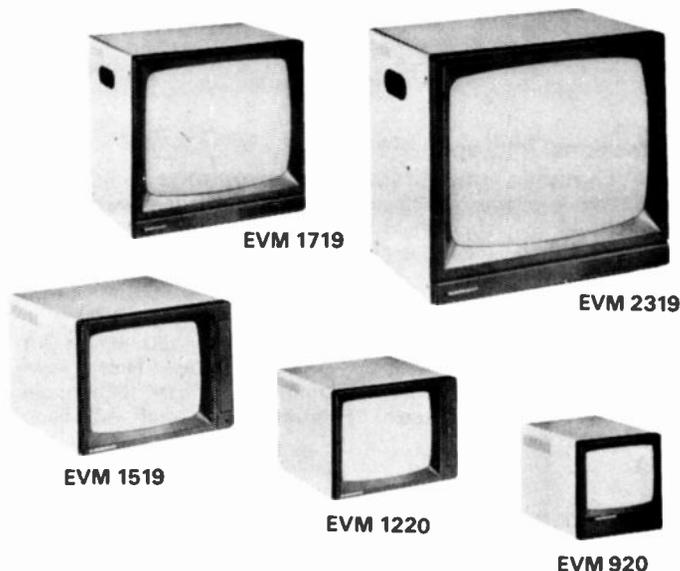
Input Power:	120VAC, (100V-132V), 240VAC (205V-264V), 50/60Hz, 45W
Bandwidth:	100Hz-18MHz + 3dB at 30V p-p
Overscan/ Underscan:	105% to 85%
Aspect Ratio:	4:3
Vert. Linearity:	2% of picture height
Horiz. Linearity:	2% of picture height
Geometry:	2% change from 0-30fL
Environment	
Temp:	0°C to 50°C
Humidity:	90% non-condensing
MTBF	
Reliability:	60,000 hours
Approvals:	U.L. and CSA listed (120V version only) UL544 medical approval on specific models

Specifications

All models available in 120V and 220/240V versions, standard and Vari-Scan, and a choice of phosphors.

EVM 920	
Resolution:	750 TV lines center 600 TV lines corner (600 lines x 450 pixels)
Horiz. Scan Rate:	Standard: 15.75 to 18.0kHz Vari-Scan: 15.75 to 25.0kHz automatic
EVM 1220/1220SL	
Resolution:	800 TV lines center 650 TV lines corner (650 lines x 488 pixels)
Horiz. Scan Rate:	Standard: 15.75 to 18.0kHz Vari-Scan: 15.75 to 25.0kHz automatic
EVM 1519/EVM 1719/EVM 2319	
Resolution:	1000 TV lines center 800 TV lines corner (800 lines x 600 pixels)
Horiz. Scan Rate:	Standard: 15.75 to 18.0kHz Vari-Scan: 15.75 to 25.0kHz switchable

* Scanguard is a special development for EVM 19/20 models to keep picture sizes constant over a wide range of brightness changes.



	CRT Diagonal (Phosphor)	CRT Display Area
EVM 920	8.55" 217.4mm	38"² 245.2cm²
EVM 1220	11.69" 296.9mm	74"² 477cm²
EVM 1519	13.86" 352.0mm	100"² 645cm²
EVM 1719	16.25" 412.75mm	141"² 909.4cm²
EVM 2319	22.31" 566.7mm	282"² 1819cm²

RAK 9A	18.97" L x 8.75" H (482 x 222mm); 5 lbs. (2.3kg)
RAK 12	18.97" L x 10.47" H; (482 x 266mm); 7 lbs. (3.2kg)
RAK 15	18.97" H x 12.20" H; (482 x 310mm); 7 lbs. (3.2kg)
WMA 9	3 lbs. (1.4kg)

Standard Models

EVM-920P4AG	9" Monitor, 22 lbs. \$ 590.00
EVM-920P31AG	9" Monitor, 22 lbs. 618.00
EVM-1220P4AG	12" Monitor, 33 lbs. 667.00
EVM-1220P31AG	12" Monitor, 33 lbs. 692.00
EVM-1220SLP4AG	12" Monitor, 33 lbs. 667.00
EVM-1220SLP31AG	12" Monitor, 33 lbs. 692.00
EVM-1519P4AG	15" Monitor, 39 lbs. 735.00
EVM-1719P4AG	17" Monitor, 48 lbs. 819.00
EVM-2319P4AG	23" Monitor, 80 lbs. 1004.00
EVM-2319P31AG	23" Monitor, 80 lbs. 1060.00

Vari-Scan Models

EVM-920P4AGFAR	9" Monitor, 22 lbs. \$ 676.00
EVM-920P31AGFAR	9" Monitor, 22 lbs. 703.00
EVM-1220P4AGFAR	12" Monitor, 33 lbs. 750.00
EVM-1220P31AGFAR	12" Monitor, 33 lbs. 777.00
EVM-1220SLP4AGFAR	12" Monitor, 33 lbs. 750.00
EVM-1220SLP31AGFAR	12" Monitor, 33 lbs. 777.00
EVM-1519P4AGFAR	15" Monitor, 39 lbs. 816.00
EVM-1719P4AGFAR	17" Monitor, 48 lbs. 897.00
EVM-2319P4AGFAR	23" Monitor, 80 lbs. 1076.00
EVM-2319P31AGFAR	23" Monitor, 80 lbs. 1130.00

Accessories

ECM-3	Ceiling Mount for 17" and 23", 16 lbs. \$ 75.00
EWM-1	Wall Mount Adaptor for ECM-3, 13 lbs. 65.00
EMS-3	Mobile Stand, 24 lbs. 175.00
RAK-9A	9" Rackmounting Kit, 7 lbs. 70.00
WMA-9	Waveform Mounting Kit for use with RAK-9A, 5 lbs. 35.00
RAK-12	12" Rackmounting Kit, 9 lbs. 70.00
RAK-15	15" Rackmounting Kit, 9 lbs. 70.00
RAK-17	17" Rackmounting Kit, 10 lbs. 70.00



Professional Microphones

635A Dynamic Omnidirectional Microphone

The 635A is a rugged, durable microphone. The moderately high output level (-55dB) is appropriate for a broad range of studio and field applications. Its response has been specially shaped for up-close vocals.

Specifications

- Frequency Response: 80-13,000Hz • Impedance: 150 ohms • Output: -55dB • Diaphragm: Acoustalloy® • Case: Steel • Finish: Fawn beige micomatte • Size: 5¹⁵/₁₆" (151mm) long; 1¹³/₃₂" (36mm) dia.
- Weight: 6 oz. (170g) • Cable: 15' (4.6m) Switchcraft A3F conn.
- Included: 312A clamp

635A \$116.00

649B Miniature Dynamic

Omnidirectional Lavalier Microphone

Created especially for TV, the 649B is our most popular dynamic lavalier. Frequency response is tailored for balanced performance in the lavalier chest position.

Specifications

- Frequency Response: 80-10,000Hz • Impedance: Lo-Z (150 ohms)
- Output Level: -61dB (0dB = 1mW/10 dynes/cm²) • Case: High-tensile, lathe-turned aluminum • Finish: Non-reflecting gray • Cable: 30' (9.1m), 2-conductor, shielded, brown synthetic rubber-jacketed cable • Size: .75" (19mm) diameter; 2.25" (57.2mm) long • Net Weight: 1.1 oz. (31g), less cable and neck cord assembly

649B \$170.00

DL42 Cardiline®

Dynamic Unidirectional Microphone

The DL42 is state-of-the-art in superdirectional dynamics. "Cardiline" is a patented combination of line and cardioid design. Compared to other "shotguns", the DL42 has more uniform response in the critical mid and high frequencies and much more uniform directivity.

Specifications

- Frequency Response: 50-12,000Hz • Impedance: 150 ohms • Output: -50dB • Diaphragm: Acoustalloy • Case: Aluminum and steel • Finish: Fawn beige micomatte • Size: 16³/₄" (425mm) long; 3³/₄" (95mm) max. dia. • Weight: 1 lb., 11 oz. (800g) complete; 13 oz. (369g) mike only • Cable: Special coil cord to extend from mike connector (Switchcraft A3M) to shock mount bail for mechanical isolation
- Included: Screw-on handle, windscreen, shock mount and carrying case

DL42 \$692.00

D054 Dynamic Omnidirectional Microphone

Based on the RE55, the D054 is a moderately priced microphone with essentially flat response over its rated frequency range of 50-18,000Hz. It is useful in applications where the RE55 would excel but where the 1/3 octave additional response below 50Hz is not required, or where small microphone-to-microphone variation is acceptable.

Specifications

- Frequency Response: 50-18,000Hz • Impedance: 150 ohms • Output: -58dB • Diaphragm: Acoustalloy • Case: Steel • Finish: Fawn beige micomatte • Cable: 15' (4.6m) Switchcraft A3F conn. • Size: 5³/₄" (146mm) long; 1¹/₈" (29mm) max. dia.; 3/4" (19mm) shank dia.
- Weight: 6.5 oz. (184g) • Included: 310A clamp, metal carrying case

D054 \$171.00

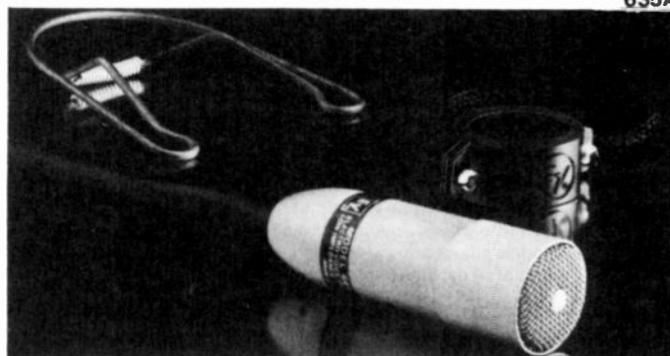
D056 Shock-Mounted

Dynamic Omnidirectional Microphone

The D056 is a shock-mounted omnidirectional microphone for handheld broadcast and sound reinforcement applications. All handling noises and cord vibration are isolated from the microphone element.



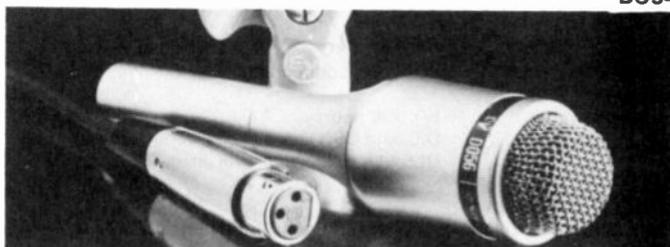
635A



649B



D054



D056

Specifications

- Frequency Response: 80-18,000Hz • Impedance: 150 ohms • Output: -61dB • Diaphragm: Acoustalloy • Case: Steel and aluminum • Finish: Silver tone beige • Cable: 15' (4.6m) Switchcraft A3F conn. • Size: 6¹/₄" (159mm) long; 1⁵/₃₂" (37mm) max. dia.; 3/4" (19mm) shank dia. • Weight: 6.5 oz. (185g) • Included: 312B stand adaptor, protective vinyl carrying pouch

D056 \$143.00

D056L (long case) 162.00

DS35 Single-D Dynamic Cardioid Microphone

Created especially for the professional entertainer, the DS35 has become a connoisseur's microphone. Its Single-D design emphasizes the low frequencies in up-close, handheld applications.

Specifications

- Frequency Response: 60-17,000Hz • Impedance: 150 ohms • Output: -60dB • Diaphragm: Acoustalloy, polystyrene Volumetric Dome • Case: Steel • Finish: Fawn beige micomatte • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: 312A clamp, metal carrying case • Size: 7¹/₄" L (184mm) x 1⁷/₈" max. dia. (48mm) x 3/4" shank dia. (19mm) • Weight: 9.2 oz. (261g)

DS35 \$182.00



Professional Microphones

RE10

Variable-D® Dynamic Super-Cardioid Microphone

A fine, moderate-cost microphone for sound reinforcement, broadcasting, choir pickup and stage work. The RE10 is similar in design to the RE15, but meets requirements where somewhat more unit-to-unit variability is acceptable.

Specifications

• Frequency Response: 90-13,000Hz • Impedance: 150 ohms • Output: -56dB
• Diaphragm: Acoustalloy® • Case: Steel • Finish: Fawn beige micomatte • Size: 6³/₄" (172mm) long; 1³/₈" (35mm) max. dia.; 3/4" (19mm) shank dia. • Weight: 6 oz. (170g) • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: 310A clamp, metal carrying case

RE10.....\$197.00

RE11

Variable-D Dynamic Super-Cardioid Microphone

An excellent microphone for broadcast and quality sound reinforcement, the RE11 is a modestly priced unit with many of the features of the RE16 but where the most precise unit-to-unit matching is not necessary.

Specifications

• Frequency Response: 90-13,000Hz • Impedance: 150 ohms • Output: -56dB
• Diaphragm: Acoustalloy • Case: Steel • Finish: Fawn beige micomatte • Size: 7³/₈" (187mm) long; 1²5/32" (45mm) max. dia.; 3/4" (19mm) shank dia. • Weight: 8 oz. (227g) • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: 310A clamp, metal carrying case

RE11.....\$209.00

RE15

Variable-D Dynamic Super-Cardioid Microphone

Literally born in a Hollywood TV studio, the performance and reliability of the RE15 have made it the workhorse directional microphone for broadcast and high quality sound reinforcement.

Specifications

• Frequency Response: 80-15,000Hz • Impedance: 150 ohms • Output: -56dB
• Diaphragm: Acoustalloy • Case: Steel • Finish: Fawn beige micomatte • Size: 6⁹/₁₆" (167mm) long; 1³/₈" (35mm) dia.; 3/4" (19mm) shank dia. • Weight: 6 oz. (170g) • Cable 15' (4.6m) Switchcraft A3F conn. • Included: 310A clamp, metal carrying case

RE15.....\$298.00

RE16

Variable-D Dynamic Super-Cardioid Microphone

Another professional favorite, the RE16 is like the RE15 except it has a different blast filter. An integral part of the RE16, the blast filter makes possible the closest handheld use without any "P-pops". In all other respects, the RE16 is like the RE15. Its rugged, mechanically "nested" design is highly resistant to damage.

Specifications

• Frequency Response: 80-15,000Hz • Impedance: 150 ohms • Output: -56dB
• Hum Pickup Level: -57dBm (re: .001 gauss field) • Diaphragm: Acoustalloy • Case: Steel • Finish: Fawn beige micomatte • Size: 7³/₈" (187mm) long; 1²5/32" (45mm) max. dia.; 3/4" (19mm) shank dia. • Weight: 8 oz. (227g) • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: 310A clamp, metal carrying case

RE16.....\$308.00

RE18

Shock-Mounted Variable-D Dynamic Cardioid Microphone

The RE18 is a direct descendant of the popular RE15 and RE16 microphones. While maintaining the accurate frequency response characteristics and super-cardioid polar pattern of the RE15, the RE18 has added an integral shock mount for even better performance.

Specifications

• Frequency Response: 80-15,000Hz • Impedance: 150 ohms • Output: -57dB
• Diaphragm: Acoustalloy • Case: Steel • Finish: Silver tone beige • Size: 7" (178mm) long; 1²5/32" (41mm) max. dia.; 3/4" (19mm) shank dia. • Weight: 8 oz. (230g) • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: 312B stand adaptor, protective vinyl carrying pouch

RE18.....\$320.00



RE10



RE11



RE15



RE16



RE20

RE20

Variable-D Dynamic Cardioid Microphone

The RE20 was created especially for critical recording, broadcast, and sound reinforcement applications which require response that extends to the frequency extremes. Combined with a subtle elevation of response in the 5000 to 15,000Hz range, the RE20 provides performance heretofore available only from the most expensive condenser microphones.

Specifications

• Frequency Response: 45-18,000Hz • Impedance: 150 ohms (changeable to 50 or 250 ohms) • Output: -57dB • Diaphragm: Acoustalloy • Case: Steel • Finish: Fawn beige micomatte • Size: 8⁷/₃₂" (216.7mm) long; 2⁹/₆₄" (54.4mm) max. dia.; 1¹5/16" (49.2mm) body dia. • Weight: 1 lb., 10 oz. (737g) • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: Stand adaptor, metal carrying case

RE20.....\$645.00



RE50

Shockproof Dynamic Omnidirectional Microphone

The RE50 was designed expressly for handheld news gathering work. It has the same tailored frequency response and high output level as the 635A.

Specifications

• Frequency Response: 80-13,000Hz • Impedance: 150 ohms • Output: 55dB • Diaphragm: Acoustalloy® • Case: Aluminum • Finish: Fawn beige micomatte • Size: 7³/₄" (197mm) long; 1⁵/₁₆" (49mm) max. dia.; 1" (25mm) shank dia. • Weight: 9¹/₂ oz. (269g) • Cable: 15' (4.6m) Switchcraft A3F conn. • Included: 301A clamp, metal carrying case

RE50\$172.00



RE50

RE55 Dynamic Omnidirectional Microphone

The RE55 is a dynamic omnidirectional microphone designed for the most demanding professional applications. Ideal for boom or stand mounting in recording and broadcast use, it is excellent also for close-up handheld use in stage and interview situations.

Specifications

• Frequency Response: 40-20,000Hz • Impedance: Lo-Z (150 ohms) • Output: -57 (0dB=1mW/10 dynes/cm²) • Diaphragm: Acoustalloy • Case: Steel • Finish: Fawn beige micomatte • Size: 10.5"L (266.7mm) x 1.22" major dia. (30.9mm) x .75" shank dia. (19mm) • Weight: 8.5 oz. (241g) without cable • Cable: 15' (4.6m), 2-conductor, shielded, rubber-jacketed, broadcast type with Switchcraft A3F connector • Included: 310A clamp and vinyl pouch

RE55\$285.00



RE-55

RE85 Shock-Mounted Miniature Dynamic Omnidirectional Microphone

Here's a lavalier microphone that offers professionals in the TV industry great protection from cord and case-conducted mechanical noise. The RE85 has an internally shock-mounted microphone capsule which is "floating" in high-compliance rubber inside the durable steel case. "Slippery" cable and case finishes reduce transmission of mechanical disturbances to the shock mount. Response is tailored for the lavalier chest position.

Specifications

• Frequency Response: 90-10,000Hz • Impedance: 150 ohms • Output: -61dB • Diaphragm: Acoustalloy • Case: Steel • Finish: Champagne • Size: 2⁵/₈" (67mm) long; 5⁹/₆₄" (23mm) max. dia. • Weight: 8 oz. (229g) • Cable: 30' (9.14m) • Included: Neck cord, tie clasp, cable belt clip, protective pouch

RE85\$172.00



RE85

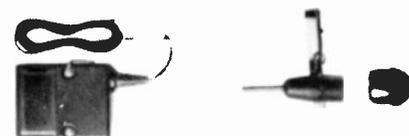
RE98 Electret Condenser Microphone

The RE98 is an omnidirectional lavalier microphone. It has phantom power, a 9V battery, 20dB greater input before overload, and a high tensile-strength cable. The finish is a non-reflecting black.

Specifications

• Frequency Response: 80-15,000Hz • Output: -45dB • Impedance: 150 ohms

RE98\$227.00



RE98



Pro-Line Microphones

Each Pro-Line microphone is packaged with the musician in mind. The soft carrying case not only protects the microphone, but also protects your other equipment from damage that might result from contact with metal cases. We know that each musician and sound mar has his own special requirements, so we package PL microphones without cables.

PL5 Dynamic Omnidirectional Microphone

A professional instrument mike, ideal for super high sound pressure levels, like close miking of amplified guitar, bass drums, or synthesizers.

The PL5 has a built-in pop filter, and low sensitivity to handling and cable noise. The high -55dB output level lets you drive any low impedance input. And Lo-Z lets you use long cables without high frequency rolloff.

The rugged steel case is finished in non-reflecting gray. And the PL5 has the super tough Memraflex steel grille screen.

Specifications

- Frequency Response: 80-13,000Hz
- PL5 \$124.00**

PL6 Dynamic Super-Cardioid Microphone

The broad, smooth frequency response of the PL6 makes it ideal for miking brass, reeds, percussion, or piano. It has professional low impedance and an unusually high -56dB output level. Housed in a rugged diecast case finished in non-reflecting gray, the PL6 has the Memraflex grille screen.

Specifications

- Frequency Response: 90-13,000Hz • Impedance: Lo-Z, 150 ohms
- PL6 \$137.00**

PL9 Dynamic Omnidirectional Microphone

The PL9 is a professional Lo-Z, high-output (-58dB) microphone that compares in performance with other omnidirectionals costing several times the price. Its rugged turned steel case is attractively finished in non-reflecting gray. And the PL9 has the super tough Memraflex steel grille screen.

Specifications

- Frequency Response: 50-18,000Hz
- PL9 \$181.00**



PL11



PL20



PL9



PL10

PL10 Dynamic Cardioid Instrument Microphone

The PL10 is a professional quality, dynamic, cardioid microphone created especially for music recording and live sound reinforcement applications requiring a flat frequency response over a very wide range. The extended frequency response, coupled with an excellent transient response, makes the PL10 easily comparable to the finest microphones for pickup of musical instruments or voices. The PL10 is virtually free of bass-boosting "proximity effect" when used close to a sound source because the PL10 is a Continuously Variable-D® microphone.

Specifications

- Frequency Response: 75-15,000Hz • Impedance: Lo-Z, 150 ohms nominal • Output Level: -55.8dB
- PL10 \$368.00**

PL11 Dynamic Super-Cardioid Microphone

The PL11's big blast filter cuts way down on "pops", making it useful for vocalists who like its natural, high-intelligibility sound. And the super tough Memraflex grille screen keeps its shape. The PL11 is Lo-Z, with high output (-56dB). Its durable turned steel case is finished in non-reflecting gray.

Specifications

- Frequency Response: 90-13,000Hz • Impedance: Lo-Z, 150 ohms
- PL11 \$224.00**

PL20 Dynamic Super-Cardioid Microphone

The PL20 was created for critical recording and musical sound reinforcement applications which require response that extends to frequency extremes. A subtle elevation of response in the 5,000 to 15,000Hz range, provides performance heretofore available only from the most expensive condenser mikes.

Specifications

- Frequency Response: 45-18,000Hz • Impedance: 50, 150 and 250 ohms • Output Level: -57dB
- PL20 \$607.00**



Electro-Voice®
a MARK IV company

MICROPHONE ACCESSORIES



- 307 Shock mount for 3/4" dia. microphones \$56.00
- 309 Shock mount for RE20 and SE15B 74.00
- 310 3/4" Clamp, black (635A, 649B, DO54, DS35, PE15A, RE10, RE11, RE15, RE16, RE55, 631B) 9.00
- 310A 3/4" Clamp, gray (same applications as 310) 9.00
- 312 3/4" Snap-out Clamp, black (same applics. as 310) 9.00
- 312A 3/4" Snap-out Clamp, gray (same applics. as 310) 9.00
- 313A Shock mount for 3/4" diameter microphone 33.00
- 314 Windscreen (RE10, RE15) 19.00
- 314E Windscreen (635A, 631B) Pop only for 664A, 660 9.00
- 315A Windscreen (foam—CH15E, CO15E, CS15E) 9.00
- 323S Clamp for N/D 257, 357, 457, 757 9.60
- 337 Windscreen (626, 627) 10.60
- 338 Windscreen (foam-RE18) 19.00
- 340 Security Clamp—3/4" dia. mikes 21.00
- 351 Windscreen (DO56), Popfilter (RE18) 10.00
- 355A Windscreen (RE55, DO54, 654A, 655C) 9.00
- 360 Windscreen (660, 661, 664A) 17.85
- 370 Barrier Adaptor Plate—(Surface mounting plate for CO94, CO90, CO90P) 4.50
- 376 Windscreen (DS35, 1776, 1777, 658, 671, 681), Popfilter (RE11, RE16) 15.30
- 379* Colored Windscreens (PS35, RE11, RE16, RE50, 1777A, 1776B, 661, 671B, 658) 9.00
- 380 10dB Attenuator 40.00
- 381 Switch/Connector Cable 15' 42.20
- 390 Dual microphone tie clasp (CO90, CO90P, CO94) 7.50

***Specify Color**

379-1 Charcoal, 379-2 Red, 379-3 Orange, 379-4 Yellow, 379-5 Green, 379-6 Blue, 379-7 Violet.

- 400 Desk Stand, for all stud or clamp-type mikes \$ 21.00
- 411 Stage Mike Mount 21.00
- 422 Desk Stand, clamp-type mike (CS15, DO54, DO56, DS35, PE15A, RE10, RE11, RE15, RE16, RE18, RE50, RE55, 340, 635A, and 649B) 22.00
- 423A Desk Stand, 5/8" — 27 threaded 5" riser 19.00
- 428 Touch-to-Talk Stand DPDT, 5/8" — 27 thread 57.75
- 456 Single Carrying Case (Universal: fits all variations of 626, 627, 631, 660, 661, 664, 670, 671, 672) 22.50
- 458 Zippered Protective Vinyl Pouch for 635A, 649B, DO54, DO56, DS35, RE10, RE11, RE15, RE16, RE18, RE50, RE85, CS15P, CO15P, most pipes 10.00
- 502C Matching Transformer, Lo to Hi-Z, inline 35.60
- 502CP Matching Transformer, Lo to Hi-Z, with plug 35.60
- 513A Low-frequency cutoff filter for use with Lo-Z mikes 105.00
- 521 25' Professional Cable, with Professional 3-Pin Connectors, both ends 37.20
- 523 4.5V Alkaline battery—1776 (12 per box) 47.50
- AC24M Remote AC power supply for condenser microphones from standard 117VAC power. Expandable in multiples of four to accept up to 10 microphones by using AC24S Expander Modules 149.00
- AC24S Expander Module (cannot be used without AC24M) 126.00
- RM-1 Rackmount bracket assembly for ELX-1 31.00



Electro-Voice®
a MARK IV company

STEREO MIXING CONSOLE

BK-1632 16-Channel Stereo Mixing Console

• Subgroup capability • Individual channel insert • Multiple effects sends • Phantom power • Pre-fader cue • Provides the routing flexibility and equalization required for laying down tracks or final mix-downs

Input Section

• **Channel Insert Send** and return patching for individual channels is accomplished with a single ring-tip-sleeve jack. This space-saving arrangement greatly reduces the "wiring mess" that can occur with separate send and return jacks. The front-panel insert point allows quick repatching of processors during a show. One insert patch cord is included

• **Input Trim** The trim control matches the input preamp gain to the source output for better signal-to-noise performance. A wide adjustment range accommodates microphone and line-level signals without a separate pad switch

• **High/Mid/Low EQ** The 3-band equalizer provides flexible total control for any instrument or vocal input. The high band has a ± 15 dB range, shelving at 10kHz for adding "sparkle" to the mix. For increased projection or to correct nasal vocals, the peak/dip mid control centers at 3kHz with a ± 12 dB range. The low EQ can add impact or reduce stage rumble with a ± 15 dB range, shelving at 100Hz

• **Effects, Monitor and Auxiliary Sends** The EFX/REV control sends post-EQ, post-fader signal to the internal spring reverb and/or an external effects processor. The monitor control sends pre-EQ, pre-fader signal for a stage monitor mix. For added flexibility, the auxiliary send is switchable pre- or post-fader and EQ, for monitor or effects applications. This gives you three sends plus the left and right bus, per channel

• **Pan Control** The pan pot apportions the input signal to the left and right subgroup buses. Besides normal stereo applications, this allows vocal and instrument subgroups for mono sound reinforcement

• **PFL Assign** Depressing the PFL switch allows pre-fader priority monitoring of the individual channels through the headphone output. This simplifies EQ changes and noise isolation during a live performance. Monitoring status is indicated by an LED

• **Clip LED** The red LED indicates signal overload, or clipping, at the preamp or equalization section. This helps prevent audible distortion

Output Section

• **Subgroup Left and Subgroup Right** Send and return patching for subgroups is made with a single ring-tip-sleeve jack. This allows processing for an entire subgroup, like a compressor/limiter for all vocals

• **Level Meters** Red-yellow-green LED bars accurately indicate left/right subgroup or main/monitor output levels (switch selectable)

• **Lamp Connector** BNC-type socket provides 12.6VAC for an optional gooseneck lamp

• **Effects Send** The EFX send controls the output from the effects bus sent to external processors or other feeds

• **Effects Return and Pan** The level from external processors sent to the left and right subgroups, via the effects pan pot, is determined by these controls

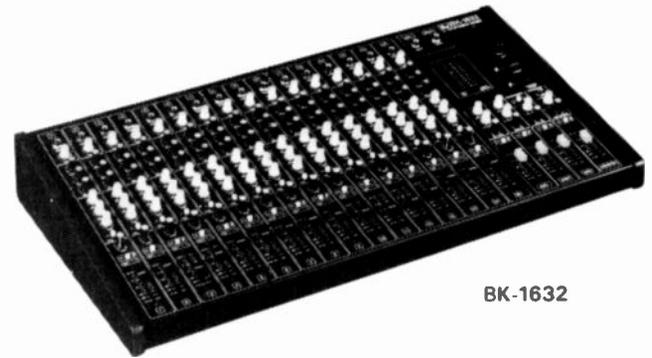
• **Auxiliary Send** The auxiliary send controls the output level of the auxiliary bus. When used pre-fader, this is typically a monitor send. In post-fader, the bus is usually an effects send

• **Auxiliary Return and Pan** The level from external processors sent to the left and right subgroups, via the effects pan pot, is determined by these controls

• **Reverb Level and Pan** These controls set the return level of the internal spring reverb sent to the left and right subgroups. The mix sent to the internal reverb is identical to that of the effects send

• **Headphone Gain** The cue level sent to the headphones jack is determined by this control

• **Reverb to Monitor** This control sends signal from the internal reverb to the monitor output bus, allowing a "wet" monitor mix



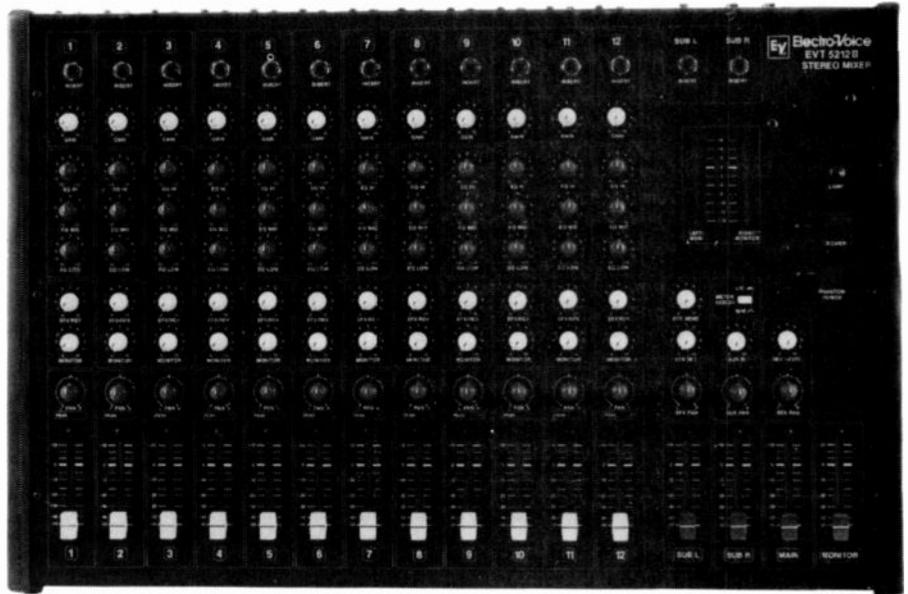
BK-1632

• **Master Output Faders** The left and right subgroup fader controls the output level of the subgroups. The main output controls the level of the mono summed signal from the left and right subgroups. The monitor fader controls the output level of the monitor bus

Specifications

Frequency Response:	Mike input to any output, EQ flat, all faders nominal 20-20,000Hz ± 1 dB
Total Harmonic Distortion:	< 0.05% at +4dBu ¹ , 20-20,000Hz < 0.10% at +20dBu, 20-20,000Hz
Noise:	(20-20,000Hz with 150-ohm input impedance) -128dBu Equivalent Input Noise (EIN), mike input (theoretical minimum noise is -130dBu across 150 ohms) -90dBu residual at main out (all faders down) -90dBu residual at monitor out
Input Channel Equalization:	± 15 dB shelving at 100Hz ± 12 dB peak/dip at 3kHz ± 15 dB shelving at 10kHz
Microphone Inputs:	Low impedance, balanced—pin 2 reference positive Max. input level: +6dBu (1.5V) Input impedance at 1kHz: 4.4K ohm Common mode rejection ratio—Typical: -65dB Min., 60-10,000Hz: -50dB
Line Inputs:	High impedance, balanced tip positive Max. input level: +24dBu (12V) Input impedance: 70K ohm
Peak Indicator Threshold:	+15dBu
Max. Voltage Gain ± 3dB:	85dB—Mike in to main out; 75dB—Mike in to monitor out; 75dB—Mike in to sub out; 52dB—Mike in to insert jack; 82dB—Mike in to EFX send; 60dB—Line in to main out; 50dB—Line in to monitor out; 50dB—Line in to sub out; 27dB—Line in to insert jack; 57dB—Line in to EFX send; 50dB—Line in to aux. out
Crosstalk:	-75dB typical—Adjacent inputs, 1kHz -75dB typical—Input to output, 1kHz -50dB min.—All combinations, 20-20,000Hz
Lamp Connector:	BNC connector, 12.6VAC/0.20A max.
Phantom Power:	48VDC at pins 2 and 3 on mike connector, 3.4K ohm source resistance
Level Display:	10-segment LED in 3dB steps: Range: -18dB to +9dB Reference "0": +4dBu Response: Full wave, average responding
Headphone Output Output:	20mW into 8 ohm
Frequency Response:	50-15kHz ± 2 dB
Prefader Listen (PFL):	Switchable for all input and output channels
Aux. Send Input Channels:	Switchable pre- or post-fader and EQ
Dimensions:	5.125" H x 32.75" W x 18.125" D (130 x 832 x 460mm)
Net Weight:	37 lbs. (16.8kg)
Power Requirement:	25W max. Available for 95-130V, 60Hz

BK-1632 \$1498.00



5212

**EVT 52 Series II
Stereo Mixers**

Designed for quality sound, the Series 52 mixers feature differentially balanced microphone inputs using the best available high-speed, low-noise low-distortion audio op-amps and 1% tolerance components to assure good rejection of interference from CB and broadcast radio signals.

Each channel features a convenient channel insert jack (for inserting external effects or EQ simply with a single cable), an input gain control, 3-band musically usable equalization at 100Hz and 10kHz shelving and 3kHz peak/notch, a post-fade effects send (which feeds both an external effects send and the internal auto-limiting spring reverb), a pre-fade monitor send, a pan pot, channel peak indicator (which monitors gain both before and after EQ) and a channel fader.

The output section features master faders and insert jacks for left/right subgroups and main/monitor master faders which can all be monitored, through the meter assign switch, by the two high-visibility, high-resolution, accurate peak responding LED VU displays. Also included are the effects send master, and effects, auxiliary, and reverb return masters, each of which can be assigned to the left/right sub-masters via a pan pot. Another feature to make the nightly use of your Series 52 mixer even more convenient is the built-in BNC connector for an optional Littelite.

The rear panel outputs are unbalanced and allow for the stacking of Series 52 mixers when more input capability is needed.

Master Controls

Control the overall level of the Left and Right Subs, Main and Monitor outputs.

Specifications

FREQUENCY RESPONSE (± 1dB)

Mic In to any output, EQ Flat, all faders nominal: 20Hz-20kHz

DISTORTION

Total Harmonic Distortion

THD 20-20kHz at +4dB: less than 0.05%

THD 20-20kHz at +20dB: less than 0.10%

I.M. SMPTE,

1dB below clip: less than 0.10%

NOISE—

(20-20,000Hz with 150-ohm input impedance)

-128dBu EIN-equivalent input noise, mic input**

-90dBu Residual at main out (all faders down)

-90dBu Residual at Monitor out

INPUT CHANNEL EQUALIZATION

Low — Shelving at 100Hz: ± 15dB

Mid — Peak/notch at 3kHz: 12dB

High — Shelving at 10kHz: ± 15dB

MICROPHONE INPUTS*

Low Impedance, balanced: Pin 2 reference positive

EIN (20Hz-20kHz):

150 ohm source**: -128dB

Maximum Input Level: +6dBu (1.5V)

Input Impedance at 1kHz: 4.4k ohms

CMRR — Common Mode

Rejection Ratio: -65dB typical

CMRR — Ratio (60Hz-10kHz): -50dB min.

Slew Rate

(measured at Insert Jack): 15V/μsec

LINE INPUTS*

High Impedance Balanced: tip positive

Maximum Input Level: +24dBu (12V) (40.0V)

Input Impedance: 70k ohms

PEAK INDICATOR (Threshold)

± 2dBu; + 15dBu

MAXIMUM VOLTAGE GAIN ± 3dB

Mic In to Main Out: 85dB

Mic In to Monitor Out: 75dB

Mic In to Sub Out: 75dB

Mic In to Insert Jack: 52dB

Mic In to Efx send: 82dB

Line In to Main Out: 60dB

Line In to Monitor Out: 50dB

Line In to Sub Out: 50dB

Line In to Insert Jack: 27dB

Line In Efx send: 57dB

CROSSTALK

Adjacent Inputs 1kHz: -75dB typical

Input to Output 1kHz: -75dB typical

All combinations 20Hz-20kHz: -50dB minimum

LAMP CONNECTOR: BNC connector

12.6VAC/0.20 amps Max.

PHANTOM POWER: 48VDC at pins 2

and 3 on mic connector, 3.4k ohms source resistance

LEVEL DISPLAY*

10 Segment LED in 3dB steps:

Range: -18dB to +9dB

Reference "0": +4dBu

Response: Full wave, Average Responding

DIMENSIONS

Model 5208

Height: 130mm (5.125 in.)

Depth: 460mm (18.125 in.)

Width: 528mm (20.75 in.)

Model 5208RM

Height: 454mm (17.875 in.)***

Depth: 140mm (5.5 in.)

Width: 483mm (19.0 in.)

Model 5212

Height: 130mm (5.125 in.)

Depth: 460mm (18.125 in.)

Width: 680mm (26.75 in.)

NET WEIGHT

Model 5208: 10.7kg (23.5 lbs.)

Model 5208RM: 10.7kg (23.5 lbs.)

Model 5212: 13.8kg (30.6 lbs.)

POWER REQUIREMENT

25 Watts Maximum

Available for 95-130 volts, 60Hz or 190-260 volts, 50/60Hz, or 80-110 volts, 50/60Hz, as indicated on rear panel.

EVT 5208 (Eight Channel) \$ 990.00

EVT 5208-RM (Rackmountable and

Eight Channel) 990.00

EVT 5212 (Twelve Channel) 1195.00

*0dB is referenced to 0.775 Volt RMS

**Theoretical minimum noise is -130.8dB across 150 ohms

***5208RM front panel is ten EIA rack spaces (17.5 in.); two more rack spaces (3.5 in.) should be provided above mixer for connectors and wiring.



Electro-Voice®
a MARK IV company

MIXER/ LOUDSPEAKER SYSTEMS

ELX-1™ Audio Mixer

The ELX-1 rackmounts in 1 rack unit (1.75") with optional RM-1 brackets. It is powered from AC line, internal batteries, or external source, with automatic switchover. An Electro-Pulse® indicator shows power status and battery condition. Includes detachable line cord and shoulder strap. It has an all metal case construction with 4 balanced transformerless inputs, switchable to mike or line level, extensive RF shielding and protection circuitry. Input controls set actual gain of preamps for optimum noise performance with any input signal. Phantom power is available at microphone inputs. Low-cut filters switchable at each input. Pushbuttons are used throughout so there are no intermittent slide switches. An LED clip indicator at each input and 3-color bargraph meter shows peak output level. Switchable output limiter prevents clipping; Yellow LED lights when limiting occurs. 1kHz tone oscillator and transformer-isolated output; split windings present signal to 5-way binding posts and XLR-type jack. One output switchable to mike or line level. Headphone output, with separate power amp and level control can drive any headphones or a cue speaker. Two 1/4" stacking jacks allow interconnecting other mixers; modifiable for insert patching. 1/4" auxiliary input jack for fifth input or for stacking additional mixers. Input control color-coding markers supplied; may be coordinated with EV 379-series colored windscreens.

ELX-1. \$567.00

Sentry® 500/505 Professional Monitor Systems

These systems have been designed for the broadcast/recording studio engineer. The design meets the needs of professionals by combining high efficiency with extended low frequency response, high power capacity across the entire frequency range, uniform frequency response and constant directivity. Each system employs a Super-Dome™ tweeter capable of handling 25W of input power, while reproducing program material with response out to 18kHz.

Specifications

Frequency Response: 40-18,000Hz
Impedance: 8.0 ohms
Long-Term Average Power Handling Capacity (at 8 ohms): (40-40,000Hz) 100W

Sentry® 500

The Sentry 500 was designed for 1/4- to 1/2-space use. The speaker system should be mounted as close as possible to floor/ceiling and/or wall surfaces. When coupled with the WB23 wall mount kit, the Sentry 500 can be integrated into virtually any environment.

Specifications

Dimensions: 23 3/4" H x 27" W x 13" D
Weight: 70 lbs.
Sentry 500. \$520.00
WB23 Wall Mount Kit 28.00

Sentry 505

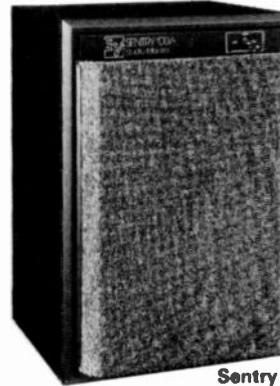
The Sentry 505 must be used in quarter-space to achieve specified low frequency performance. Installation of the system on a wall can be accomplished with the mounting brackets included with the system. It is possible to mount the Sentry 505 so that the drivers are angled at 60° or 30° from vertical.

Specifications

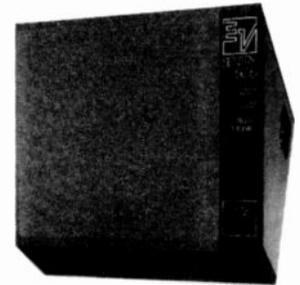
Dimensions, 30° from Vertical: 19.50" H x 25.63" W
Top: 18.75" D
Bottom: 7.50" D
60° from Vertical: 18.75" H x 25.63" W
Top: 19.50" D
Net Weight: 60 lbs.
Sentry 505. \$520.00



ELX-1



Sentry 100A



Sentry 505

Sentry 100EL Professional Monitor System

The Sentry 100EL powered monitor speaker system combines the advantages of the Sentry 100A monitor with a self-contained, high performance power amplifier. It is designed with the broadcast/recording studio engineer in mind, although it is well suited for a wide variety of professional applications. It offers uniform frequency response and dispersion across a wide range, extended low frequency response.

A Super-Dome tweeter is used to reproduce program material at high levels, with response out to 18kHz and uniform dispersion (120° at 5kHz). The low frequency section is an 8" direct radiator woofer installed in an optimally vented enclosure. The Sentry 100EL is housed in a utility cabinet wrapped in a special scratch-resistant, matte black vinyl. The cabinet size is intentionally designed for rackmounting. When coupled with the SRB-7 rackmount/wall mount kit, the Sentry 100EL can be integrated into virtually any environment that demands conservation of space such as mobile recording studio facilities. The steel reinforced grille is covered with a custom gray cloth.

Specifications

Frequency Response: 40-20,000Hz
Sentry 100EL \$545.00

Sentry 100A Monitor Speaker System

The Sentry 100A monitor speaker system meets the needs of professionals with high efficiency and extended low frequency response, high power capacity across the entire frequency range, uniform frequency response and dispersion, all in a compact package. The Sentry 100A is housed in a utility cabinet wrapped in a special, scratch-resistant, matte black vinyl. The cabinet size is intentionally designed for rackmounting. With the SRB-7 rackmount/wall mount kit, the Sentry 100A can be integrated into virtually any environment that demands conservation of space such as mobile recording studio facilities. The steel reinforced grille is covered with a custom gray cloth.

Specifications

Frequency Response: 45-18,000Hz
Impedance: 6 ohms
Long-Term Average Power-Handling Capacity (above 40Hz): 30W
Dimensions: 17.25" H x 12.00" W x 11.125" D
Net Weight: 28 lbs.
Sentry 100A. \$265.00
SRB-7 Rackmount/wall mount brackets for 100EL and 100A 26.00



Electro-Voice®
a MARK IV company

SPEAKER SYSTEMS

SOUND REINFORCEMENT SPEAKERS

S-1803

The S-1803 Keyboard Reinforcement System offers low distortion and wide frequency response (useable response 35Hz to 18kHz) making it ideal for synthesizers and other keyboards. Capable of handling 200W continuous power.

Specifications:

Frequency Response: 50Hz-16kHz
Nominal Impedance: 8 ohms
Sensitivity: 99.5dB
Dimensions: 35.5"H x 28.0"W x 19.4"D
Net Weight: 134 lbs.

S-1803\$1242.00

S-1503

The S-1503 Three-Way High-Level Music Playback/Sound Reinforcement System features a higher power EV-exclusive VMR® vented midrange speaker. Capable of handling 200W continuous power.

Specifications

Frequency Response: 65Hz-16kHz
Nominal Impedance: 8 ohms
Sensitivity: 100dB
Dimensions: 28.7"H x 24.4"W x 13.8"D
Net Weight: 105 lbs.

S-1503\$992.00

S-1202

The S-1202 Full Range Compact Sound Reinforcement System is a time coherent, constant-directivity, high efficiency design, capable of handling 300W continuous power. The high frequency section of this two-way system utilizes a flat-mouth 90° x 40° diecast horn coupled to the pro-music titanium driver.

Specifications

Frequency Response: 75Hz-20kHz
Nominal Impedance: 8 ohms
Sensitivity: 101.5dB
Dimensions: 24.7"H x 19.1"W x 11.7"D
Net Weight: 66 lbs.

S-1202\$667.00

FM-1202

The FM-1202 Compact High-Level Floor Monitor, like the S-1202, is a time coherent constant-directivity, high efficiency system. Capable of handling 300W continuous power.

Specifications

Frequency Response: 75Hz-20kHz
Nominal Impedance: 8 ohms
Sensitivity: 101.5dB
Dimensions: 19.4"H x 19.4"W x 24.4"D
Net Weight: 65 lbs.

FM-1202\$618.00



S-1503



SH-1502ER



FM-1202



SH-1512ER

FM-1502

The FM-1502 High-Level Floor Monitor is the heavy-duty model of the FM-1202. It features the same exciting high-frequency components as the FM-1202. Coupled through a specially designed crossover/equalizer network to the proprietary, extended coil, 15" low-frequency speaker in an optimally-vented enclosure the FM-1502 has a useable frequency response from 47Hz to 23kHz. It offers the ultimate in high-level, high-clarity, floor monitoring. Capable of handling 300W continuous power.

Specifications

Frequency Response: 65Hz-20kHz
Nominal Impedance: 8 ohms
Sensitivity: 102dB
Dimensions: 22.0"H x 22.5"W x 27.9"D
Net Weight: 75 lbs.

FM-1502\$786.00

STAGE SYSTEM SPEAKERS

SH-1502ER

The SH-1502ER is a 200W, 2-way, high-efficiency, constant-directivity stage system featuring a vented, horn-loaded woofer section. It combines professional quality components arranged in a vertical array with an unusually durable enclosure. The result is wide-range, accurate sound reproduction with transparent highs and "punchy" bass response.

The bass section of the SH-1502ER is designed as a vented-horn format of system for

a projected midrange sound quality combined with low-frequency performance extending to below 60Hz.

Specifications

Frequency Response: 10' on axis, swept 1/3-Octave, Half-Space An-echoic Environment: 62-20,000Hz

Nominal Impedance: 8 ohms
Dimensions: 31.9"H x 24.7"W x 16.0"D
Net Weight: 81 lbs.

SH-1502ER\$580.00

SH-1512ER

The SH-1512ER is a 200W, 2-way, high-efficiency, constant-directivity stage system featuring a vented, direct-radiating woofer section. It combines professional quality components arranged in a vertical array with an unusually durable enclosure. The result is wide-range, accurate sound reproduction with transparent highs and "full" bass response.

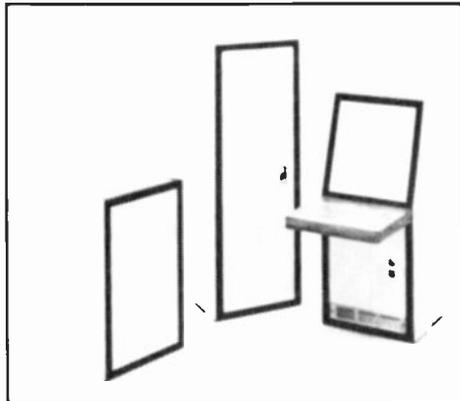
The bass section of the SH-1512ER is designed using Thiele-Small parameters for efficient performance to below 55Hz.

Specifications

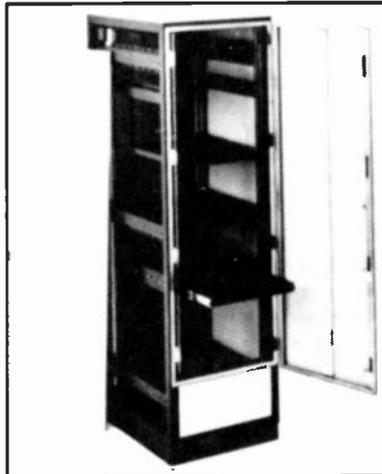
Frequency Response: 10' on axis, swept 1/3-Octave, Half-Space An-echoic Environment: 50-20,000Hz

Nominal Impedance: 8 ohms
Dimensions: 31.9"H x 24.7"W x 16.0"D
Net Weight: 75 lbs.

SH-1512ER\$610.00



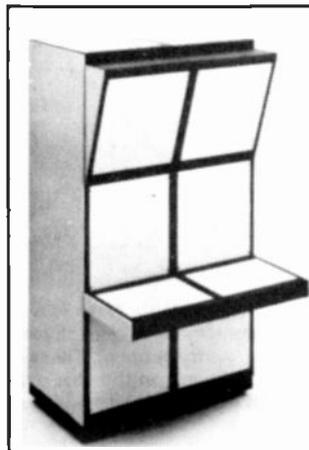
10 SERIES



EMI/RFI ENCLOSURES



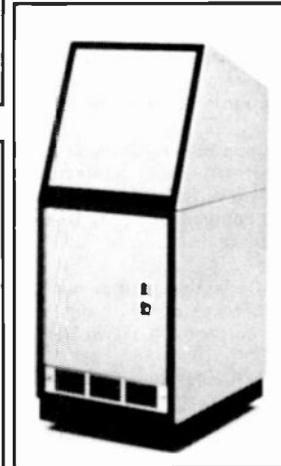
EMCOR I



EMCOR ESQ



COMPUDESK



EMCOR II

EMCOR SUPER SIX ENCLOSURES

8,000 Standard Items

Emcor I

Emcor's original concept and broadest product line is available in vertical, slope front, low silhouette, desk height and turret configurations.

Emcor II

This top-of-the-line series features seamless construction and handsome, contemporary styling.

Emcor ESQ

Designed to combine the economy of Emcor I with the styling of Emcor II. This is currently Emcor's most popular product line.

10 Series

Emcor's newest and most rigid product line — available in vertical, desk height and slope front configurations with a full complement of accessories.

EMI/RFI Enclosures

Emcor offers two levels of standard catalog EMI/RFI shielded enclosures: one to meet FCC requirements and another to meet levels of attenuation required by the military. Both product lines have been tested to MIL STD 285.

Computesk

Emcor's computer support furniture is available in two heights, two depths, four widths and in three different top styles. More than 500 models available.

And when you need it fast, there's Instant Emcor

775 items — available for shipment in just five working days, with option of color on selected items in ten working days.

Custom capabilities available upon request.



TIME CODE READERS/ PROGRAMMERS

Time Code Readers

ES 453 SMPTE Time Code Reader is an eight-digit SMPTE Time Code Reader displaying Hours, Minutes, Seconds and Frames \$395.00

ES 452 Play Speed SMPTE Time Code Reader/Window Dubber is a microprocessor-based eight digit SMPTE time code video character inserter which displays either the time data or the eight user bit characters \$550.00

ES 455 is a bi-directional, multi-speed, eight-digit SMPTE Code Reader, that can add the information to a video stream for recording time code on the video portion of a tape, or for displaying it on a monitor. Reading speed is 1/30 to 20 times playback speed \$795.00

ES 456 "Smart" SMPTE Time Code Reader. The ES 256 is a bi-directional multi-speed, eight digit SMPTE Time Code Reader which displays Hours, Minutes, Seconds and Frames on .4" red LED's. The ES 256 incorporates a digital error detection system: When a bad frame of time code is detected, the unit will switch to a frame-counting mode \$750.00

ES 257 SMPTE Time Code Reader/Comparator is capable of making two comparisons, as established by the two sets of thumbwheels located on the front panel. By specifying option "B" (four-line parallel BCD, 5V CMOS compatible), additional comparisons may be made by connecting one or more ES 258 "expander" units \$875.00

ES 258 SMPTE Time Code Comparator has been designed as an "expander" for the ES 257. Two sets of eight-digit thumbwheels are located on the front panel, to allow comparison of two SMPTE code locations \$395.00

ES 270 IRIG B Time Code Reader Nine digits of time are shown on bright red LED's .4" character height. An RS232C interface (Hrs., Min., Sec. only) can be supplied as an option. ES 270 comes in a rackmounting enclosure 1 3/4" H x 19" W x 10" D \$405.00

ES 280 Audio Time Code Generator/Reader is a 10 Digit Audio Time and Code Generator/Reader, capable of laying down a serial BCD time code on audio tape in the Generator Mode, and recovering and displaying it in digital form in the Reader Mode. The code has been designed by ESE. It is not a standard code, such as SMPTE or IRIG. The frequencies used to produce the code have been selected to be compatible with cartridge machines as well as other tape recording and playback equipment. Amplitude adjustment assures the right amount of signal for the particular machine being used \$578.00

720 Series Programmable Clocks, Timers and Time Code Readers

10 events occur on 10 isolated output channels, in the form of momentary reed relay contact closures. Latched outputs may be specified at the time of order. When latched, the next event to occur serves to "unlatch" the previous event.

Programming is done through the front panel keyboard, or "on the fly" in the "Run" mode. As the keys are actuated, the data is displayed on bright red .4" LED's. Re-programming is accomplished by "writing" the new data over the old data.

A battery, battery charger and crystal timebase are provided, to prevent malfunction caused by a power interruption.

The 720 Series units have a 3 1/2" H front panel, 19" W, with chassis extending 8" behind the etched and clear anodized panel.

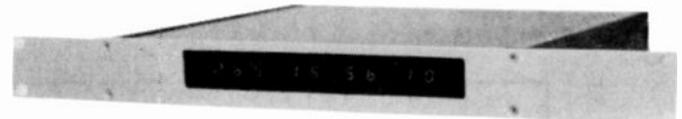
ES 720 Contains its own 24 hour clock for comparison. \$845.00

ES 722 Contains its own 24 Hour Presettable Up/Down timer for comparison \$845.00

ES 727 Contains a SMPTE Time Code Reader, similar to ES 254, for comparison. Code is received through a rear-mounted female XLR connector \$1150.00

Programmers

780 Series Ram Time Programmers are the most cost-effective way of programming more than eight events. They are flexible, easy to use, and



ES 255



ES 280



ES 727

provide 32 events (expandable to 96). The size of the unit is 5 1/4" H x 19" W x 10" D—Relay Rack construction, totally enclosed, with a screen top. 780 Series units operate from the power line with a backup crystal time base and 72 hour battery/charger as an integral part of the equipment.

Eight Digits of Programming Capability

ES 780 10 Days, 10 Outputs, Hours, Minutes, Seconds \$1575.00

ES 781 100 Days, Hours, Minutes, Seconds 1433.00

ES 782 16 Outputs, Hours, Minutes, Seconds 1654.00

Six Digits of Programming Capability

ES 783 Hours, Minutes, Seconds \$1365.00

ES 784 100 Days, Hours, Minutes 1365.00

ES 786 16 Outputs, Hours, Minutes 1600.00

ES 787 16 Outputs, Minutes, Seconds 1600.00

Four Digits of Programming Capability

ES 788 Hours, Minutes \$1313.00

ES 789 Minutes, Seconds 1313.00

ES 790 Microprocessor-Based Programmable Timer is a 1,000 event, 32 channel, microprocessor-based programmable clock. Events occur as reed relay contact closures (single pole, normally open). These closures may be all momentary, all latching, or 16 of each, at the user's option. A simple modification allows the use of 16 double pole relays, instead of 32 single pole relays.

1,000 time events can be programmed into the memory and they can be entered randomly, as opposed to chronologically.

An internal crystal with battery and battery charger is provided for uninterrupted operation.

The size of the unit is 5 1/4" H x 19" W x 10" D.

ES 790 Totally enclosed in rackmounting chassis w/screen top . . \$2300.00

ES 790/1 790 w/1 Sec/Mo accuracy, Master Clock Option 2888.00

ES 790/3 790 w/3 Sec/Mo accuracy, Master Clock Option 2730.00

750E Series Thumbwheel Programmer Comparators are recommended when programming up to eight time events. Thumbwheel switches are set to compare the time information from an ESE Clock or Timer.

One set of thumbwheels is required for each event. The standard 750 Series units are enclosed in 3 1/2" high relay rack panel and chassis.

ES 750E ES 112 and one 6 Digit Program \$364.00

ES 751E ES 124 and one 6 Digit Program 364.00

ES 753E ES 112 and two 4 Digit Programs (Hrs. & Min.) 435.00

ES 754E ES 124 and two 4 Digit Programs (Hrs. & Min.) 435.00

ES 756E ES 510 and one 4 Digit Program (Min. & Sec.) 358.00

ES 758E ES 510 and two 4 Digit Programs (Min. & Sec.) 452.00

ES 760E ATS Clock is a six digit, 24 hour, programmable clock designed specifically for Automatic Transmission Systems.

On the front panel are a six digit display of time, in hours, minutes and seconds, and two sets of four thumbwheels. These thumbwheels are used to program mode switching times in hours and minutes. 3 1/2" H x 19" W x 8" D.

Under normal operating conditions, the ES 760E will operate from the 60Hz power line. If, for any reason, normal power is interrupted, ES 760E will automatically switch to its internal battery and crystal time base. A built-in battery charger keeps the battery ready for such emergencies. Battery operation can continue for up to eight hours.

ES 760E \$717.00

**RGB 104 Universal Computer Display Interface
 and RGB 102E Computer Display Interface**

Features Common to Both Models

- Auto power on/off
- Master level control—Varies signal output level from .6V to 1.2V p-p for "long line run" signal loss compensation and balancing multiple display signals for equal picture contrast
- Additional blue enhancement
- Horizontal picture centering
- Automatic Horizontal Picture Centering—Regardless of the horizontal scan frequency of the computer being interfaced, the output signal remains centered on the display screen. No significant readjustment of picture centering is required when used on a low scan computer and cables are changed for use on a high scan computer
- Vertical picture centering
- Monochrome RGB output
- Monochrome composite video output varies from .9V to 1.3V with interface master level adjustment
- Video invert switch
- Internal interface horizontal blanking and pulse serration controls
- AC outlet mounted power supply for keeping power transformers with magnetic fields away from computer floppy disk preventing accidental erasure or damage
- Low noise sync control circuits
- Provides features and circuits for interfacing a wider range of medium and high resolution personal computers and compatibles with monochrome 8 or 16 color computer display adaptor cards. The RGB 104 Universal TTL Interface includes Enhanced Graphics Adaptor (EGA) 64 color interfacing capability in addition to interfacing the terminals and computers listed for all Extron TTL interfaces
- A simple cable change interfaces computers and terminals with positive or negative video and horizontal and vertical sync signals with interlaced or non-interlaced horizontal scanning frequencies from 15 to 42kHz
- Monitor Breakout Cables (MBC) feature a 9, 15, 25 or 37-pin monitor feed through connector for providing simultaneous local monitor viewing and a 3' to 6' cable for display signal transfer to the interface's 9-pin connector
- Internal computer wiring kits

Standard Accessories

- RGB interface alignment tool
- Instruction manual

Optional Accessories

BNC-4 Color-coded 4 conductor 75 ohm coaxial cable available in 6', 12', 25', 50' and 75'. A single cable provides convenient interface to display cabling. Total cable diameter is 1/2".

Custom BNC 4 lengths over 100' are available on request. Cables may be ordered with ADA Analog Distribution Amplifiers equalized for long cable runs to 1,500' depending on frequency. MBC and ICWK computer interface cables.

RGB 104 Additional Features

- EGA dual horizontal picture centering—provides a separate picture centering control for 15kHz medium resolution and 22kHz high resolution EGA modes
- Medium and high resolution mode and picture centering adjustment and indicator
- Low resolution 15,750kHz mode
- High resolution mode
- MBC/ICWK input cable selector switch



RGB 104

- RGB 104 Universal TTL interface with EGA capability \$495.00
- RGB 102E Universal TTL interface up to 16 colors and EGA capability \$395.00

**RGB 106E Universal Analog/ECL
 Computer Display Interface**

- 100MHz plus video bandwidth
- Patent pending horizontal and vertical picture centering
- Calibrated variable level control
- ECL and Analog computer interfacing capability
- IBM-PS/2 mode indicator light
- Separate monochrome composite output
- Takes composite sync or separate sync input with auto sync polarity
- Interfaces the IBM PS/2, PGA, Apple IIGS, Mac II Color, Sperry Hi-Resolution, NEC APC 3, Wang 8 DIN Color and many more
- Interfaces ECL CAD CAM IBM 3270PCGX, Apollo, Sun, Symbolics and more with a simple cable change
- Serration pulse insertion and adjustment capability
- MBC cable for computer of your choice must be added

The RGB 106E allows simultaneous local workstation monitor viewing with projection or large screen monitor viewing. Computers with analog type workstation monitor output signals require that an RGB 106E distribution type interface be used to allow simultaneous viewing. A simple paralleling of two displays from one analog source results in a very dim low contrast picture for both displays.

The RGB 106E matches analog computer output signals to projection and video monitor inputs and provides all the colors or shades of monochrome available for display. The 106E provides additional features for enhancing display interfacing.

RGB 106E \$495.00

EXTRON, APPLE, MACINTOSH

Video Interface Kits

Apple, Macintosh and Macintosh Plus computers have a built-in black and white video monitor display. Presentation of the Macintosh video display on large screen projectors and video monitors requires that internal video signals be routed externally to the Macintosh cabinet. The video signals chosen must be properly isolated or buffered from external monitor or projection displays, and interface circuits must be properly engineered to match input signal requirements of the selected display.

MAC Composite Kit, Composite Video Signal

The MAC Composite Kit provides a monochrome video signal combined with horizontal and vertical sync to form a composite video signal. The 1.2V signal is available from a BNC connector mounted on the rear of the Macintosh cabinet.

- ICWK-MAC Composite Kit \$155.00
- ICWK-MAC SE Composite Kit 155.00

MAC RGB Kit, TTL Black and White Signal

MAC RGB Kit, TL, RGB and sync signals are provided from a 9-pin "D" connector on ribbon cable routed out the back of the Macintosh cabinet. A multi-sync TTL RGB color monitor or projection system with 9-pin input may be connected directly to the interface kit's 9-pin output connector for cable lengths less than 6'. EXTRON TBA 1 TTL Buffer Amplifier "D" TTL cables may be used for cable runs to 50'.

- ICWK-MAC RGB Kit \$155.00
- ICWK-MAC SE RGB Kit 155.00

EK-1, EK-2 Computer Display Interface Kits

EK-1 Features

- Most popular Extron computer interfacing cables and interfaces
- Computer cables for Apple IIE, IBM PC Mono, Color, 3270 PC, 3179, 3192 and 3197
- Interfaces for IBM PC and compatibles, CGA/EGA boards and universal interface

EK-2 Features

- Universal TTL to analog interface with kit box and cables
- IBM PC Mono and CGA color board cables

For interfacing projection and monitor displays to the more requested manufacturer's computers and terminals.

EK-1 Kit Components

- RGB 101A IBM CGA board and compatibles interface.
- RGB 101AB IBM CGA board interface with picture centering and blue enhance
- RGB 102E Universal TTL to analog interface using MBC input cables
- RGB 107 CGA/EGA interface
- MBC "Monitor Breakout Cables" for allowing simultaneous local computer monitor viewing and 6' signal transfer to Extron interface input.

EK-2 Kit Components

- RGB 102E See EK-1
- MBC-PCM IBM Mono board cable
- MBC-PCC IBM CGA color board cable
- EK-1 Includes EK box and manual \$1880.00
- EK-2 790.00

SK-1 Computer Display Interface Kit

- TTL interfacing to 50'
- Analog interfacing capability to 250'
- Interfaces and cables for TTL and analog interfacing
- Convenient storage case with foam cut-outs for interfaces and cables
- SK-1 instruction manual with computer cross reference

For interfacing the Sony 722, 1020, 1030Q, 1031 and 2030Q to the more requested computer manufacturer's terminals including: AT&T 6300, 6300+, IBM PC color, mono, 3270 PC, 3270 PCG, 3179, 3192, 3197, EGA board, Apple IIE and many others with optional Extron cables.



SK-1

Kit Components

- RGB 102E Universal TTL to analog interface using MBC input cables. \$395.00
- RGB 107 CGA/EGA interface 370.00
- TBA-1 TTL buffer amplifier for TTL signal runs longer than MBC 6' cable allows
- SY-25 Sony 1031, 1030Q 25-pin analog breakout cable 65.00
- Accessories**
- SY-9 9-pin analog to BNC (RGSB) 65.00
- SY-34 34-pin analog to BNC (RGSB) 65.00
- NC-34 NEC 34-pin to BNC (RGSB) 65.00

MBC "Monitor Breakout Cables" for allowing simultaneous local computer monitor viewing and 6' signal transfer to Extron interface or Sony RGB-1, 9-pin "D" input

9 "D"-30 Special Extron "TTL" cable used with TBA-1 for interfacing runs longer than MBC 6' cable allows

BNC-4-25' Special Extron "Analog" 4 color coded 75 ohm coax cables in a single jacket with BNC connectors on each end.

SK-1 Includes SK box and manual \$1880.00

ADA 3 Analog Distribution Amplifier

- One RGB and sync input, 3 isolated RGB and sync outputs
- Loopable input for additional ADA 3's or 4" output
- 50MHz video bandwidth
- Input level — .5-1.1V
- Input/output impedance — 75 ohm
- Frequency response — 50Hz to 50MHz ± 2dB
- Rack (optional) — 19" 2U high

The ADA 3 is for distributing analog level RGB and sync signals to projection systems and monitor displays.

- ADA 3 1 RGB and sync in 3 RGB and sync out analog distribution amplifier \$ 495.00
- ADA Rack shelf mount 2 ADA's 125.00
- ADA-3 100 100MHz bandwidth 1195.00
- ADA-2 100 100MHz bandwidth 995.00

P/2 VGA Distribution Amplifier Products

- P/2DA 2 1 VGA in 2 VGA out \$250.00
- P/2DA 4 1 VGA in 4 VGA out 450.00
- P/2DA 8 1 VGA in 8 VGA out 595.00
- P/2 15' VGA 15' cable 85.00
- P/2 50' VGA 50' cable 155.00

Video Encoder and Decoder Products

- EN 100 PC CGA to NTSC encoder \$495.00
- D 1000 NTSC/supervideo decoder 795.00
- DSV 1000 Super video decoder 995.00

Model 8 System Switcher

- Accepts RGB video signals including RS 170 and RS 343 with composite or separate sync. RGB and sync outputs are provided for supplying projection systems and monitor display RGB and sync analog inputs
- Green input of a selected channel designated NTSC video doubles as an NTSC composite video input. Red input doubles as right audio and Blue input as left audio. Separate NTSC video with right and left audio output is provided for supplying NTSC signals to projection systems and video monitor NTSC composite video inputs
- Located on the rear panel is a multi-pin "D" connector for Model 8 switcher hardware or RS 232 remote control. Remote switcher control is accomplished by remote switch or relay grounding of the appropriate channel "D" connector control pin
- "D" connector provided on the rear panel for Model 8 switching of a video projector RGB and composite video mode input selection. Optional EXTRON projector interfaces provide video and RGB mode selection capability for selected projection manufacturers
- Loop control signal connector provided on rear panel for stacking as many switchers as additional RGB and sync input sources require
- Inputs are 75 ohms terminated and feature 60MHz plus video bandwidth ± 1 dB
- Optional two U high 19" rackmount shelf or front panels available
- External power provided from an AC outlet mounted 9V power supply for keeping power transformers with magnetic fields away from computer floppy disk preventing accidental erasure damage

Model 8 System Switcher 60MHz.	\$1395.00
Model 8 100MHz.	1995.00
Model 8 Rack 19" 2U rack shelf	125.00
RM8 100FP Remote front panel	495.00
RM8 FPE Remote front panel and enclosure	695.00
RM8 100RS RS-232 6' control cable.	65.00
RM8 100 RCT Model 8 100 remote control, tally and projector switching junction box interface	250.00
RM 8BP Barco switching interface.	195.00
RM 8SP Sony projector interface.	195.00

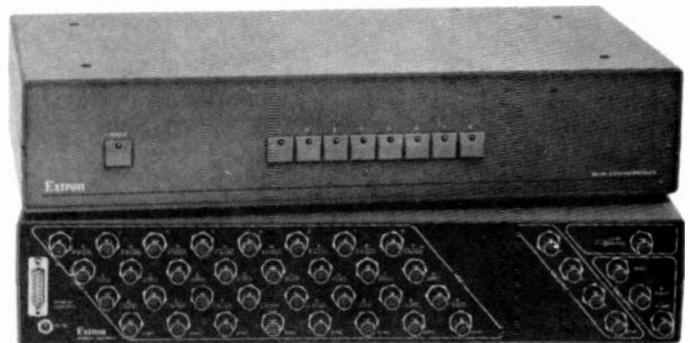
Barco Quad/RVDS Switcher Modules

AM "Analog Module"

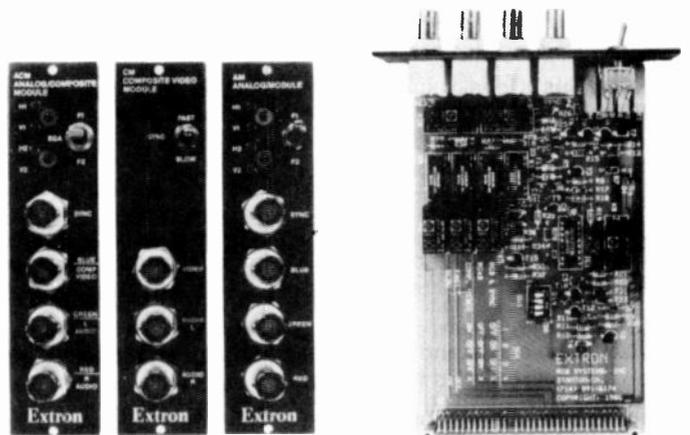
The AM "Analog Module" is designed to be used with the Barco Quad or RCVDS switcher. The AM module is identical to the Barco RGB analog module with an added feature of Dual Horizontal "H1-H2" and Dual Vertical "V1-V2" frequency adjustments.

Two horizontal and two vertical frequency adjustment controls are provided for presetting the module to two different computer horizontal and vertical frequencies. This allows the AM module to be preset for displaying on the Barco Data projection system two computers with different scanning frequencies without module readjustment. Switching the "F1-F2" switch and changing cables is all that is required.

AM3	\$235.00
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Model 8 System



Barco Quad/RVDS Switcher Modules

ACM "Analog and Composite Module"

The ACM module is identical to the AM module with the addition of the Automatic EGA F1-F2 frequency selection. The ACM module may be configured to operate as a composite video module with left and right audio inputs. Dip switches, located on the ACM circuit board, configure the ACM input BNC connectors to accept a standard television or video tape signal with stereo left and right audio.

ACM	\$300.00
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CM "Composite Video Module"

The CM module provides the same composite video features as the ACM module with the addition of a FAST or SLOW sync switch mounted on the front panel. The CM module is designed for U.S. Standard NTSC format video signals.

CM3	\$165.00
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AM-VGA "Analog Module for VGA Card"

The AM-VGA module is designed to switch the Barco Data 32 projection system automatically between modes 1, 2 and 3 of the IBM PS/2 computer VGA display output.

AM-VGA	\$225.00
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CVM-500 Component Video Mixer

- 8 inputs including black and color background independent for RGB, Y/R-Y/B-Y or YIQ signals
- Full bandwidth for sharp colorizing in RGB graphics applications
- Mix/effect system with 22 programmable wipes, key inputs, matte generator and auto transition
- Program mix row with auto transition between program and preset buses
- Downstream keyer for titling
- 3 independent color matte generators
- 4 auto transition modes
- 6 camera sync outputs, 3 black burst and 3 composite sync
- Control panel can be interfaced with the Extrol Effects Memory and Edit Controllers
- Y only output on program and preview line for B/W monitoring
- GPI control extends editing capabilities, increases system flexibility
- Tally interfaces have been designed into both CVM and PVM mainframes
- Edge noise is reduced to minimum during keying, matting and wipe operations
- High resolution image is produced for all modes of mixer operation
- Compact, portable, interfaces easily with existing equipment
- Optional CCK-500 Exkey Chroma Keyer and FXM-500 Extrol Effects Memory

CVM-500	.....	\$14,900.00
CCK-500	Exkey Component Chroma Keyer	1,000.00
FXM-500	Extrol Effects Memory models	2,950.00

CVM-600 Component Video Mixer

- 4 buses—Program, Preset, A and B
- 14 inputs
- Internal color background and black level generators
- Independent colorizers for background, border and matte for downstream keyer
- 24 wipe patterns with modulation
- Auto transition for Program, Effects, DSK and Fade-to-black
- 2 independent component program outputs
- 1 component preview output
- Program and preview (Y) luminance outputs
- 2 M/E key inputs with component insert video
- Built-in edge functions for M/E and DSK inputs
- Component signal transcoders on all inputs and outputs
- 3 reference black burst outputs
- Optional CCK-500 Exkey Chroma Keyer; FXM-500 Extrol Effects Memory

CVM-600	.....	\$22,900.00
CCK-500	Exkey Chroma Keyer	1,000.00
FXM-500	Extrol Effects Memory	2,950.00

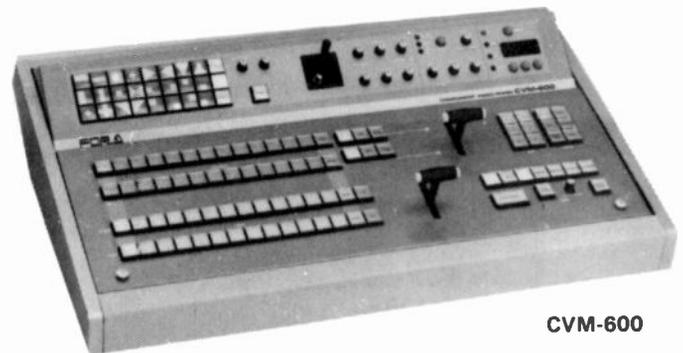
CVM-1000 Component Video Mixer

- RGB, Y/R-Y/B-Y, YIQ inputs and outputs
- Full transcoding at all inputs and outputs
- 16 or 24 (optional configuration) inputs plus color background and black level
- 2 or 3 M/E configurations available; 3 crosspoint rows per M/E, mix or wipe of background, video key or title key via lever arm or autotransition
- Wipe transitions with hard or soft edges; hard or soft border edges; variable softness and width controls; pattern limit wipe; pattern modulation; expanded wipe patterns
- Joystick positioner with rate control and centering button
- 1 of 3 external title keyer inputs plus key bus inputs; insert video from key bus or title key matte; border, shadow or outline; edge colorizers; independent autotransition
- 1 of 2 external video keyer inputs, plus key bus or chroma keyer inputs; insert video from key bus, video key matte, M/E preset bus or external source; key invert function; edge; independent colorizers; independent autotransition
- Chroma keyer with component inputs; upto 4 optional units
- All controls addressable by optional serial interface
- GPI and tally interfaces
- Look-ahead preview system

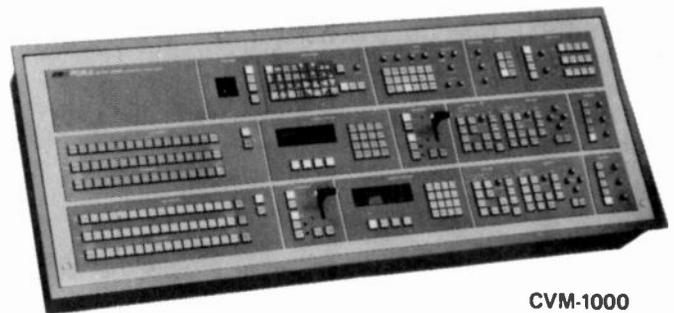
CVM-1000	POR
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PVM-500 Production Video Mixer

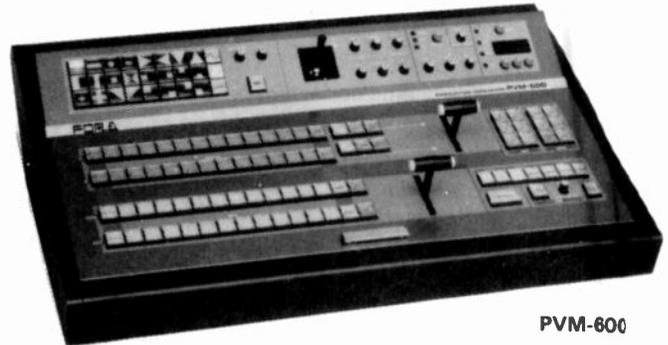
- 4 bus, 6 input plus black and color background
- Independent transition rates for Effects, Program, Downstream Keyer and Fade to Black
- 3 independent colorizers for Background, Effects Keyer and Downstream Keyer
- 22 wipe patterns
- Program mix row with auto transition between program and preset buses
- Downstream keyer for titling
- 6 independently adjustable camera and video source Black Burst reference outputs
- 2 Program Line outputs and Preview Monitor output
- Edge generator in the DSK



CVM-600



CVM-1000



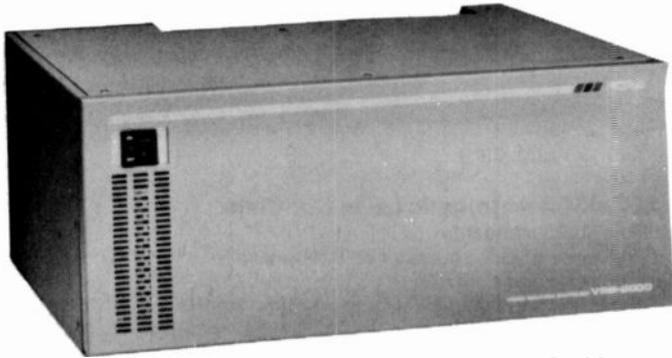
PVM-600

- Compact size, easy operation and easy interface with other equipment
 - Optional CCK-500 Exkey Chroma Keyer, FXM-500 Extrol Effects Memory and Editor Interface
- | | | |
|----------------|------------------------------------|------------|
| PVM-500 | ..... | \$8,150.00 |
| CCK-500 | Exkey Component Chroma Keyer | 1,000.00 |
| FXM-500 | Extrol Effects Memory | 2,950.00 |

PVM-600 Production Video Mixer

- 4 buses—Program, Preset, A and B
- 12 inputs for effective editing capability
- Internal backcolor and black signal generator for easy title composition
- 24 wipes plus hard and soft border with modulation function
- 2 program outputs, 2 preview outputs, 2 Mix/Eff outputs for system connection expansion
- Auto transitions for effects, program, downstream keyer and fade to black; can be preset from 0 to 999 frames
- Colorizing functions for background, border and downstream keyer
- 2 key inputs can be colorized
- 3 reference black burst outputs
- Tally outputs
- GPI and serial interface ports for editor interface

PVM-600	\$14,950.00
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VRS-2000

VRS-2000/ARS-2000

Video/Audio Routing Switchers

- 8 x 8 crosspoint matrix, expandable to 32 x 32
- Serial and parallel control standard
- Balanced audio inputs and outputs; XLR-3
- Audio-follow-video switching capability—either 2 channel mono or stereo channel audio switching with breakaway
- Vertical interval switching
- 8MHz bandpass + 3dB
- External remote control via RS-232C or parallel interfaces
- Optional RS-2110 control unit

VRS-2000	\$4,650.00
ARS-2000	6,690.00
RS-2110 Control Unit	2,700.00



CCS-4360

CCS-4360 Color Corrector

- Improves inferior sync and burst by consistently inserting new signals at the output when input signal disturbances occur
- Black stretch function enhances detail in low light level scenes
- Vertical blanking can be in 1 H steps within a range of 11 H to 21 H
- Independent R, G and B controls for white, black and gamma
- All operation modes (bypass, operate, off) have equal delay between input and output to eliminate system timing differences
- Differential and balance operation modes
- Rackmountable main frame and remote operation panel; can be used with up to 1,000' of multi-cable

CS-4360	\$6,950.00
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MF-2000DC

MF-2000 Multiflex Digital Effects System

- Composite and component inputs and outputs
- Accepts asynchronous video input
- Built-in mixing circuit for composite background video output
- Proportional "joystick" motion control
- Variable borders with selectable tracking
- Internal keyer
- Effects/event memory
- Full serial control operation of mainframe
- Compression, wipe, push, freeze, multi-freeze
- Posterization, mosaic
- Frame/field freeze with variable strobe
- Variable internal and external windows
- Adjustable H and V ratios
- A/B input selection
- Removable memory medium
- 5.5MHz bandwidth (approx. 440 line resolution)
- Optional MF-2000DC Dual Unit Controller allows simultaneous effects on 2 channels without video switcher

MF-2000	\$19,500.00
MF-2000DC Dual Unit Controller	4,000.00
MF-2000MU Main Unit (2 required for dual channel operation)	14,625.00



CCS-4400

CCS-4400 Component Color Corrector

- Y/R-Y/B-Y input and output interface with several internal level scaling capabilities
- RGB black and white level control
- Individual gamma correction for RGB
- Overall gamma correction
- NTSC (encoded) monitoring output
- Serial interface control unit; operates with up to 1000' of remote cable
- Color correction function can be inhibited for VITS
- Video and chroma gain and set up controls

CCS-4400	\$7,750.00
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CT-600

CT-600 Component Transcoder

- Simultaneous component output signals
- Full matrix transcoding capability
- Built-in encoder for monitoring use
- Monitor output for real-time signal evaluation
- Easy input and mode selection

CT-600\$3650.00

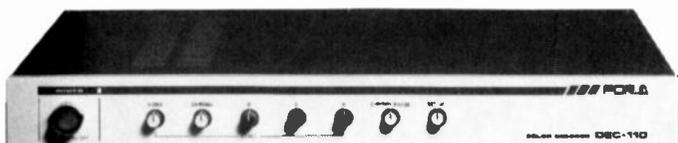


DEC-100

DEC-100 RGB Decoder

- Converts standard NTSC video signals to RGB components, primarily used to provide Chroma Key inputs on switchers or to mix with RGB Graphic Systems
- Converts composite video inputs from cameras and VTRs, etc. and provides RGB component signals as well as sync outputs

DEC-100\$2000.00

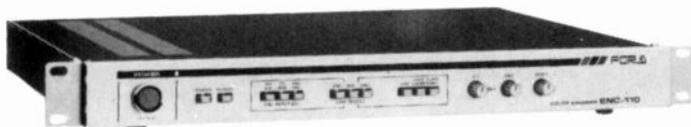


DEC-110

DEC-110 RGB Decoder

- High performance color decoder for demodulating composite video signals into separate R, G and B outputs
- Sync signal can also be provided, either as a separate output, or combined with the Green output
- Designed for use in component video systems
- Front panel controls include individual level adjustments for video, chroma, R, G and B, plus chroma phase and set up adjustments
- State-of-the-art "adaptive" comb filter circuitry

DEC-110\$3000.00

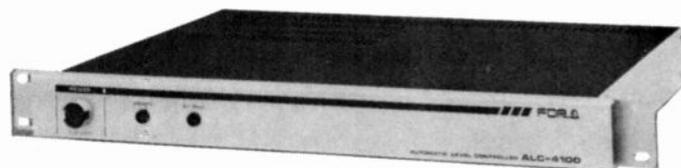


ENC-110

ENC-110 NTSC Encoder

- Specially designed to incorporate with the FVW-910, in conjunction with the CC-910, CS-710 and VTW-600 in conjunction with the CU-600, resulting in effective performance
- Encodes analog or digital RGB signals input
- Special mixing is performed providing certain and distinct superimposition
- Both NTSC and PAL standards are available

ENC-110\$3000.00



ALC-4100

ALC-4100 Automatic Level Controller

- PAL, NTSC standards
- Correction of video output level differences
- Automatic gain control
- Separate control for video, sync and burst signals

ALC-4100\$3300.00



MV-40C

MV-40C Color Multi Viewer

- Built-in sync generator provides very stable pictures in either external genlocked or internal sync modes
- Four compressed pictures can be frozen either individually or simultaneously
- Resolution of compressed pictures—145 lines (each)
- Display mode can be changed via remote control or by switch on front panel

MV-40C\$2950.00



HMC-1000

HMC-1000 Multicam High-Definition Still Camera

- Switchable television formats—1, 125/525
- RGB outputs
- Framestore memory

HMC-1000TBA

FA-200 Digital Time Base Corrector

- Built-in color picture freeze function, frame or field freeze
- Full-frame time base correction
- Standard NTSC signal output: can be incorporated in almost any video system even with non-V-lock VTR
- Built-in RS-170A standard sync signal generator with genlock function
- V blanking is controlled in one-line steps over a range from line 10 to line 20
- Compact, lightweight unit
- Remote control capability (optional) to control the video level, chroma level, chroma phase, set-up and all freeze functions (same remote control console as FA-420)

FA-200\$3,950.00
 FA-420RU (Remote Unit for FA-200/FA-420)950.00

FA-300 Digital Time Base Corrector

- Component processing with 4:1:1 sampling and 8-bit processed Y and C
- Universal compatibility: Y/C358 as well as composite in and out
- Wide band CCD comb filter maintains high resolution and high quality pictures
- Frame memory eliminates correction range limitations
- Freeze functions: frame/field selectable; auto freeze by detecting absence of input signal; optional remote control allows setting strobe freeze and strobe duration
- DOC (dropout compensation)
- Digital delay line for luminance signal can adjust luminance-to-chrominance delay with a high degree of accuracy
- ACC (Automatic Chroma Level Control) restores reduced chroma signal level to correct level at playback
- Black stretch enhances low level luminance input signals
- Exclusive Chromacor™ Y/C delay compensation
- Optional remote control unit allows adjustment of output signal level and phase; controls freeze and switching between bypass and operate modes

FA-300\$4,590.00

FA-410D Time Base Corrector with DT

- PAL/SECAM, NTSC standards
- 16H wide range time base correction for a large variety of popular VTRs (such as the 3/4" U-format, VHS and Betamax) in studio and production use today
- Designed especially for ENG and field production applications
- Component encoding of luminance and color difference signals
- Either external sync referenced or non-capstan servoed VTRs are corrected
- Built-in dynamic tracking
- Portable small size and low weight
- Unbeatable low cost compared with other available equipment with less capability in many instances
- Digital luminance/chroma delay correction
- Composite and non-composite outputs
- Chroma noise reduction with comb filtering
- Built-in sync pulse generator
- LED input level display
- White clip function
- Optional digital DOC is available (standard for NTSC)
- Dimensions: 3.46" H x 16.92" W x 19.88" D (19" rack type)

FA-410D\$6,950.00
 DT Cable for Sony BVU-820100.00

FA-420 Time Base Corrector with Freeze Frame

- Compact, lightweight unit
- Full feature digital time base correction
- Full color frame memory
- Capable of correcting errors in 1/2" and 3/4" VTRs, or any V-lock or non-V-lock source
- TBC processes color in either the HETERO or VTR SC modes
- Optional remote control unit allows full operation away from the FA-420
- Full processing amp allows control of video level, chroma level, chroma phase, setup and freeze operation
- Comes with built-in digital DOC and a RS-170A standard sync signal generator with genlock function

FA-420\$6,950.00
 FA-420RU Remote Unit for FA-200/FA-420950.00



FA-300



FA-740

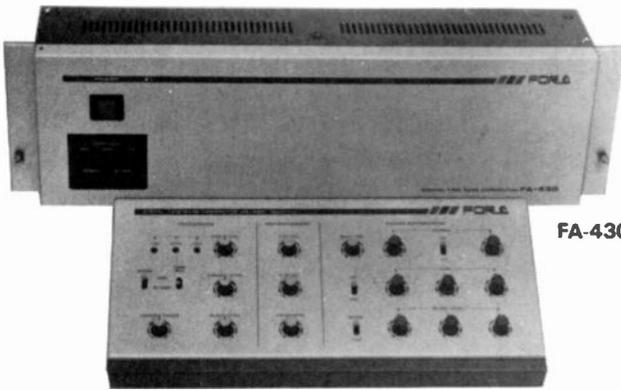


FA-420

FA-740 Parallel Effects Time Base Corrector

- Full frame time base correction range
- High performance analog component signal processing using CCD comb filter
- DOC (dropout compensation)
- Built-in independent freeze function for both A and B channels—Frame and field selectable
- Strobe freeze for A and B channels, synchronized or independent
- Horizontal and vertical corner wipes
- Horizontal push/pull wipes
- Cut, dissolve and black transition functions
- Four-speed selection of wipes, dissolves and black transitions
- Mid-stop function for wipe transitions
- Negative, paint and mosaic functions
- Combinations of compression and multi-move available between A and B channels plus mix and wipe
- Horizontal and vertical invert
- Individual signal proc amp for each channel
- Program memory capability—10 events x 10 pages
- RS-422 and GPI ports for editing and external control
- Unique "VTR shuttle mode chasing circuit" monitors shuttle picture even with the highest VTR shuttle speed in both forward and rewind modes

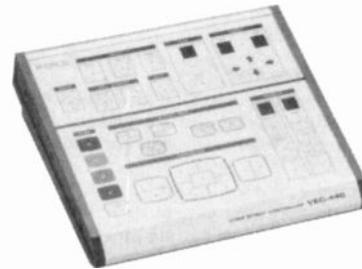
FA-740\$11,950.00
 AS-740 Audio mixer1,150.00
 EC-740 Edit controller4,200.00
 PCU-2 Remote unit950.00
 IU-740S Parallel interface (Sony)1,150.00
 IU-740V Parallel interface (JVC)1,150.00



FA-430



FA-440



VEC-440

FA-430

Digital Time Base Corrector/Image Processor

- Full feature processing for 3/4" and 1/2" VTR formats
- Includes Time Base Correction, Image Enhancement, Digital Color Correction and Noise Reduction
- System consists of the basic 19" rackmount main control unit and a compact remote controller containing controls for all correction functions
- Incorporates the major design and performance features of the Model FA-410
- Combines both H detail enhancement and selective noise reduction to provide pleasing pictures with appearance of greater bandwidth
- Color correction allows RGB correction to compensate for poorly aligned camera white and black levels as well as for camera-to-camera differences in shooting the same scene
- Special Black Stretch circuit that provides improved contrast in low light level scenes
- Allows directors to "paint" scenes to create special moods by changing overall picture hue
- Time Base Correction capabilities provide professional broadcast level performance
- Composite or non-composite video outputs, built-in sync pulse generator, and composite sync and VTR subcarrier outputs
- Dub-In, Dub-Out mode for editing and duplicating

FA-430 \$9,950.00

FA-440 Digital Time Base Corrector with VEC-440 Video Effects Controller

- Adjustable automatic freeze to exclude inferior signals
- Process amp controls (video level, chroma level, chroma phase, black level) easily accessible behind front panel
- Compact, lightweight unit
- Optional freeze remote control
- Multiple digital effects
- Programmable effects routines
- Built-in effects keyer with output key signal
- Full frame time base correction
- Frame memory provides field or frame freeze with adjustable strobe freeze
- Component processing
- Dropout compensator
- Compatible with a wide variety of 1/2" and 3/4" VTRs
- DOC

VEC-440 Video Effects Controller offers a selection of eye-catching special effects to make your video productions really stand out.

- Effects include negative; variable paint effect; variable mosaic; multiple images combining frozen and moving pictures; compression; invert; color background and a memory function that allows you to program up to 9 pages of 127 effects per page.

FA-440/VEC-440 \$9,450.00

FA-800 AUTOCOR™

Time Base Corrector/Frame Synchronizer

- Frame memory with automatic level control function which sets input video to the most suitable level
- V blanking line control to designate VITC time code, test, ID and teletext signals
- Automatic freeze function which freezes the last good video frame when the video input is interrupted
- Selectable video freeze or black signal output in automatic freeze mode
- Freeze is automatically released when video signal input starts again
- Selectable frame/field freeze in manual mode
- Top and bottom 4-bit data swap
- Automatic selection of color/black and white mode
- Built-in RS-170A standard sync signal generator with genlock capability
- Adjustable SCH of video output in the internal mode
- Full processing amp facility and optional remote control unit

FA-800 \$7,450.00

Note: All For-A products are available in PAL standard. Call for pricing.

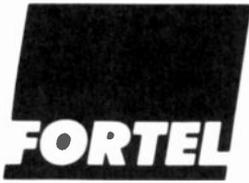


FA-450

FA-450 Component Time Base Corrector

- Advanced 8-bit digital design providing full-frame TBC performance of the highest quality for PAL or NTSC systems
- Full color frame memory with field/frame picture freeze
- Highly versatile, with input capability for both component [RGB, YUV, Y, C685 (Y, C924) for PAL; RGB, Y, R-Y, B-Y, YIQ and Y, C688 for NTSC] and composite signals
- M-dub and Y/C dub input and output
- DOC
- Compatible with a wide range of existing and future video technology including component VTR, CVM-500 Component Video Mixer, U-matic VTR with dynamic tracking
- Compatible with both low and high band VTR (PAL only)
- M-dub connector for both YIQ and Y, R-Y and B-Y (NTSC only)

FA-450 \$9,950.00



TIME BASE/COLOR CORRECTORS/ MULTI-FORMAT PROCESSOR

Y-688³² Total Error Corrector

- 32-line super-wide instantaneous window Phase Comp™ One and two line digital look ahead velocity compensator and phase error corrector
- Complete image processing including horizontal and vertical enhancement and horizontal detail improvement
- Luminance noise reduction through advanced compression and combing techniques to 10dB
- Chroma noise reduction to 10dB
- Chroma crispening
- Gyro-Trac™ automatic window re-centering for extraordinary errors without hue shift or horizontal movement
- Record 1™ pilot tone compatible for automatic setting of image processing controls
- Chroma Amplitude Correction through two line look ahead providing 4.2dB short term and 6dB long term correction
- Accepts shuttle speeds up to ten times normal
- Unitec™ construction features easy access to all components without board or unit removal from operating system
- Front panel image process bypasses control with internal programmable jumpers allowing anything from super transparent time base correction through extensive image reprocessing
- High efficiency, low power, low heat
- Accepts composite or component (Y-688³²) signals and outputs both types
- Adjustable H and V blanking
- Automatic chroma/luminance delay compensation
- Adjustable video position
- Drop-out compensation based upon previous line information
- Single cable genlock sync generator
- Programmable jumpers and mode switches allow tailoring to specific system objectives
- Automatic color or monochrome operation
- Full proc amp
- Chroma combing



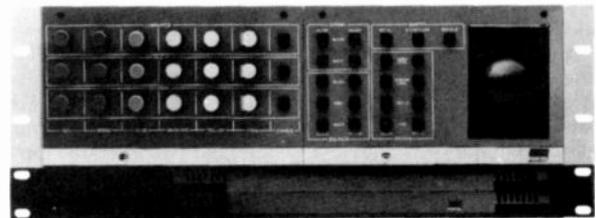
Y-688³²

- Use Y-688³² for time base and image correction of U-Matic masters when dubbing to other U-Matics, VHS or Beta formats
- Edit, special effects, or A/B rolls through Y-688³² for third generation tapes that look like master tapes
- Use accessory adaptors or RGB switcher to do complete production in component format for final product approaching full bandwidth format
- Reprocess any color-under signal to reduce luminance noise by 10dB and chroma noise by up to 10dB
- Use in conjunction with Record 1 for completely automatic processing of clean, sharp pictures
- Remove transmission noise and distortions from satellite feeds
- Use with latest scan track U-Matics for broadcast stable pictures in slow motion
- Do field production in U-Matic format and all post production through broadcast or distribution copies for lower program costs
- Use with microprocessor controllers and U-Matics for high quality, economical, automatic program delay or remote broadcast

Total Error Corrector for 3/4" professional series VTRs, featuring: Y-688 (dub) component input and output, NTSC composite input and output, 32-line TBC with DYNA-TRAC™ dynamic tracking and high speed shuttle, image processing with noise reduction, and full proc amp controls.
Y-688³² \$12,695.00

CC-2 Color Corrector

- Provides broadcast quality control of video color in all common component formats
 - Component operation is provided for RGB or Y, R-Y, B-Y and M-II formats
 - Plug-in PC boards permit easy reconfiguration for either 525 or 625 standards
 - Black, white and gray color balance adjustment
 - Black and white gamma control
 - Standard proc amp controls
 - Independent hue, saturation and luma adjustments for each of the six color derivative vectors
 - Trackball adjustment for color balance, gamma, and proc amp functions
 - Store and recall functions allow the correction feature to be switched in and out for comparison with uncorrected material
 - Shaft encoders and trackball can be automatically zeroed by pushbutton, eliminating manual reset
 - Frequency Response: 8MHz ± 0.2dB
 - K Factor: 1%
- CC-2 Multi Format \$12,490.00**



CC-2

SuperPro 200 Multi-Format Video Processor

- For professional video post-production
- Compatible with most 3/4" and 1/2" recording systems
- A transcoder for inter-format editing between NTSC, U-Matic, VHS, S-VHS, and Betacam/MII formats
- Picture enhancement
- Infinite window time base correction
- Frame-store with frame and interpolated-field freeze
- Accepts inputs from U-Matic, VHS, and S-VHS dub sources as well as NTSC composite video
- Dual-channel architecture provides either true 8-bit dub (58dB S/N ratio, 5.5MHz bandwidth) or Heterodyne processing
- Output formats are independent of inputs and include Y/629 dub (VHS/S-VHS), Y/3.58 dub (S-VHS), Y/R-Y/B-Y (Betacam/MII) and NTSC composite video
- Dynamic tracking/shuttle processing
- Proc Amp



Super Pro 200

- Chroma Plus color processing for significant improvement in chroma noise and sharpness
 - Bypass
 - Adjustable Y/C delay
 - Optional remote control
 - Free running/genlock synchronization
- Super Pro 200 \$8995.00**



TIME BASE CORRECTORS

DHP 525S Digital Time Base Corrector

• Infinite window correction range • S-VHS compatible • Frame freeze • Field freeze (interpolated) • Drop-out compensation • High speed shuttle • Horizontal enhancement • Luma noise reduction • NTSC composite in/out • Remote control option • CCIR-601 sampling • Provides digital high performance processing of 1/2" and 3/4" NTSC composite video signals • Compatible with most of the 1/2" and 3/4" VCRs around • 1 3/4" chassis • Front panel accessible PC boards ease troubleshooting and minimize downtime • Power consumption of < 100W

Specifications

Signal Processing

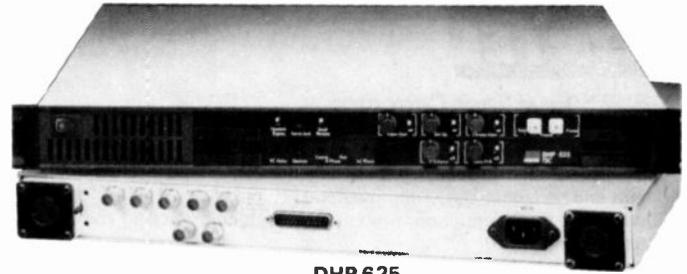
Sampling: Per CCIR-601, 13.5MHz sampling, 4:1:1
Bandwidth: 2.2MHz (-3dB) composite, 5.5MHz (-3dB) Y/C
Differential Gain: < 1%
Differential Phase: < 1°
K Factor: 5% or less
Horizontal Tilt: 1% or less
Vertical Tilt: 1% or less
S/N Ratio: 57dB

Residual Time

Base Error: ± 15nsec luminance
 ± 2° chrominance

Inputs

Y/C: 3.58
Composite Video: 1.0V p-p, ± 3dB, 75 ohms
Composite Genlock Signal: 1.0V p-p, ± 3dB, externally terminated
VTR RF: BNC connector, 75 ohms



DHP 625

Outputs

Y/C: 3.58
Video Out 1: 1.0V p-p, 75 ohms, BNC connector
Video Out 2: 1.0V p-p, 75 ohms, BNC connector
Advanced Sync: 1V or 4V p-p, BNC connector, 75 ohms, ± 1.0dB

Dimensions:

Operating Voltage: 105 to 125VAC, 60Hz

DHP 525S\$6495.00

DHP 625 Digital Time Base Corrector

Same as DHP 525 except:

- Available in PAL
- EBU sampling rates
- For processing 1/2" and 3/4" PAL composite video signals

Specifications

Same as DHP 525 except:

Sampling: Y 13.5MHz, U 3.375MHz, V 3.375MHz
Bandwidth: 3.25MHz (-3dB)
K Factor: 4% or less
Advanced Sync: 1V or 2.2V p-p, BNC connector, 75 ohms, .3V p-p

Operating

Voltage: 200-260VAC, 50/60Hz

DHP-625\$5995.00

Turbo 2 Time Base Corrector

• Infinite window correction range • Automatic detection of SP, Hi or Lo band dub inputs • Field or frame freeze with interpolation • VTR interface for slow motion operation • Horizontal enhancement • Noise reduction • 5MHz resolution from dub inputs • 1 rack unit high (1 3/4") • Available in NTSC or PAL • EBU sampling rates • Component outputs • Remote control option • Full-featured TBC intended for high-quality processing of video signals in a 3/4" recording environment • Picture quality associated with Y-688 "Dub" processing • Compatible with all 3/4" videocassette recorders • Power consumption of < 100W • Front-panel removeable boards and built-in circuit diagnostic testing speed troubleshooting and minimize downtime

Specifications

Sampling: Y 13.5MHz, U 3.375MHz, V 3.375MHz
Bandwidth: 5.0MHz (-3dB) Dub mode
 3.25MHz (-3dB) Encoded mode

Differential Gain: < 1%
Differential Phase: < 1°
K Factor: 1% or less (Dub mode)
 4% or less (Encoded mode)

Horizontal Tilt: 1% or less

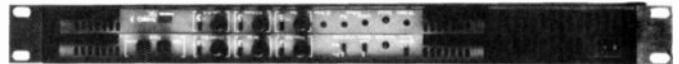
S/N Ratio: 57dB

Residual Time

Base Error: ± 15nsec luminance
 ± 2° chrominance

Inputs

Composite Video: 1.0V p-p ± 3dB, 75 ohms
Composite Genlock Signal: 1.0V p-p ± 3dB, externally terminated
Dub Input: 7-pin connector, automatic SP, Hi or Lo band sensing and switching



Turbo 2

VTR RF: BNC connector, 75 ohms
VTR Interface: Sony 18-pin VTR interface connector

Outputs

Video Out 1: 1.0V p-p, 75 ohms, BNC connector
Video Out 2: 1.0V p-p, 75 ohms, BNC connector
Advanced Sync: 1V or 2.2V p-p, BNC connector, 75 ohms, ± 1.0dB

Y Out: 1.0V p-p, 75 ohms, BNC connector, (Betacam compatible)

U Out: 0.7V p-p, 75 ohms, BNC connector

V Out: 0.7V p-p, 75 ohms, BNC connector

Dub Out: 7-pin connector, SP, Hi or Lo band switchable

Operating

Voltage: 200-260VAC, 47-63Hz

Turbo 2 NTSC\$9550.00

TBC Control*750.00

Turbo 2 PAL

• Offers broadcast quality processing of 1/2" and 3/4" PAL format signals

Turbo 2 PAL\$9550.00

*The TBC Control can be used to remote front panel functions of the Turbo 2 or DHP 525 TBC.

E-SERIES MULTI-TRACK/MASTER RECORDERS

E-16/E-8 Multitrack Recorders

- E-16—16-track/16-channel, E-8—8-track/8-channel
 - Transports plus record/play logic are totally microprocessor controlled, so these machines can run computer-derived edit decision lists
 - Gapless punch-out prevents a blank space from occurring immediately after the punch-out point
 - A synchronizer part will interface with all SMPTE based systems
 - When an E-Series recorder is used with the Fostex autolocator and MIDI to SMPTE synchronizer, Model 4050, you have automatic programmable punch-in/out, in addition to 100-point autolocate, 10 programmable edits, SMPTE time code generator/reader (all four formats)—plus the ability to locate in the measure, bar, and beat
 - For ease of use with 8 bus mixing consoles, the E-16 has the first 8 inputs normalled to inputs 9-16
 - The first 4 inputs of the E-8 are normalled for ease of use with 4 bus output mixers. Unlike other 8-track recorders, you don't have to re-patch to record on tracks 5-8 when using a 4 bus board
 - Dolby C™ noise reduction. If you stripe an edge track with SMPTE time code, you have all remaining seven tracks to work with—no need for a guard track. The E-8 uses the same transport as the E-16 and the same R/P cards
 - 10 1/2" reel NAB hub
- | | | |
|--------------|----------------------------------------------------------------------------------|-------------------|
| E-16 | 16-track with Dolby C, direct drive (Avail. 15 or 30 ips speed) | \$7,995.00 |
| E-16M | E-16 with dedicated monitor package, playback amps and headphone mixer | 9,995.00 |
| E-8 | 8-track 1/4" recorder with Dolby C | 4,495.00 |

E-22/E-2 Master Recorders

- Each has a third, center channel for SMPTE control
- E-22 1/2" 2-track has center track SMPTE with SMPTE control, you'll be able to run computer-derived edit decision lists, punch in/out automatically and auto-locate to the bar and beat
- E-2 uses 1/4" tape
- Compatible with professional formats
- Built-in 2-position autolocator can be used to set up a loop or repeat
- Real time counter with search-to-zero even from the negative domain
- Auto stop and auto play from rewind, as well as from fast forward
- Servo control of the reels in the Edit mode lets you find cues and spot erase with pin-point precision
- When the Pitch Control is engaged a flashing warning light is displayed along with the exact percentage of speed deviation
- Time readout changes to read percentage of tape speed when pitch control is touched

- | | | |
|---------------|----------------------------------------------------------------------------------------------------------------------|-------------------|
| E-2 | 1/4" stereo recorder, 10 1/2" reel with center track SMPTE, 7.5 and 15 ips standard (15/30 ips extra cost) | \$3,750.00 |
| E-22 | 1/2" stereo recorder, 10 1/2" reel with center track SMPTE, 15/30 ips | 3,995.00 |
| E-22/4 | E-22 with 1/2" 4-track head. Stereo on TK 1 and 2, time code on TK-4. TK-3 is guard band | 4,495.00 |

NOTE: All E-Series recorders have gapless/seamless punch in and out.

- | | | |
|-------------|------------------------------------------|--------------------|
| L-8 | E-8 logging recorder—24 hours | \$ 6,850.00 |
| L-16 | E-16 logging recorder—24 hours | 11,400.00 |
- Logging recorders have 3 heads, headphone monitor, tag outputs, end-of-tape warning signal, malfunction warning signal
- | | | |
|-------------|------------------------------------------------------------|---------------|
| 5030 | -10 to +4 line adaptor (8-channel) XLR and phono | 595.00 |
|-------------|------------------------------------------------------------|---------------|



E-16



E-22

Accessories

- | | | |
|--------------|--------------------------------------------------------------------------------|-----------------|
| | 1/2" 8-track playback head with select switch | \$900.00 |
| 8316 | Deluxe remote for all E-Series 80/20 | 350.00 |
| 9081 | Console with casters (needs 9905B rackmounts) | 375.00 |
| 8051 | Punch in/out foot switch | 16.00 |
| 9012B | 1/2" metal reel with Fostex logo | 20.00 |
| 9014B | 1/4" metal reel with Fostex logo | 20.00 |
| MB-2 | Meter bridge kit for E-2/22 (includes headphone amp and blank panel) | 350.00 |
| MB-16 | Meter bridge kit for E-8/16 | 200.00 |
| 9905B | Rackmount adaptors (pair) | 60.00 |
| 8540 | 4030 sync cable | 100.00 |
| 8440 | 4050 cable for E-Series, 80 and 20 | 100.00 |
| 8700 | Time code generator | 200.00 |
| 8180 | Professional head demagnetizer | 29.95 |
| 9930 | 1/4" editing block | 18.00 |
| 9931 | 1/2" editing block | 25.00 |

4000 Series SMPTE Time Code Equipment

- Truly contemporary hardware is software based. All 4000 series products are designed for easy upgrades with socketed EPROMs
- Serial data ports for computer interface

The 4000 Series of products allow you to control and synchronize tape recorders with each other, video with audio, synthesizers to tape recorders, video tape to synthesizers, SMPTE to MIDI or any combination of all the above.

4010 Time Code Generator/Reader

- Multi-format: Generates, reads and regenerates all formats of SMPTE/EBU code: 30fps, drop-frame, 29.97 non-drop, 25fps, and 24fps
- Synchronous code
- External Pulse In: accepts virtually any kind of pulse information to generate time code—pilotone, neopilot, synchrotone, 50Hz, 59.94Hz, blackburst (RS-170A), etc.
- Supplies video control track pulses for a video machine when used as a slave to an audio recorder
- Independent generator/reader
- High speed reader accurately reads code from 1/10 to 100 times play speed
- Frame + 1: displays either one frame ahead or the actual current frame
- Electronic event memories
- Generates user bits and hex
- Reads user bits and hex
- True regeneration
- Jam sync/force jam
- Synchronized to color frame
- Includes high speed reader adaptor cable for 4030 synchronizer
- Includes two DIN connectors so you can make up event control cables
- Software upgradable
- Serial data port

4010 \$1295.00

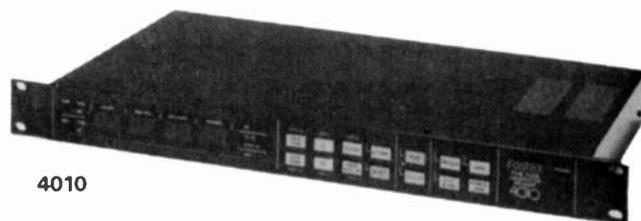
4011 Window Inserter/VITC Interface

- Three input modes for reader: VITC—the reader only reads vertical interval time code, LTC—the reader will only read longitudinal time code, Auto—the reader will automatically search for either code
- Format indicator
- Adjustable window—positions code display on screen for both horizontal and vertical display
- Full display
- Capable of displaying both time code and user bits simultaneously
- Rear panel flexibility

4011 \$1295.00

4030 Synchronizer

- Synchronizes up to 4 machines (one master and three slaves)
- Fast lock-up
- Interfaces to most brands of video and audio tape recorders
- Synchronizes to within 1/100 of a frame
- Easy to update using socketed EPROMs
- Works with 24, 25, 30fps and drop frame
- Immune to static electricity damage
- Serial interface port allows communication with personal computers to help you run edit decision lists (EDLs), or write your own software
- Slave as many transports as you wish, just by adding a 4030 for each slave



4010



4030/4035

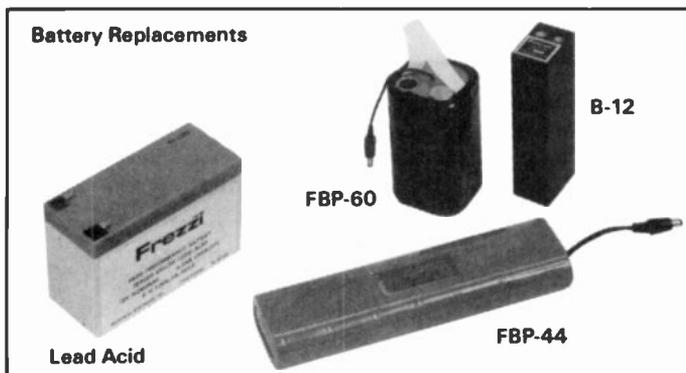
- SMPTE programmable record in/out
 - Master waiting in chase mode
 - Slave waiting in chase mode
 - Calculation of offsets from the keypad
 - Store auto record with offset
- 4030** Does not include cables or interfaces \$1500.00

4035 Controller

- Sophisticated remote controller for the 4030
 - 10-position autolocate
 - Selectable pre-roll up to 99 sec.
 - Zone limits, or end-of-tape tags so that you can't run off the reel
 - Programmable, automatic punch in/out with rehearse function
 - Individual transport control of up to one master and three slaves
 - Drives video as master or slave with the appropriate interface
 - Locks to film editors using bi-phase sync pulses with the addition of the 8720 interface
 - 8710 interface contains software to designate each 4030 as slave 1, 2, or 3
- 4035** \$500.00
- 8710** Synchronizer interface unit [used when adding two or more slaves (4030) controlled by 4035]. 500.00

4050 MIDI Synchronizer/Autolocator

- Sync MIDI to SMPTE, the universal timing standard, with built-in SMPTE generator (all formats)
 - Automatic punch-in/out with Rehearsal and Take modes
 - Complete autolocate for Fostex models 20, 80 and E-Series
 - Autolocate to a SMPTE number or to the Bar/Beat
 - Up to ten cue points and tie sequences can be stored in the internal memory, which is backed up by battery
 - Built-in tempo generator
 - Optional serial communication bus allows interface with a personal computer
- 4050** Does not include cable (8440 for E-Series) \$1300.00



Frezzi™ 2AH NiCad Replacements for Lead-Acid VTR Battery Packs

- Model FBP-20 Replacement for Sony BP-20A
- Model FBP-44 Replacement for JVC PBP-1
- Model FBP-44 Replacement for Panasonic LCR-3012 VBP
- Model FBP-60 Replacement for Sony BP60
- Model FNP-1 Replacement for Sony NP-1

Nickel Cadmium Batteries

Model B-12 (12V at 1AH)	\$125.00
Model FBP-20 (12V at 2AH) . . . . .	.225.00
Model FBP-44 (12V at 2AH) . . . . .	.225.00
Model FBP-60 (12V at 2AH) . . . . .	.225.00
Model FNP-1HC (12V at 1.8AH)85.00

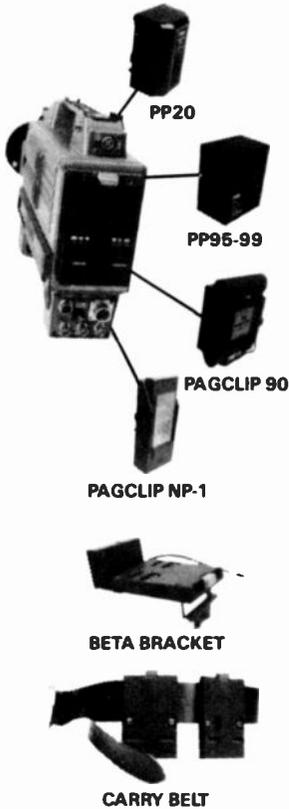
Sealed Lead Acid Battery

Model 12V 6.5AH-SGLA	\$37.50
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Model	Price
On-Board Battery Packs	
BP12	\$455.00
BP13475.00
BP14495.00
BP122275.00
BP132 . . . . .	.285.00
BP142 . . . . .	.295.00
On-Board AC Supply	
RPS 1	\$515.00
RPS 3 . . . . .	.595.00
RPS 40 . . . . .	.545.00
AC Supply/Charger	
RPS 2	\$895.00
VTR Replacement Batteries	
FBP20	\$225.00
FBP44 . . . . .	.225.00
FBP60 . . . . .	.225.00
FBP90 . . . . .	.275.00
FBP90FC . . . . .	.330.00
FNP1HC . . . . .	.85.00
On-Board/BP-90 Adaptors	
CLPA	\$125.00
HM90 . . . . .	.198.00
HM90B . . . . .	.198.00
HM90BW . . . . .	.248.00
HMBVV1 . . . . .	.105.00
HM76B/C . . . . .	.155.00
HM300 . . . . .	.105.00
12 Volt Battery Packs	
B12	\$125.00
VB4X . . . . .	.235.00
VB12 . . . . .	.165.00
VB12V . . . . .	.225.00
VBSO . . . . .	.245.00
6AH Belts	
F12-77	\$475.00
F12EXFA . . . . .	.475.00
F14EXFA . . . . .	.495.00
30 Volt Batteries/Belts	
EC30	\$695.00
F30EC . . . . .	.595.00
F30EXFA . . . . .	.645.00
F30/14EXFA . . . . .	.795.00
Uninterruptible Power Supply	
UPS-14P	\$595.00

Model	Price
Overnight Chargers	
BC122S	\$ 90.00
BC124S . . . . .	.80.00
CR1 . . . . .	.125.00
FTC 12/13/14 . . . . .	.80.00
FTC 122/132/142 . . . . .	.90.00
FTC-NP1 . . . . .	.95.00
VBC . . . . .	.38.00
VBCV . . . . .	.38.00
Fast Chargers	
BC30D	\$395.00
BC77U/UB . . . . .	.395.00
RPS2 . . . . .	.895.00
Multi-Chargers	
MBC2	\$2400.00
MBC4 . . . . .	.2090.00
MBC4A . . . . .	.1595.00
MBC5 . . . . .	.495.00
Fast Charge Adaptor Cables	
HC	\$30.00
HS . . . . .	.30.00
HV . . . . .	.30.00
Light/Microphone Brackets	
LS1	\$25.00
LSM1 . . . . .	.65.00
LS2 . . . . .	.25.00
LSM2 . . . . .	.65.00
LS3 . . . . .	.25.00
LS4 . . . . .	.25.00
LS5 . . . . .	.25.00
LSM4 . . . . .	.65.00
LS21 . . . . .	.29.00
LSM21 . . . . .	.65.00
LS79 . . . . .	.29.00
LSM79 . . . . .	.65.00
LS83 . . . . .	.38.00
LSM83 . . . . .	.65.00
LS95 . . . . .	.25.00
LSM95 . . . . .	.65.00
Spare Lamps	
DYG	\$28.00
DYR . . . . .	.43.00
DYS . . . . .	.26.00
EKB . . . . .	.36.00
EKD . . . . .	.32.00
EKP . . . . .	.30.00
EYC . . . . .	.25.00
EYL . . . . .	.17.00
EXV . . . . .	.33.00

Model	Price
FAV	\$40.00
FBT . . . . .	.44.00
FBV . . . . .	.48.00
Portable Lights	
DMF12	\$295.00
DMF30 . . . . .	.298.00
FL100 . . . . .	.195.00
FL250 . . . . .	.195.00
FL650 . . . . .	.165.00
MF12C . . . . .	.149.95
MF12P . . . . .	.149.95
MF4X . . . . .	.149.95
MF5X . . . . .	.149.95
MF30 . . . . .	.154.95
FL650 Kits	
SPK1	\$975.00
SPK2 . . . . .	.860.00
SPK2A . . . . .	.910.00
Mini-Fill Kits	
MFK1	\$ 295.00
MFK2 . . . . .	.455.00
MFK3 . . . . .	.355.00
MFK4 . . . . .	.515.00
MFK5 . . . . .	.365.00
MFK6 . . . . .	.525.00
MFK9 . . . . .	.1250.00
Lighting Accessories	
C12	\$ 32.00
C30 . . . . .	.32.00
C120 . . . . .	.17.00
C120EX . . . . .	.25.00
FLAH101 . . . . .	.29.00
FLBD102 . . . . .	.40.00
FLCC101 . . . . .	.125.00
FLCC103 . . . . .	.175.00
FLDF101 . . . . .	.105.00
FLH101 . . . . .	.12.00
FLLS101 . . . . .	.68.50
FLLS102 . . . . .	.36.00
FLS101 . . . . .	.44.00
FLS102 . . . . .	.28.00
LP90 . . . . .	.38.00
LPS100 . . . . .	.195.00
LPS400 . . . . .	.295.00
MFCC . . . . .	.80.00
MDF . . . . .	.88.00



PAG-lok BATTERY SYSTEM

The PAG-lok mount is an improved mechanical and electrical camera-to-battery interface system. Once a PAG-lok camera bracket is installed onto a camera, a variety of PAG-lok batteries and battery holders can be attached. PAG MICRO-MASTER charger is outfitted with PAG-lok connector.

- | | | |
|----------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #9522 | CAMERA BRACKET | PAG-lok Camera Brackets are offered with an assortment of direct camera fittings. Specify camera manufacture and model. Accepts all PAG-lok batteries and clips. Has BP-90 socket to power light |
| #9515 | PAGCLIP 90 | PAG-lok PAGCLIP 90 holds any BP-90 type battery including PAG PP-90 or Master 90 batteries |
| #9516 | PAGCLIP NP-1 | PAG-lok PAGCLIP/NP-1 holds NP-1 battery |
| #9530 | BETA BRACKET | PAG-lok Camera Bracket with special mounting plate for BetaCam VTR/tube camera combination |
| #9531 | BETA/CCD BRACKET | PAG-lok Camera Bracket with special mounting plate for BetaCam/VTR/CCD camera combination |
| #9523 | CARRY BELT | Leather belt with 2 PAG-lok brackets for carrying spare PAG-lok batteries |
| BATTERIES (with exterior fuses) | | |
| #9320 | PP20 | 13V, 2AH lightweight NiCad battery with PAG-lok mount
<i>Specify black or white</i> |
| #9395 | PP95 | 13V, 4AH NiCad battery with PAG-lok mount |
| #9396 | PP96 | 14V, 4AH NiCad battery with PAG-lok mount |
| #9398 | PP98 | 13V, 4AH SUPER CELL NiCad battery with PAG-lok mount |
| #9399 | PP99 | 14V, 4AH SUPER CELL NiCad battery with PAG-lok mount |

Parts available to convert Anton Bauer batteries and camera brackets to PAG-lok.



PAGPAC BATTERIES

PAGPAC and PAG-lok batteries of high quality NiCad are approved for use in virtually all video equipment. All PAG batteries may be fast charged with any PAG microprocessor charger. Slow charge with appropriate PAG SOLOCHARGER. Use MULTICHARGER with 4AH batteries.

- | | | |
|-------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #9390 | PP90 | 12V, 4AH approved NiCad replacement for Sony BP-90 battery. Powers VTRs and portable devices. Attach to ENG cameras with PAGCLIP 90 battery holders. Case comes apart for service. Exterior fuse and spare fuse |
| #9391 | MASTER 90 | All new 12V, 4AH BP-90 type NiCad battery. Same as PP90 above but has new high performance cells to extend running time |
| #9360 | PP60 | 12V, 2.5AH NiCad replacement for Sony BP-60 Lead Acid battery. (Can also be charged on Sony charger.) |
| #9387 | PP86A | 13V, 4AH NiCad battery for use on ENG cameras with Anton Bauer/Frezzolini mount |
| #9386 | PP86 | 14V, 4AH NiCad battery similar to PP86A described above. Can be used on same cameras for a longer running time |


A3.5x6.5RM

A14x8ERM

A20x7ESM
2/3" Format Zoom Lenses for Studio and Field Productions

Model No.	Focal Length	Zoom Ratio	Extender	Maximum Aperture Ratio	M.O.D.	Object Dimensions At M.O.D.	Angular Field Of View	Macro	Size	Weight (w/Lens Hood)
A3.5x6.5RM	6.5 ~ 23mm	3.5x	—	1:1.7	0.3m	6.5mm 340 x 454 23mm 97.3 x 129.7	6.5mm 68°11' x 53°50' 23mm 21°39' x 16°19'	—	187mm	1.38kg
A7x7RM	7 ~ 50mm	7x	—	1:1.7	0.3m	7mm 334 x 445 50mm 47.6 x 63.5	7mm 64°18' x 50°29' 50mm 10°0.3' x 7°33'	—	199mm	1.6kg
A8.5x5.5RM	5.5 ~ 47mm	8.5x	—	1:1.7	0.3m	5.5mm 492 x 369 47mm 57.9 x 43.4	5.5mm 77°19' x 61°55' 47mm 10°41' x 8°02'	—	216.5mm	1.75kg
A8.5x5.5ERM	(1x) 5.5 ~ 47mm (1.7x) 9.4 ~ 80mm	8.5x	1.7x	1:1.7	0.3m	5.5mm 492x369mm 47mm 57.9x43.4mm	5.5mm 77°19'x61°55' 47mm 10°41'x8°02'	—	235mm	1.85kg
A16x9.5RM	9.5 ~ 152mm	16x	—	1:1.8	0.95m	9.5mm 617 x 823 152 38 x 51	9.5mm 49°42' x 38°19' 152mm 3°19' x 2°29'	with Macro	160mm	1.36kg
A12x9ERM	(1x) 9 ~ 108mm (2x) 18 ~ 216mm	12x	2x	1:1.7	0.95m	9mm 658 x 877 108mm 55 x 73	9mm 52°06' x 40°16' 108mm 4°40' x 3°30'	with Macro	174mm	1.45kg
A14x8ERM	(1x) 8 ~ 112mm (2x) 16 ~ 224mm	14x	2x	1:1.7	0.7m	8mm 664x885mm 112mm 47x63mm	8mm 57°37'x44°50' 112mm 4°30'x3°23'	with Macro	237mm	2.3kg
A14x9ERM	(1x) 9 ~ 126mm (2x) 18 ~ 252mm	14x	2x	1:1.7	0.8m	9mm 550 x 733 126mm 39 x 52	9mm 52°06' x 40°16' 126mm 4°00' x 3°00'	with Macro	184.5mm	1.48kg
A18x18.5ERM	(1) 8.5 ~ 153mm (2) 17 ~ 306mm	18x	2x	1:1.7	0.9m	8.5mm 879 x 659 153mm 49 x 37	5.5mm 54°44' x 42°26' 153mm 3°17' x 2°28'	with Macro	199mm	1.55kg
A22x12.5ERM	(1x) 12.5 ~ 275mm (2x) 25 ~ 550mm	22x	2x	1:2.0	1.8m	12.5mm 894 x 1192 275mm 41 x 54	12.5mm 38°47' x 29°35' 275mm 1°50' x 1°23'	with Macro	286.5mm	3.8kg

Model No.	Focal Length	Zoom Ratio	Extender	Maximum Aperture Ratio	M.O.D.	Object Dimensions At M.O.D.	Angular Field Of View	Pattern Proj.	Size (mm)	Weight (w/Lens Hood)
A15x8ESM	(1) 8 ~ 120mm (2) 16 ~ 240mm	15x	2x	1:1.5	0.7m	8mm 915x686 120mm 61x46	8mm 57°37'x44°50' 120mm 4°12'x3°09'	Avail.	228x228x453	13kg
A18x8ESM	(1) 8 ~ 144mm (2) 16 ~ 288mm	18x	2x	1:1.5	0.7m	8mm 915x686 144mm 51x38	8mm 57°37'x44°50' 144mm 3°30'x2°37'	Avail.	228x228x453	13kg
A20x7ESM	(1x) 7 ~ 140mm (2x) 14 ~ 280mm	20x	2x	1:1.4	0.75m	7mm 1166x874mm 140mm 58x44mm	7mm 64°18'x50°29' 140mm 3°36'x2°42'	Avail.	228x228x481	15kg
A34x10ESM	(1) 10 ~ 340mm (2)20 ~ 680mm	34x	2x	1:1.6	1.8m	10mm 1446x1085 340mm 43x32	10mm 47°30'x1°29' 340mm 24°49'x0°44'	Avail.	N.A.	13.6kg
A34x20.5ESM	(1) 20.5 ~ 700mm (2) 41 ~ 1400mm	34x	2x	1:2.4	3m	20.5mm 2000x1500 700mm 59x44	20.5mm 24°14'x0°43' 700mm 12°13'x0°22'	Avail.	N.A.	19kg
A44x9.5ESM	(1x) 9.5 ~ 420mm (2x) 19 ~ 840mm	44x	2x	1:1.4	2.2m	9.5mm 1396x1862 418mm 31.7x42.3	9.5mm 49°42'x38°10' 420mm 1°12'x0°54'	Avail.	218x218x492	14.5kg
A44x9.5ESM	(1x) 9.5 ~ 420mm (2x) 19 ~ 840mm	44x	2x	1:1.2	2.5m	9.5mm 1583x2111 418mm 37.3x49.7	9.5mm 49°42'x38°10' 420mm 1°12'x0°54'	Avail.	260x252x657	25kg



Imager 100



Imager 200

Imager 100/200 Projection Systems

- Easily moved using optional projection cart for inter-office use, or with optional carrying case for between local branches, schools, or libraries (30% smaller and lighter; approx. 73 lbs.)
- 48% brighter picture, with 400 peak lumens made possible with cooled CRT design
- Optional interface can talk to any computer like IBM's PC series and compatibles, NEC PC's, Apple III, IIC, IIE
- Service friendly design

Creates an affordable difference in top-of-the-line projection television for the growing education and business markets.

With the optional projection cart and its ease of use, corporate meeting centers can keep their clean, professional look...while educational centers can share the industrial projection technology from room to room...and need to need.

Imager 100 CRT-Color Video Projection Unit

Screen Size: 84-120" Diagonally
 Resolution: 330 Lines
 Signal Sources: Video, TV Tuner, Phono
PSC6110 \$2198.00

Imager 200/A CRT-Color Video Projection Unit

Screen Size: 50-84" Diagonally
 Resolution: Video 550 + Lines
 RGB 800 + Lines
 Signal Sources: RGB Computer, TV Tuner
 Video Camera, VTR/VCR,
 Video Disk
PSC6115/72. \$5997.00

Imager 200/B CRT-Color Video Projection Unit

Screen Size: 84-120" Diagonally
 Resolution: Video 550 + Lines
 RGB 800 + Lines
 Signal Sources: RGB Computer, TV Tuner
 Video Camera, VTR/VCR,
 Video Disk
PSC6115/120 \$5997.00

Accessories for Imager 200 (PSC6115)

- AREM2000** Remote control—rackmountable. . . \$265.00
- ARGB2000** RGB interface—rackmountable
 15.75kHz horizontal line rate470.00
- ACAB2000** IBM RGB interface cord connects
 computer to RGB interface.60.00
- ACAB2010** Apple RGB interface cord connects
 computer to RGB interface.60.00
- ACAB2020** NEC RGB interface cord connects
 computer to RGB interface.60.00
- ACAB2115** 50' remote cord175.00
- ACAB2130** 100' remote cord255.00
- ACAB2150** 164' remote cord365.00
- 7178480** Projection stand475.00

Imager 300 Video/Data Projector

The Imager 300. It's the video and computer display projector that puts total performance control in the palm of your hand.

Digital convergence means easy set up.

First connect the necessary cables from your input sources through the Imager 300's switcher. Connect one set of cables from the video switcher to the projector.

Aim the full-function handheld remote controller at either the projector or the switcher's built-in infrared receiver, call up the test pattern and proceed to converge the line rate you've selected, just by pushing the right buttons. You'll find this remarkably easy and fast. And when you're finished, just push the store button and the Imager 300 will automatically remember the convergence settings for that line rate.

Digital convergence means excellent picture quality.

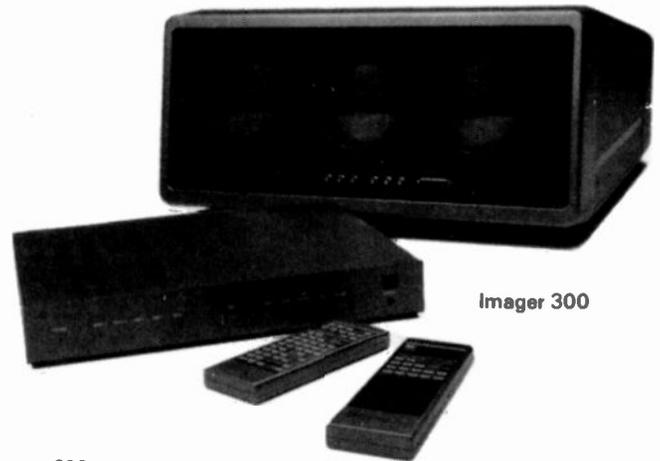
Unlike analog convergence, which allows a projector to drift over time, digital convergence locks on to the correct settings for a chosen line rate eliminating drift. So you get an optimum picture each and every time a preset line rate is selected.

Digital convergence means easy to operate.

In addition to the full-function remote control you'll use to converge the Imager 300, we provide a second, "Executive remote." This is a simplified version for the boss to use. So he or she can control the presentation with just a push of a button, just like a TV set.

With a full field display of 2,000 characters, excellent contrast and over 900 lines resolution RGB, 525 lines (NTSC video) and 625 lines (PAL/SECAM video), you'll get a crisp, clear picture for all your front and rear-screen presentations. Which makes this perfect for management information systems, marketing, engineering and training.

The picture quality is due to our uniquely designed 7" Hi-Resolution CRT's and the powerful, optically coupled, all glass lenses.



Imager 300

Imager 300 PSC7135

CRT variable line rate
data/video projector
Screen size: 70" -120" diagonally
Resolution: Video 600 lines
RGB 900 lines \$9999.00

Price Includes:

- AVDU3000 Video switching unit
- AREM3000-I Remote control unit (full function)
- AREM3001-X Remote control unit (executive)
- ACAB3004 4 Meter video cable
- ACAB3104 4 Meter RGB cable
- All glass lenses
- 75 ohm terminator
- AREM3000-I Infrared remote control
- AREM3001-X Full function (extra) \$250.00
- AREM3000-W Infrared remote control
- ACAB3016 Executive (extra) 250.00
- ACAB3116 Wired remote control
- ACMK3303 (15' cord) 250.00
- 16 Meter video cable 290.00
- 16 Meter RGB cable 330.00
- Ceiling mount kit assembly 120.00

Specifications

Power Source: 120VAC, 50/60Hz
Power Consumption: 260W
Projection Tube: 7" liquid cooled CRT's optically coupled (RGB)
Brightness (typical): 475 lumens (peak white)
Lenses: 6 piece glass lenses, multi-coated
Throw Distance: 70" screen; requires 7'2" throw (1.8m requires 2.1m throw)
 90" screen; requires 9'10" throw (2.3m requires 3.0m throw)
 120" screen; requires 11'8" throw (3.0m requires 3.6m throw)
Resolution: Video—525 TV lines; 625 PAL/SECAM
 RGB 900 TV lines
 Full field display; 2000 characters
Picture Size: 70" to 120" (diagonal measurement) (1.8m to 3.0m)
Projection Capabilities: Front or rear—ceiling or floor mount
Input Standards: NTSC, NTSC 4.43, PAL, SECAM, RGB (15-34kHz)
Video Unit Inputs: 8 presets available
 Horizontal—15kHz to 34kHz
 Vertical—38Hz to 100Hz
Input Levels: Video—2 video inputs
 0.7-1.5V p-p, 75 ohms positive (BNC)
 Loop thru—1 video
 0.7-1.5V p-p, 75 ohms positive (BNC)
 RGB (1) 9-pin IBM connector
 RGB (2) and RGB (3)
 R: 0.7-1.5V p-p, 75 ohms positive (BNC)
 G: 0.7-1.5V p-p, 75 ohms positive (BNC)
 B: 0.7-1.5V p-p, 75 ohms positive (BNC)
 H/V Sync: 0.7V p-p-2.0V p-p, 75 ohms negative or positive (BNC)
 G Sync: 0.3-0.6V p-p, 75 ohms negative (BNC)
Weight: 112 lbs. (51 kg)
Dimensions: 11 1/2" H x 25" W x 27" D
 (29 x 64 x 70cm)
Digital Convergence: Digitally preset for desired line rates
 < 0.2% of V-height
 Internal microprocessor
 Fine tuning optimization

Storage memory to save preset data
 Convergence done remotely whether floor or ceiling mount
Preset
Input #1: Composite Video (50/60Hz)
 Quad Standard (NTSC/NTSC 4.43/PAL/SECAM)
Input #2: Composite Video (50/60Hz)
 Quad Standard (NTSC/NTSC 4.43/PAL/SECAM)
Input #3: RGB via 9-pin IBM® connector with TTL and analog processor.
 CGA 15, 75kHz 320 x 200 pixels
 EGA 21.8kHz 640 x 350 pixels
 PGA 30.5kHz 640 x 480 pixels
Input #4: RGB BNC connector (R, G, B, H Sync, V Sync)
 Variable line rate 15-34kHz
Input #5: RGB BNC connector (R, G, B, H Sync, V Sync)
 Variable line rate 15-34kHz
Input #6: NTSC Video 60Hz
 (direct connection to video projector)
Full Function Infrared Remote Control:
 ★ On/off power control
 ★ Brightness
 ★ Picture contrast
 ★ Color, hue, sharpness
 Multiple test pattern displays
 Video black
 Static convergence (digital)
 Dynamic convergence (digital)
 Point convergence (digital)
 ★ Infrared executive remote regulates these items
Test Pattern Display: Internal generated
 Cross hatch—fine and coarse
 Dot pattern—fine and coarse
Text Color Switch
 (for enhanced computer display): Red, green, blue, yellow, cyan and magenta (digital input only)
 ★ Imager 300E (PSC7135E) 220V, 50Hz Export Version



Talaria

Talaria® Large Screen Video Projectors

- One lens "no convergence" system
- High brightness picture allows use in high ambient light
- Requires no special screen; use of flat matte screen allows viewing by those off the projection axis
- Optional lenses allow variable throw distances from 4' to 175'
- Accommodates diverse inputs: NTSC, PAL/SECAM, RGB and a wide variety of computer interfaces
- User friendly television style controls
- Glass lenses for a sharper image corner to corner
- Selection of front or rear projection at the flip of a switch
- Creates picture size from 4' wide to 24' wide and larger
- Built-in diagnostic and color bar/gray scale generator
- Continuous tilt adjustment of $\pm 15^\circ$ pitch
- Compact, and transportable (it only weighs about 145 lbs.)
- Modular construction and smartly-engineered design
- Single optical path light valve
- Accepts a wide variety of input signals: 1/2", 3/4", or 1" video tape, live camera feed, satellite feed, video laser disc, and closed circuit television (CCTV)
- Accepts on-line computer generated graphics
- Aspect ratio (ratio of width to height) is 4 x 3

All projectors include as standard:

- Standard 3:1 (throw distance to picture width) lens
- Instruction manual
- 2 Day Operator and 4 Day Maintenance Training Courses held monthly in Syracuse, NY. Training will be held at customer location at extra cost
- Detachable operator control unit
- Mechanical tilting mechanism

Accessories

Screens, cases, projection stands, raster masks and dowsers available

Talaria Multiple Valve (MLV) Large Screen Video Projector

- Two light valves and two lamps in this one unique projector results in at least 80% more brightness and 50% more contrast than our single light valve projector
- Full color images up to 30' wide
- Two piece aluminum frame for ease of transportation and setup, or you can choose a one piece frame for fixed simulation or command control applications
- All Talaria Projector lenses may be used with the MLV, allowing front or rear screen throw distances of 1.5, 3.0, 4.2, 4.9 and 7 times the width of the screen
- Optional single output lens
- Accepts a number of different input signals, including videotape, live camera feed, satellite feed, video laser disk, closed circuit television (CCTV), and on-line computer-generated graphics
- 525/625 line standard video as well as computer compatible

Input Standards ¹ Color Projectors	Model	Brightness in Lumens ²	Input Power Required		Price
			Watts	Voltage	
Video and PC Compatible Accepts NTSC or RGB Standard ³ 525 lines/60 fields per second 15.75kHz standard. Non-standard inputs from 15kHz to 32kHz can be accommodated.*	PJ4500	500	900	115 or 220	\$ 44,900.00
	PJ5050	1000	1100	115 or 220	68,850.00
	PJ5055	2000	1500	220	98,480.00
	PJ5055HB	2400	1750	220	99,760.00
Computer Compatible Accepts RGB video at line rate specified and composite sync 875 lines/60 fields per second 26.3kHz standard. Non-standard inputs from 23kHz to 28kHz can be accommodated.*	PJ5800	500	900	115 or 220	49,760.00
	PJ5850	1000	1100	115 or 220	73,850.00
	PJ5855	2000	1750	220	108,970.00
Computer Compatible Accepts RGB video at line rate specified and composite sync 1023 lines/60 fields per second 30.7kHz standard. Non-standard inputs from 28kHz to 38.5kHz can be accommodated.*	PJ5100	500	900	115 or 220	49,760.00
	PJ5150	1000	1100	115 or 220	73,850.00
	PJ5155	2000	1750	220	108,970.00

Monochrome Projectors

Video and PC Compatible Accepts NTSC standard 525 lines/60 fields per second at 15.75kHz standard.	PJ7050	1500	900	115 or 220	32,860.00
	PJ7055	3000	1100	115 or 220	47,750.00
Computer Compatible 30.75kHz or 26.3 standard. ⁴ Non-standard inputs from 15.0kHz to 38.5kHz can be accommodated.*	PJ7150	1500	900	115 or 220	36,780.00
	PJ7155	3000	1100	115 or 220	52,780.00

Notes:

1. Standard projectors are compatible with a single line rate. Other input options are available (including multiple line rates), contact General Electric Projection Display Products Operation or your nearest authorized sales agent
2. Light output given in terms of open gate minimum lumens. Modulated light output is typically 65% of open gate level
3. NTSC/PAL/SECAM switchable at line rate specified, available as option at additional cost
4. Accepts wideband monochrome video at line rate specified

* Available at extra cost.

Talaria Multi-Standard Large Screen Video Projector

- All the features of the Talaria professional video projector plus the ability to switch automatically between three preset scan rates
- Uses both standard video inputs and non-standard line rate inputs
- You can use any two input sources between 15kHz and 34kHz in combination with standard NTSC video
- Projects a picture from 4' to 30' wide
- With its interchangeable lenses, you can vary the throw distance anywhere from 12' to over 280'

Model	Light Output	Max. Power	Voltage	Price
PJ5100MS	1000 lumens	900W	115/220	\$ 64,760.00
PJ5150MS	1700 lumens	1100W	115/220	88,850.00
PJ5155MS	2400 lumens	1750W	220	123,970.00

Model	Input	Description	Price
MLV-5055-SC	525/625 line	Video projector with screen convergence	\$ 178,980.00
MLV-5155-SC	1023 line	Computer compatible projector with screen convergence	195,940.00
MLV-5155-CO		Computer compatible projector with combining optics	238,720.00
MLV-5155-HDTV-SC	1125 line	RGB High Definition Television Projector.	195,940.00

VideoShow Presentation System

• As compact as a briefcase • Wireless remote control • Dynamic special effects such as spirals, fades, and wipes and three dimensional images that spring to life in 1000 brilliant colors. Focus the attention of your audience on key points with features that highlight text and build charts and graphs as you present. Or use the on-screen pointer for emphasis • Table of Contents feature enables you to quickly and easily move to any picture in your presentation at the push of a button • By pushing just two buttons, VideoShow becomes a self-running presentation system

VideoShow Includes:

• VideoShow • VideoShow Master Diskette • 10 Minute VideoShow course and sample presentation • Remote control with batteries • Power cord

VideoShow Pro 180

• Integrate photographic images with graphics • Create slides and transparencies • Complete with JVC BY-110 Camera • Built-in genlock

VideoShow 180\$8295.00

VideoShow 160

• 1M byte of memory provides additional speed and expanded capabilities • Enhanced visual effects, instant picture comparison, picture-look-ahead, and draw-ahead features • Pre-load an entire presentation into memory for self-running presentations with no disk wear • By adding PhotoMetric™ 200 you can produce boardroom quality presentations with 2000 x 2000 resolution slides in 1000 brilliant colors

VideoShow 160\$4595.00

VideoShow 150F

• Specifically designed for the presenter who needs to display complex visual material • Works with PhotoMaker 160 to produce 2000 x 500 resolution slides

VideoShow 150F\$2995.00



VideoShow

PhotoMaker 160 Slide Presentation Maker

• Capture VideoShow's 1000 exciting colors and sharp images on film • Slides, overhead transparencies, and prints are yours at the touch of a button • PhotoMaker software handles everything—exposure, color balance, and film advance. All you do is select the film you are using • High resolution (2000 x 1000) • Professional quality

PhotoMaker 160\$2995.00

SOFTWARE

PictureIt™—General Parametrics Corporation

A business graphics package with an extensive selection of pre-designed work, bar, pie, org charts, graphs, diagrams, flow and GANTT charts. This package is designed in an easy to use fill-in-the-blank format. Also provided are default colors and formats to insure professional quality images.

PictureIt Int'l Version 2.3\$995.00

PictureIt Domestic Version 2.700.00

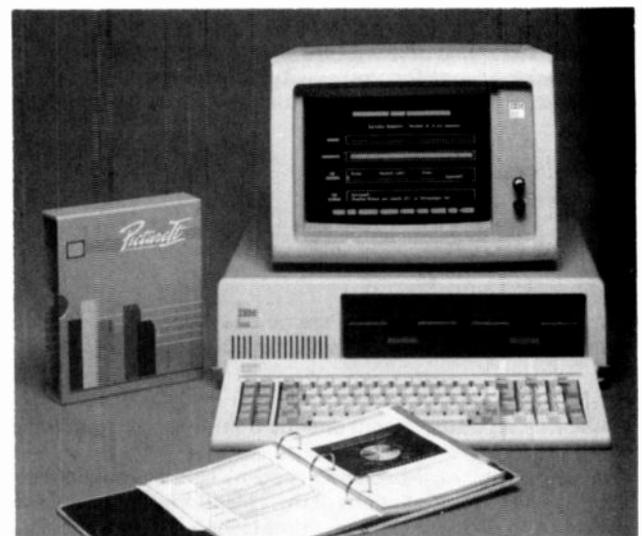
Freelance™—Lotus Development Corporation

An object based draw package using geometric shapes. This program can edit, shrink, enlarge, rotate, flip, copy and rearrange on-screen images. Also included is a symbol library of 200 pre-drawn images.

Lotus Freelance Plus\$495.00

Accessories

- EIA cable (10' length)\$ 40.00
- Video link150.00
- Video enhancer250.00
- Xerox 4020 Printer with starter kit1665.00
- Replacement remote control150.00
- Hard carrying case150.00
- Soft carrying case (deluxe)290.00
- Soft carrying case (std.)100.00



PictureIt

ColorMetric™ 20 Graphics Card

- Add high resolution graphics and 1000 colors to your PC
- ColorMetric 20 Card turns your personal computer into a full-capability graphics workstation that allows you to create and preview pictures on any monitor exactly as they will appear as slides or hard copy
- Fully compatible with the General Parametrics North American Presentation Level Protocol Syntax (NAPLPS) Standard. ColorMetric is supported by the library of over 30 popular graphics software packages that also support the entire General Parametrics product line
- ColorMetric 20 can produce brilliant hard copy and impressive 1000-color overhead transparencies when used with PrintMaker™ 20
- Create high resolution 2000 x 2000 slides with PhotoMetric™ 200PC
- As a graphics workstation, ColorMetric can also produce video presentations for display with VideoShow
- Unique pixel-free technology allows you to display 1000 simultaneous colors and high resolution images. This palette of 1000 colors makes possible a full range of special effects including 3-D and shading. This technology also gives you boardroom-quality resolution on slides, overheads and hard copy as well as allowing your monitor to display this resolution on-screen
- ColorMetric 20 works with the IBM® PC, XT, AT or any compatible computer with 256K RAM minimum. However, 512K and a color monitor are recommended



ColorMetric 20

ColorMetric 20 Includes:

- ColorMetric 20 Card
 - VideoShow Presentation Disk
 - ColorMetric Video Cable
 - ColorMetric User's Guide
 - List of Software for General Parametrics Presentation Products
 - ColorMetric Connections Diskette
- ColorMetric 20 \$ 1875.00**

DESKTOP COLOR PRINTERS

PrintMaker 20X

- Print your images in high resolution and brilliant color using the capabilities of the Xerox 4020™ Color Ink-Jet Printer
- Draft Mode for fast prints on cut sheets or roll paper
- Color Density Mode for high quality transparencies
- High Resolution Mode that provides 240 dots per inch vertical resolution

PrintMaker 20X Includes:

- Xerox 4020 Color Ink-Jet Printer
 - 2 PrintMaker Portrait-Format Disks
 - 1 VideoShow Presentation Disk
 - 1 PrintMaker Parallel Cable
 - 1 PrintMaker User's Guide
 - List of Software for General Parametrics Presentation Products
- PrintMaker 20X (Requires ColorMetric 20) \$ 1960.00**

PrintMaker 130

- Enables your printer to print directly from VideoShow at the push of a button
 - Tells your printer how to blend the colors so that your hard copies are impressive reproductions of the VideoShow images. Or, if you want to print in monochrome, PrintMaker will automatically convert your pictures to black and white plus fourteen shades of gray
- PrintMaker 130 \$ 700.00**

PrintMaker 140

- Professional-quality hard copy and overhead transparencies
- High resolution hard copy in 1000 vivid colors
- In black and white you have superior quality hard copy with 14 shades of gray for 3-D, shading and other visual effects that you can reproduce on your office copier
- Produce overheads and hard copy with thermal transfer technology
- Built-in printer buffer
- Supported by a library of over 30 popular graphics software packages that support the entire General Parametrics product line

PrintMaker 140 Includes:

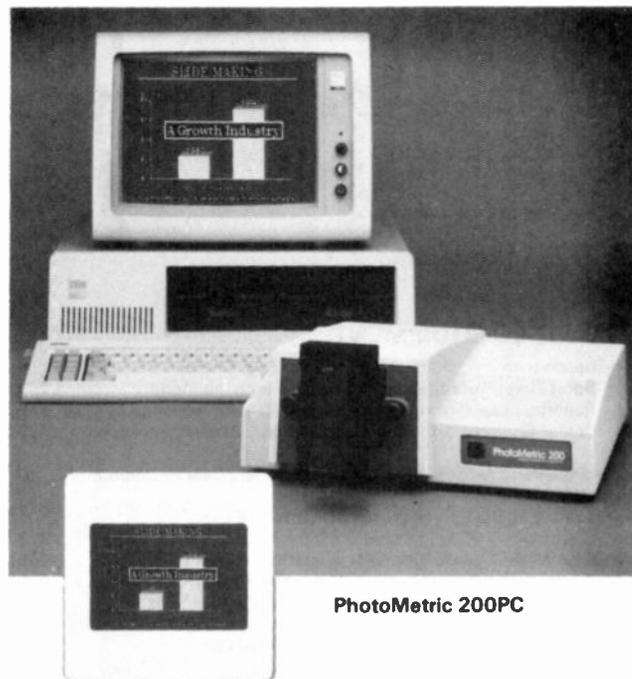
- PrintMaker Portrait-Format Disk
 - PrintMaker Landscape-Format Disk
 - PrintMaker User's Guide (US/Int'l)
 - VideoShow Presentation Disk
 - List of Software for General Parametrics Presentation Products
- PrintMaker 140 \$ 395.00**
CalComp PlotMaster™ 5902G (domestic) \$ 5495.00
CalComp PlotMaster 5902GI (International) 7095.00
System Adaptor 200 695.00

PhotoMetric™ 200 Desktop Slide Maker System

- Turn your personal computer into a professional-quality desktop slide maker
- Create brilliant 35mm slides with 2000 x 2000 resolution in 1000 vivid colors at your desk
- Create board room-quality slides from popular software packages like Freelance™, Microsoft Chart™, ChartMaster™, Lotus 1-2-3™, PictureIt™ and many more
- Use any other graphics software products that support North American Presentation Level Protocol Syntax (NAPLPS).
- Use software you already have to create persuasive professional slide presentations
- PhotoMetric's advanced technology, MacroVision™, gives you 1000 brilliant colors and superior resolution on your slides and on your color monitor
- Unique On-Screen Preview feature allows you to view your images just as they will appear as slides
- Select from the following film types:
 - Ektachrome™ ASA 100
 - Kodacolor VRG ASA 100
 - Kodachrome™ ASA 64
 - Polachrome™ ASA 40
 - Panatomic-X ASA 32
 - Polacolor ER type 669
 - Colorgraph™ type 691
- Automatically photograph a single picture, a series of pictures, or multiple copies of one or more pictures
- 35mm film unit included features automatic film loading, advancing, and rewinding
- Film unit requires no batteries; it is powered by PhotoMetric through a cable connection
- No adjustments or exposure settings are required. Automatic Exposure Calibration feature utilizes an advanced closed loop feedback system to adjust brightness and color balance before each exposure to insure consistent brilliant color and high resolution images every time
- PhotoMetric 200 works with the IBM® PC, XT, AT or any compatible computer with 256K RAM minimum. However, 512K and a color monitor are recommended

PhotoMetric 200 Includes:

- PhotoMetric 200 film recorder
- PhotoMetric PC board
- 2 PhotoMetric 200 disks



PhotoMetric 200PC

- 1 VideoShow Presentation Disk
- PC Interface Cable
- Power Cord
- 35mm Autowind Film Unit with Control Cable
- List of Software for VideoShow Presentation Software Products

Specifications

Dimensions: 5.63" H x 14.63" W x 13.2" D
(14.30 x 37.16 x 33.53cm)

Weight: 12.7 lbs. (5.8kg)

Power Requirements: 120VAC ± 5%; 50/60Hz; 0.5A; 58W
Board: Full length circuit board. 4.2" x 13.2", (10.67cm x 33.53cm), edge connector compatible with standard IBM PC I/O bus, 9-pin video output connector for TTL-RGB monitors

PhotoMetric 200 \$4195.00
PhotoMetric 200PC
(Includes ColorMetric 20) \$5995.00



SUPPORT EQUIPMENT



550



551



610



212
Wide Base



615

GITZO VIDEO EQUIPMENT

Mono-Tripods with Detachable Monopod in 1 Leg, Charcoal Finish

- 122 Sport Luxe, Performance—mono: 124 with monopod \$299.95
- 222 Reporter Luxe Performance—mono: 221 with monopod 349.95
- 322 Studex Compact Luxe Performance—mono: 326 with monopod 429.95

Standard and Performance Tripods with Cremaillere Gearlift Column for Light Weight and Medium Weight Cameras

Cremaillere 1: Leg Diameter 7/8", for Cameras To 5 Lbs.

- 110 Cremaillere 1 w/3 leg sections (Sport Type) \$229.95
- 114 Cremaillere 1 Luxe: 110, w/4 leg sections (Sport Luxe Type) 269.95
- 112 Cremaillere 1 Performance: 110 w/leg spreading 279.95
- 118 Cremaillere 1 Luxe Performance: 112 w/4 leg sections 319.95

Cremaillere 2: Leg Diameter 1", for Cameras to 10 Lbs.

- 207 Cremaillere 2 Compact w/4 leg sections (Reporter Mode Type) \$279.95
- 211 Cremaillere 2 269.95
- 208 Cremaillere 2 Luxe w/4 leg sections (Reporter Luxe Type) 319.95
- 210 Cremaillere 2 Industry w/3 leg sections (Reporter Industry Type) 279.95
- 227 Cremaillere 2 Compact Performance: 207 w/leg spread, 5" short column 339.95
- 228 Cremaillere 2 Luxe Performance: 208 w/leg spreading 379.95
- 212 Cremaillere 2 Industry Performance: 210 w/leg spreading 339.95

Cremaillere 3: Leg Diameter 1 1/4", for Cameras to 15 Lbs.

- 305 Cremaillere 3 Compact w/3 leg sections (Studex Compact Type) \$359.95
- 307 Cremaillere 3 Compact Luxe: 305 w/4 leg sections (Studex Compact Luxe Type) 419.95
- 310 Cremaillere 3 w/3 leg sections (Studex Type) 359.95
- 324 Cremaillere 3 Compact Performance: 305 w/leg spreading 419.95
- 328 Cremaillere 3 Compact Luxe Performance: 324 w/4 leg sections 479.95
- 312 Cremaillere 3 Performance: 310 w/leg spreading 419.95

Video-Cine Heads with Adjustable Counterbalance, Column for Height Adjustment

- 550 5T head/rapid column, 1 handle extensible 16-22", supports 10-65 lbs. \$499.95
- 551 5T head/Cremaillere gearlift column, same handle, supports 10-65 lbs. 699.95
- 5TDL 5T head with 2 handles add 99.95

Video-Cine Heads with Adjustable Counterbalance, Column for Height Adjustment

- 330 Studex Compact Performance 5T/rapid w/3 leg sections, leg spreading, 2 section column \$679.95
- 331 Cremaillere 3 Compact Performance 5T/Cremaillere gearlift w/3 leg sections, leg spreading 769.95
- 400/2-551 Super Studex Giant Eco 5T/Cremaillere gearlift w/2 leg sections 869.95
- 410/2-551 Pro Studex Giant Eco 5T/Cremaillere gearlift w/2 leg sections 929.95
- 505-551 Tele Studex Compact 5T/Cremaillere gearlift w/4 leg sections 1019.95
- 500/2-551 Tele Studex Giant Eco 5T/Cremaillere gearlift w/2 leg sections 989.95
- 552 Intermediate plate for use w/large lenses 59.95
- 5TDL 5T head w/2 handles 99.95

Extra Solid Tripods with Counterbalanced

Video—Cine Head/Column for Height Adjustment

- 61 Video 6T/Cremaillere gearlift w/chain, leg spreading, supports 65 lbs. \$1999.00
- 810 Video 8T/Cremaillere gearlift w/4" diam. center column, for extra solid support, 5" wheel dolly, supports 250 lbs. 3999.00
- 4720 10 RT/Gearhead braces, level feet 3999.00
- 605/6 Quickchange dovetail attachment for 6T, 8T heads, 10RT: Base and Plate 599.95
- 6TDL 6T or 8T Head with 2 handles add 199.95

Ladderpods and Ladder Attachments, for Cameras, and Persons to 300 Lbs.

- 598 B4 Gitzechel Ball 4 \$1599.00
- 598 BR4 Gitzechel Ball 4/rapid 1679.00
- 598 BC4 Gitzechel Ball/Cremaillere gearlift 1779.00
- 598 B6 Gitzechel Ball 6 1699.00
- 598 BC6 Gitzechel Ball 6/Cremaillere gearlift 1949.00
- 597 Transport wheels for Gitzechel (when collapsed) pr./ 99.95
- 599 B4 Gitfix Ball 4 attachment 399.95
- 599 BR4 Gitfix Ball 4/rapid attachment 479.95
- 599 BC4 Gitfix Ball 4/Cremaillere gearlift attachment 579.95
- 599 B6 Gitfix Ball 6 attachments 499.95
- 599 BC6 Gitfix Ball 6/Cremaillere gearlift attachment 749.95

Monocolumns with Accessory Tray:

Diameter 4", for Cameras to 100 Lbs., Charcoal Finish

- 615 Monocolumn w/Cremaillere gearlift, diameter 1 1/2", 35"-54" \$1499.00
- 615 BF Monocolumn Ball 6F 1839.00
- 615 BF-680 Same w/680 fluid head 4229.00

Attachments for Cameras

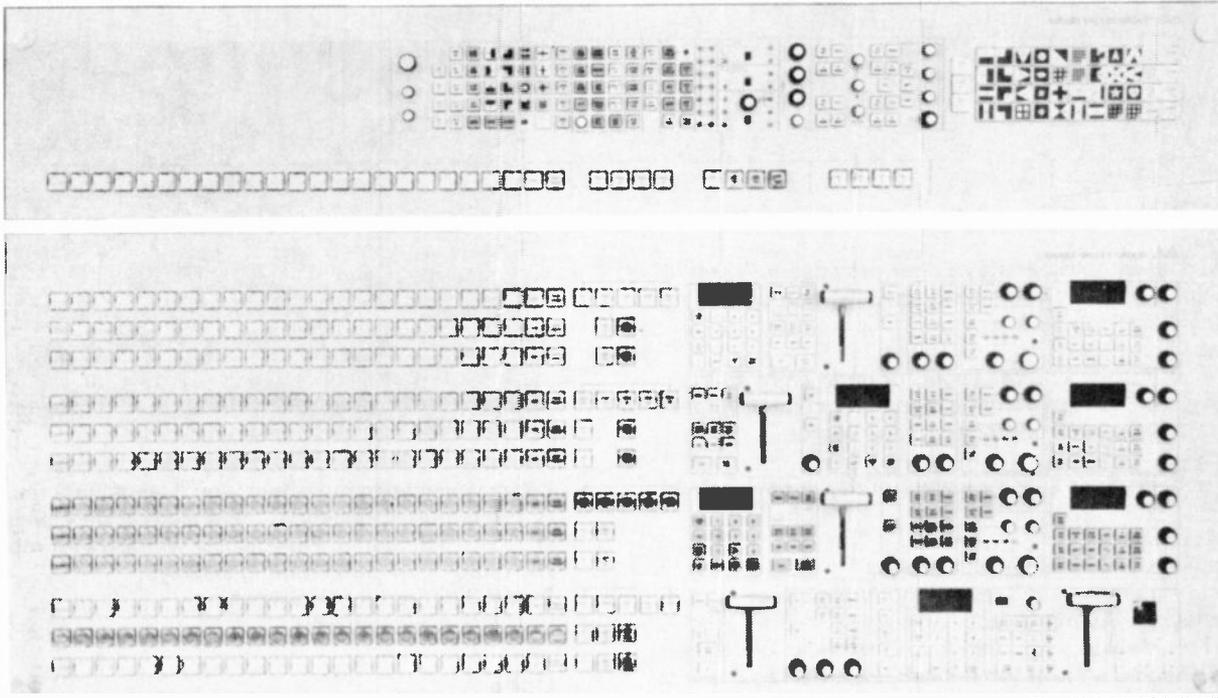
- 568 Car and all purpose attachment \$179.95
- 520 Wall support 15", turnable 129.95
- 521 Same, extensible 24"-40", not turnable 229.95
- 522 Same as 520, but stronger 19", not turnable 99.95
- 522B Same as 522, adjustable. 139.95
- 523 PM Simple tilt head, 2 small platforms 39.95
- 523 MM Simple tilt head, 1 small-1 large platform 49.95
- 523 GM Simple tilt head, 2 large platforms 49.95
- F88 Accessory triangle bag, attaches to all tripods 69.95
- 582 Accessory tray, for Super Pro Tele Studex, monocolumn 79.95

Twin Heads, Bracket

- 584 Twin heads, for 2 cameras of up to 5 lbs. \$59.95
- 539A Twin (triple) bracket, for 2 (or 3) heavier cameras of up to 25 lbs. 79.95
- 539B Same, center mounted 99.95

Dollies, Collapsible with 3/8" Screw-in Center (Specify Tripod)

- 390 W/1 1/2" wheels, adjustable leather shoes, rubber foot \$219.95
- 391 W/3" wheels, adjustable metal shoes 299.95
- 392 W/5" wheels, adjustable metal shoes 399.95
- 491 W/3" wheels, metal shoes, stirrups (specify tripod for adaptors) 399.95
- 492 W/5" wheels, metal shoes, stirrups (specify tripod for adaptors) 499.95
- 590 Same, heavier duty, not collapsible (specify tripod for adaptors) 899.95
- 591 Same, with traveling fixings (specify tripod for adaptors) 899.95
- 593 Same, collapsible (specify tripod for adaptors) 799.95
- 594 Same, with traveling fixings (specify tripod for adaptors) 999.95
- 498 Tripod adaptors for dollies with metal shoes, stirrups (specify tripod) set of 3 29.95



300-3AN

300 Series Production Switching System

- Unlimited re-entry of effects
- E-MEM® effects memory system on each Mix/Effects (M/E) with Effects Dissolve and sequencing
- Four input buses per M/E
- Independent title mix/cut per M/E
- Lever and title auto transitions
- Multi-source title keys
- Automatic key follow
- Chroma key memory per input
- Quad split from each M/E
- Personality Programming
- Omni-Key™ system—Linear Key Mode/Key Memory/Key Invert/External Key*

The 300 Series Production Switching System has been developed to meet the demanding requirements of both live broadcast production, and complex program and commercial production in the studio or edit suite. It is the first production system designed specifically to integrate Digital Video Effects and E-MEM effects memory control. Careful attention to the human engineering of panel controls and computer assisted operation provide unmatched production power and ease of operation.

The fully integrated E-MEM system, standard in each mix/effects system, can learn up to 20 different M/E configurations (all switches and controls). Each E-MEM effects system is independent allowing for selective recalls during live programming. E-MEM's unique "Effects Dissolve" capability allows any combination of analog controls to be treated as a transitional device for unique transitions and effects previously impossible under manual control. Sequencing allows a series of changes in control set up and effects dissolves to be linked together for animated effects and complex productions. The E-MEM effects systems can be linked with control of the other switcher functions (Flip-Flop mix, DSK, Background, Quad Split) and the KALEIDOSCOPE digital effects system by the Master E-MEM effects memory option. This distributed E-MEM system allows frame accurate control of individual elements of very complex effects frequently used in post-production.

* Available as standard on all 300 series switcher systems beginning May, 1985. Omni-Kit available to upgrade 300 series systems to include Omni-Key™ enhancements.

Four input buses per M/E handle most common effects sequences without re-entry. Transitions from one background to another, the addition of a video key (chroma key, DVE key, self key or matte key), a title key or any combination of the above, can be accomplished with one lever movement on a single M/E. Title hierarchy is selectable over or under the video key for full flexibility. Four input buses also permit a quad split output from each M/E. Thus dissolves or wipes are now possible between quad split from different M/Es.

An automatic preview function displays the exact results of the next lever movement (including all re-entries) in the Preview monitor.

Lever and title auto transitions with independent rate programming, are provided on each M/E. Titles can be added or deleted in combination with background or video key transitions or independently from title mix (auto transition) or title cut buttons.

The preset black function permits a transition to black (mix or wipe) between the on air effect and the previewed effect. The first lever movement is a transition to black (the crosspoint is automatically selected), and the second lever movement is a transition to the previewed effect.

High performance chroma keyers ignore luminance highlights in non-key areas, due to an exclusive Luminance Annihilator circuit. Encoded chroma key with shadow can be added to each M/E. For each primary input the appropriate chroma keyer (RGB or Encoded) and last key set up is memorized for automatic recall if selected.

A program/preset mixer with downstream keyer feeds the Program output of the switcher. It operates just like an M/E, with the exception of wipes, non-additive mixes, and video keys. Downstream keyer functions are accomplished in the same manner as title keys in an M/E with the same sources available.

300-2AN 24 input 2 M/E switcher, NTSC	..... \$ 113,540.00
300-2BN 16 input 2 M/E switcher, NTSC	..... 109,840.00
300-3AN 24 input 3 M/E switcher, NTSC	..... 161,235.00
300-3BN 16 input 3 M/E switcher, NTSC	..... 153,215.00
300-530 E-Disk™ II + Effects storage system with dual 3.5" floppy disk drives	..... 5,500.00

Model 200 Production Switcher

- Linear keying
- Optional Linear Borderline® Key Edger provides a variety of modes including multiple-line drop shadow, border, outline, and transparent shadows
- Pre-set wipe
- Optional multi-format chroma keyer for up to eight sources. You can use an RGB signal from a camera or color difference signal from a Beta or MII component tape source
- Luminance key
- "Over" Function Switch-layer keyer priority in each mix effect
- Auto select mode
- Accumulative latch for fill and key signals
- Six assignable external key source inputs/mix effect
- Four external key fills/mix effect
- Standard Key Masking. You can create realistic key effects with the dedicated shutter (box) mask, external key mask or either ME wipe output in any keyer—including the downstream keyer. To optimize key appearance, the mask system also features invert and forced foreground modes
- Key Memory. Key selection recalls clip, hue and gain
- Horizontal and Vertical Multipliers. Multiply a basic pattern from one to four times on the horizontal or vertical axis
- Border, soft and border symmetry modes
- Rate controlled positioner
- Normal, reverse, and flip-flop wipe direction modes
- Four Learn User Wipe Registers. Saves wipe pattern and all modifiers, so you can recreate the setup at the push of a button

Matrix Wipe Patterns

- 32 Programmed Wipe Patterns. Six patterns are available through dedicated buttons, and 26 through user personality assignment
- 64 x 48 Pattern. You can fill the screen with over 3,000 tiles
- Pattern Mix Mode. Modulates any analog wipe pattern with the selected matrix pattern for an endless variety of effects

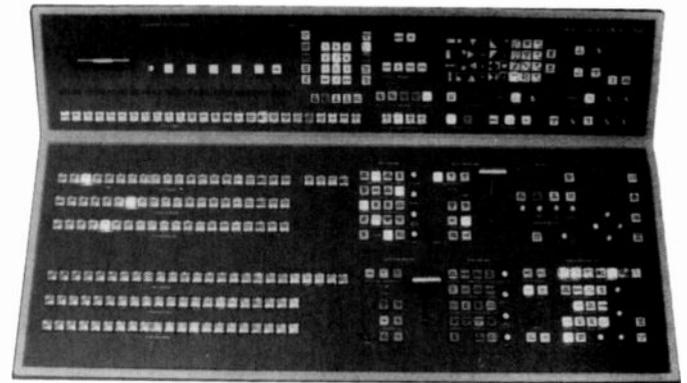
With 20 primary inputs and two mix effects, the 200 gives you more keying power than has ever been offered in a mid-sized production switcher.

For starters, the 200 gives you the creative freedom of five powerful keyers, two in each ME and one downstream. You can use either ME as a background for the downstream keyer, which also includes a fade-to-black and an output blanking processor.

The 200 gives you one matte generator for each keyer, one for each wipe system, and two background generators—for a total of nine—in addition to the color-black generator.

And for even more creative versatility, the background generators provide background wash.

The 200 standard effects memory system gives you the freedom to program effects with standard registers and quickly recall them on any switcher level.



Model 200

When you need to move fast, you'll appreciate the 200's easy-to-use features, including look-ahead preview, preset black mix and auto delegation. Plus display windows for mounting Horizon multi-destination routing displays.

Model 200 Production Switching

System—NTSC \$42,995.00

Options

- 200-401 System control cable connector kit \$ 200.00
- 200-402 Bulk system control cable/per meter 4.00
- 200-410 System control cable—10m 200.00
- 200-425 System control cable—25m 300.00
- 200-450 System control cable—50m 400.00
- 200-499 System control cable—100m 600.00
- 200-501 Linear Borderline key edge generator 2,495.00
- 200-502 Linear Borderline key edge generator package (5) 9,995.00
- 200-505 Quad component chroma key 2,995.00
- 200-510 Enhanced analog wipe generator 4,995.00
- 200-515 Matrix wipe generator 3,995.00
- 200-520 Dual serial adaptor (DSA) 1,995.00
- 200-530 Safe title generator 495.00
- 200-540 Streamline effects controller and disk storage system 4,995.00
- 200-550 Auxiliary bus output module 2,595.00
- 200-551 Local auxiliary bus control panel 1,295.00
- 200-552 Satellite auxiliary bus control panel 995.00
- 200-553 Satellite tally module 395.00
- 200-554 Satellite auxiliary bus panel kit 595.00
- 200-601 Satellite auxiliary bus control cable connector kit 200.00
- 200-602 Bulk Satellite auxiliary bus control cable/per meter 3.50
- 200-610 Satellite auxiliary bus control cable 10m 200.00
- 200-625 Satellite auxiliary bus control cable 25m 300.00
- 200-650 Satellite auxiliary bus control cable 50m 400.00
- 200-699 Satellite auxiliary bus control cable 100m 600.00
- 200-700 Redundant power supply option (panel and frame) 3,995.00
- 200-705 Control panel power supply fan (one assembly) 250.00
- 200-710 Second diagnostic pod 395.00
- 200-720 Recommended spare component kit 2,595.00
- 200-725 Recommended spare modules 15,995.00
- 200-750 Spare operators handbook 50.00
- 200-754 Spare maintenance manual set 295.00
- 200-758 Spare diagnostic pod manual 25.00

Model 100 Production Switcher

Unique Three Bus Multi-Level Mix/Effects System

- Eight looping video inputs, plus black and color background
- DSK Preview, overrides look-ahead preview system
- Cut or mix key transitions with independent frame rate auto transition

Master Fade-to-Black and Pulse Processor

- Independent frame rate auto transition for Fade-to-Black
- Preview system that shows program output when Fade-to-Black is engaged
- Pulse Processor re-inserts blanking from black burst on program output for stable output and recordings
- Standard contact closure editor interface (GPI) to each of the three auto transitions or a fourth "select" line which allows selection of any one
- Program and Preset buses for background transitions
- Video key bus for luminance keying, chroma keying, and pattern inserts, over the background transition
- Look-Ahead Preview System that shows the next effect; Wipe transition preview
- Auto transition, adjustable 0-999 frame, lever arm transition or cut button
- Ten wipe patterns, with modifiers: Hard or soft edges, Hard or soft bordered edges, Pattern reverse, Pattern aspect, Rate controlled positioner, Preset pattern size
- Independent Matte Generator for key fill and pattern borders

Video Keyer

- Video or Matte fill
- External key input
- Optional RGB chroma keyer
- Key invert
- Key mask using pattern generator
- Preset Pattern insert filled from key bus

Standard Downstream Keyer

- Key input from the video key bus or an external key input
- Key fill from an external video source or the independent DSK matte generator
- BORDERLINE® Generator option for black or white title borders, drop shadows, or matte filled outline
- Key invert
- Key mask using pattern generator
- Optional serial interface (RS 232/422) for external computer control
- Optional pulse regenerator for system timing

Mechanical Specifications

- Control panel can sit on desktop (17"W x 14"D), or with rackmount adaptor, can be placed in modular rack enclosures (requires eight rack units)
 - Electronics frame requires three rack units and 20" depth
 - Single 15 conductor control cable
 - Full tally system
 - Selectable power ranges from 100 to 240V, 50 or 60Hz
- 100N NTSC Production Switcher \$10,495.00

Options

- 100-30S 30M Control Cable \$ 300.00
- 100-33 RGB Chroma Keyer 850.00
- 100-34 Chroma Key By-Pass Board 54.00
- 100-40 NTSC Digital BORDERLINE Generator 1,500.00
- 100-41 NTSC Pulse Regenerator 1,000.00
- 100-50 Serial Interface Adaptor 1,500.00

100CV Component Video Production Switcher

The 100CV is a compact, flexible, economical component switching system with the traditional family characteristics of its older brother; quality, performance, economy and a comfortable drive. Designed for professional component video production, the 100CV has all the qualities expected by the most sophisticated user.



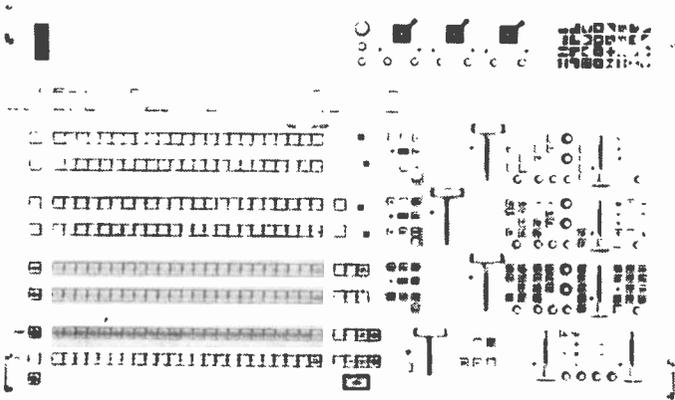
The 100CV features non-looping video inputs, 8 in all, and 3 sets of BNC connectors for every input. Utilizing the same control panel as the 100 Production Switchers, the 100CV Component Video Production Switcher has updated electronics that incorporates as standard equipment many of the features offered as options on the 100.

The electronics frame of the 100CV requires 6 rack units and 20" depth.

100CV-5258	100CV Basic System for 525 Line System — Beta Format	\$18,950.00
100CV-525M	100CV Basic System for 525 Line System — "M" Format	18,950.00
100CV-3-5258	525/Beta Format — Frame and Maintenance Manual Only	15,950.00
100CV-3-525M	525/"M" Format - Frame and Maintenance Only	15,950.00

Options

100CV-40	525 System - Digital BORDERLINE Generator	\$1,500.00
100-51	Key MEM Effects Memory System	3,195.00
AMX-100M	Audio Mixer System (Mono)	5,495.00
AMX-100S	Audio Mixer System (Stereo)	6,695.00
50CV	Component Video Dissolver	5,000.00
CV-21	Y, R-Y, B-Y to RGB Translator (for use in CV-20T Tray) . . . . .	.995.00
CV-22	RGB to Y, R-Y, B-Y Translator (for use in CV-20T Tray) . . . . .	.995.00
CV-23	Color Bar Generator (for use in CV-20T Tray)	1,195.00
CV-24N	NTSC Decoder (for use in CV-20T Tray)	1,500.00
CV-25N	NTSC Encoder (for use in CV-20T Tray)	1,500.00
CV-20T	CV-20 Series 2 RU Tray with Power Supply . . . . .	.895.00
CV-20PS	Backup Power Supply for CV-20T . . . . .	.245.00
CV-20EXT	Module Extender . . . . .	.110.00



1680 SERIES PRODUCTION SWITCHERS

With the 1680 there is another level of possibilities available to operators worldwide. With the same familiar drive of the 1600, there is more power, more control than ever before. Whether live broadcast or post production, the 1680 provides double the production power from each mix/effects system. Plus the 1680 has the ability to interface with peripheral devices integral to modern production. So your potential to create brilliant special effects explodes.

The evolution from the 1600 has brought other standard features to the 1680—expanding your ability to create visual messages. Non-Additive Mix greatly improves how supers look on the screen. Soft Bordered Wipes allow control of border width and degree of softness. And the Downstream Keyer is standard in every 1680. The Standard Title Keyers, Non-Additive Mix, Soft Bordered Wipes, and Downstream Keyer all add up to the production power needed to meet today's heavy demands.

E-MEM® System

Although standard on the 1680-10X, the E-MEM System is an option on all other 1680 switcher models. The system provides effects memory for all switcher functions, plus the sequences created with the Post Production System. The system allows individual elements of complex effects to be adjusted and previewed separately, giving you precise control and effect repeatability.

Serial Interface Adaptor

The serial interface adaptor expands the switcher/editor interface beyond the edit decision list to total switcher control. It is the central hub that allows the switcher to connect all peripheral devices, such as the E-DISK™ Effects Storage System, post production audio, your computer editing system, and many other external production tools.

Post Production Audio

This integrates the control of audio sources with your system by placing your audio sources under computer editor control.

E-DISK Effects Storage System

With the E-Disk floppy disk system, favorite effects can be stored permanently for future use. This allows effects to be created off-line then used in live programs with perfect repetition. The E-Disk System is particularly useful in fast-paced formatted programs, where visually exciting effects are consistently repeated.

Peripheral Interface

The Peripheral Interface expands production capabilities by allowing your computer editor to control other intelligent devices, such as Digital Video Effects or character generators.

**Preliminary Specifications
INPUT CHARACTERISTICS**

Video Input Level:	1V p-p composite or .714V noncomposite.
Pulse Input Level:	4V p-p ±6dB.
Subcarrier:	2V p-p ±6dB.
Input Hum Attenuation:	≥26dB (reference; 1V p-p hum).
Maximum Input Hum Level:	1.5V p-p.

OUTPUT CHARACTERISTICS

Level:	1V p-p composite (nominal).
Available:	Three; 75Ω ±1%, source terminated.
DC on Output:	±50 mV blanking to ground.

MIX/EFFECTS CHARACTERISTICS (each M/E)

Mix Tracking:	≤1% gain error. ≤10mV p-p DC error.
Chrominance Linearity	
During Mix:	≤1.5% amplitude error. ≤2° p-p phase error.

VIDEO SYSTEM CHARACTERISTICS

Short Time	
Waveform Distortion:	≤1% unweighted.
Line Time	
Waveform Distortion:	≤0.5%.
Field Time	
Waveform Distortion:	≤0.5%.
Frequency Response	
(reference; 1MHz):	300kHz to 5MHz: ±0.2dB. 5MHz to 8MHz: +0.2dB to -0.7dB. 8MHz to 20MHz: 0dB maximum.
Differential Phase:	≤1.5° (10-90% APL).
Differential Gain:	≤1.5% (10-90% APL).
K Factor:	0.5% (2 T Pulse).
Chrominance/Luminance	
Inequalities:	≤ 10ns delay. ≤0.2dB gain.
Crosstalk:	≥52dB at 3.58MHz; 50dB at 4.43MHz.
Signal-to-Noise Ratio:	≥65dB p-p signal/RMS noise to 5MHz.
Path Length Deviation:	≤1.5°.
Gain Stability:	≤1%.
Gain Uniformity:	≥0.1dB.
DC Stability:	≤30mV.

POWER

Input Power:	95-125 or 190-125 VAC, 48-62Hz.
Power Consumption:	450VA approx. (1680-24K/16K). 275VA approx. (1680-10X). 225VA approx. (1680-16F/24F). 200VA approx. (1680-10V).

1680-10VN	1680-10VN Production Switching System	\$26,970.00
1680-10XN	1680-10XN Production Switching System	43,265.00
1680-16FN	1680-16FN Production Switching System	59,385.00
1680-16KN	1680-16KN Production Switching System	85,350.00
1680-24FN	1680-24FN Production Switching System	65,505.00
1680-24KN	1680-24KN Production Switching System	91,770.00

Options

1680-013	Control panel power cable 10V/10X (50m)	\$ 440.00
1680-019	Control panel power cable 16/24F and 16/24K (50m)	910.00
1680-096	Remote panel for E-Disk	225.00
1680-401	RGB Chroma Keyer for 10V/10X	1,700.00
1680-402	RGB chroma keyer for 16F/24F—16K/24K	1,790.00
1680-405	Chroma key switcher for 10V/10X	830.00
1680-407	Encoded chroma keyer for 16F/24F—16K/24K	3,070.00
1680-408	Encoded chroma keyer for 10V/10X	2,650.00
1680-492	E-MEM panel tub for 16K/24K	1,265.00
1680-493	E-MEM panel tub for 16F/24F	1,265.00
1680-494	E-MEM III Serial I/F for 10X	1,440.00
1680-495	E-MEM III Serial I/F for 10V/16F/24F	1,440.00
1680-496	E-MEM III Serial I/F for 16K/24K	1,440.00
1680-497	E-Disk	7,190.00
1680-510	Analog Borderline for M/E 1	4,785.00
1680-511	Analog Borderline for M/E 2	4,785.00
1680-512	Analog Borderline for M/E 3	4,785.00
1680-513	Analog Borderline for DSK	4,785.00
1680-515	Parallel Edit I/F (video and audio) for 10V	7,635.00
1680-516	Parallel Edit I/F (video and audio) for 10X	7,635.00
1680-517	Parallel edit I/F (video and audio) for F and K's	7,635.00
1680-518	Quad split for 16F/24F—16K/24K	1,970.00
1680-520	Dual Power Supply for 10V/10X	2,620.00
1680-527	Aux Bus for 16F	2,455.00
1680-528	Aux Bus for 24F	3,055.00

8500 Series Audio/Video Distribution Amplifiers

The 8500 Series is a range of video and audio distribution amplifiers. The DA's feature both high performance and low cost as a result of innovative engineering coupled with advanced manufacturing techniques.

All 8500 Series models feature differential inputs with six outputs. Circuit building blocks such as input amplifiers, output amplifiers, and voltage regulators have been reduced to individual hybrid integrated circuits which provide improved performance, better unit-to-unit consistency, and ease of maintenance over conventional discrete designs.

Video DA's include the 8501, a basic non-equalizing DA; the 8502, an equalizing DA with dual range (0-500' and 500'-1000') variable equalizer; the 8503, an equalizing DA with precision stepped equalization (0, 100', 200',...1000') plus vernier trim (0-125'); the 8504, a delay DA capable of up to 300ns delay (up to 1.1µsec. with optional plug-ins); and the 8505, a field DA which combines long cable eq (up to 3000' of 8281) and a two speed clamp. The line also includes the 8520, a pulse DA.

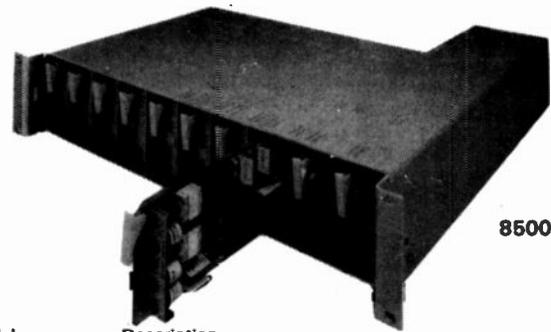
The 8551 is a high performance voltage-mode audio DA. It has an active, balanced Hi-Z input (input Z > 40K ohms) and six active, balanced Lo-Z outputs (output Z > 50 ohms). The 8551 will accommodate signal levels to + 24dBu; SNR is > 110dB.

The 8560 Stereo Audio Distribution System is a series of audio distribution amplifiers. Each amplifier handles two channels of audio, manipulated by a single gain control and a balance trim.

A two-rack unit frame of the 8560 Series houses up to four DAs, a meter board and power supplies. The meter board, with PPM and VU ballistics, allows monitoring of all DA inputs and outputs.

8500 Series

Model	Description	Price
8501	Video DA	\$160.00
8502	VDA with variable cable EQ (for 8281-type cables)	260.00
8502-59B	VDA with variable cable EQ (for "RG-59B/U" cable)	260.00
8502-59	VDA with variable cable EQ (for "RG-59/U" cable)	260.00
8502-SPL	VDA with variable cable EQ (for special cable types: 8500-EQ network required)	260.00
8500-EQ	Custom equalizer network for special cable types (cable technical data required; call for further information)	
	Setup charge	125.00
	Unit price	75.00
8503	VDA with step/vernier EQ (for 8281-type cables)	375.00
8503-59B	VDA with step/vernier EQ (for "RG-59B/U" cable)	375.00
8503-59	VDA with step/vernier EQ (for "RG-59/U" cable)	375.00
8504	Delay DA (with cable EQ for 8281-type cables)	475.00
8504-59B	Delay DA (with cable EQ for "RG-59B/U" cable)	475.00
8504-59	Delay DA (with cable EQ for "RG-59/U" cable)	475.00
8504-D300	300ns Delay submodule	200.00
8504-D500	500ns Delay submodule	250.00
8504-D800	800ns Delay submodule	275.00
8505	Field VDA (with cable EQ for 8281-type cables)	495.00
8505-59	Field VDA (with cable EQ for "RG-59/U" cable)	495.00
8505-11	Field VDA (with cable EQ for "RG-11/U" cable)	495.00
8506	Clamp VDA (with cable EQ for 8281-type cables)	395.00
8506-59B	Clamp VDA (with cable EQ for "RG-59B/U" cable)	395.00
8506-59	Clamp VDA (for cable EQ for "RG-59/U" cable)	395.00
8506-SPL	Clamp VDA (for special cable types: 8500 EQ network req.)	395.00
8510R	Remotely-controlled VDA (with cable EQ for 8281-type cable)	525.00
8510R-59B	Remotely-controlled VDA (with cable EQ for "RG-59B/U" cable)	525.00
8510R-59	Remotely-controlled VDA (with cable EQ for "RG-59/U" cable)	525.00



8500 Series

Model	Description	Price
8511	Wideband (100MHz) Video DA	\$425.00
8520	Pulse DA	250.00
8520-8281	Pulse DA with 8281 EQ	375.00
8520-59B	Pulse DA with "RG-59B/U" EQ	375.00
8520-R	Pulse DA with regenerator	350.00
8520-EQ1	8281 EQ submodule only	125.00
8520-EQ2	"RG-59B/U" EQ submodule only	125.00
8520-RGEN	Pulse regen. submodule only	100.00

NOTE: Loss characteristics vary considerably among cables with "RG-xx" designations. EQ networks on 8500 Series VDA's are optimized for the following specific cables:

- "RG-59B/U": Belden 8263
- "RG-59U": Belden 9259
- "RG-11/U": Belden 8238

Exact loss curves are available upon request.

8500T1-120	1 RU video tray with 120V PS (holds 4 DA's)	650.00
8500T1-240	1 RU video tray with 240V PS (holds 4 DA's)	650.00
8500T2-120	2 RU video tray with 120V PS (holds 8 DA's)	795.00
8500T2-240	2 RU video tray with 240V PS (holds 8 DA's)	795.00
8500T2R-120	2 RU video tray with 120V PS (holds 8 standard or remotely-controlled DA's)	895.00
8500T2R-240	2 RU video tray with 240V PS (holds 8 standard or remotely-controlled DA's)	895.00
8500PS-120	Backup PS for 8500T2-120 or 8500T2R-120	250.00
8500PS-240	Backup PS for 8500T2-240 or 8500T2R-240	250.00
8500T2-DC24	2RU Video Tray with 24VDC PS	1300.00
8500T2-DC48	2RU Video Tray with 48VDC PS	1300.00
8500T2R-DC24	2RU Video Tray with 24VDC PS	1400.00
8500T2R-DC48	2RU Video Tray with 48VDC PS	1400.00
8500PS-DC24	Backup 24VDC power supply	750.00
8500PS-DC48	Backup 48VDC power supply	750.00
8500EX	Extender card	75.00

AUDIO DISTRIBUTION EQUIPMENT

8551	Audio DA	\$ 250.00
8552R	Remotely-controlled Audio DA	375.00
8553	Audio tone generator	250.00
8550T1-120	1 RU audio tray with 120V PS (holds 4 DA's)	725.00
8550T1-240	1 RU audio tray with 240V PS (holds 4 DA's)	725.00
8550T2-120	2 RU audio tray with 120V PS (holds 8 DA's)	895.00
8550T2-240	2 RU audio tray with 240V PS (holds 8 DA's)	895.00
8550T2T-120	2 RU audio tray with taper pin connectors and 120V PS (holds 8 DA's)	1475.00
8550T2T-240	2 RU audio tray with taper pin connectors and 240V PS (holds 8 DA's)	1475.00
8550PS-120	Backup PS for 8550T2-120 or 8550T2T-120	365.00
8550PS-240	Backup PS for 8550T2-240 or 8550T2T-240	365.00

STEREO AUDIO DISTRIBUTION EQUIPMENT

8561	Stereo audio distribution amp	\$495.00
8561-CS	Stereo ADA with channel switching	620.00
8561-PCS	Stereo ADA with phase adjustable channel switch	695.00
8561-RG	Stereo ADA with remote gain control	695.00
8561SM-CS	Channel switching submodule	125.00
8561SM-PCS	Phase adjustable, channel switch submodule	200.00
8561SM-RG	Remote gain control submodule	200.00
8562	Stereo audio metering module	785.00
8560T2-120	2 RU (4 cell) tray with 120V PS	995.00
8560T2-240	2 RU (4 cell) tray with 240V PS	995.00
8560EX	Module extender	125.00

Prices and Specifications Subject to Change Without Notice.

9500 SERIES

NTSC REFERENCE SYNCHRONIZING GENERATORS

The 9500 Series Synchronizing Generators represent moderately priced sync generator systems. The SPG Gate Array IC, designed exclusively for the 9500 Series, has made accuracy, stability and reliability available in an affordable system.

With over 2,100 logic gates in a 44-pin package, the SPG Gate Array contains all critical circuitry for exact SC/H phase, regardless of external conditions.

Hybrid integrated circuits allow improved performance, manufacturability and reliability. Servicing can be kept to a minimum, since troubleshooting is done at the functional block level.

9505 Source Synchronizing Generator

The 9505 is a single module system available for either encoded subcarrier or color black reference. SC/H Phase is always correct. No adjustment is necessary.

Input Power: 100-125VAC or 200-250VAC, 50/60Hz

Power Consumption: 15W maximum

9505-ES	NTSC Source Synchronizing Generator . . .	\$1,800.00
	Encoded Subcarrier Reference	
9505-ESX	9505-ES with TCXO	2,000.00
9505-CB	NTSC Source Synchronizing Generator . . .	2,000.00
	Color Black Reference	
9505-CBX	9505-CB with TCXO	2,200.00
9505-TCXO	Temperature Compensated Crystal Oscillator (TCXO)	350.00
9505-TSG	Test Signal Generator Module	800.00
9505-SID	Source Identification Submodule for TSG . .	300.00

9510A Reference Synchronizing Generator

The 9510A is designed for use when space requirements allow only a single rack unit, or a deluxe source sync generator is required, providing genlock to video or encoded subcarrier. Two color black and encoded subcarrier reference outputs are standard.

Power Consumption: 20W maximum

9510A	NTSC Reference Synchronizing Generator	\$2,650.00
9510-TSG	Test Signal Generator Module	800.00
9510-SID	Source Identification Submodule for TSG . .	300.00
9510-PPC	Phase Preset Control Module	350.00
Dual 9510A	Dual 9510A NTSC Sync Generator System	6,950.00

9520A Master Reference Synchronizing Generator

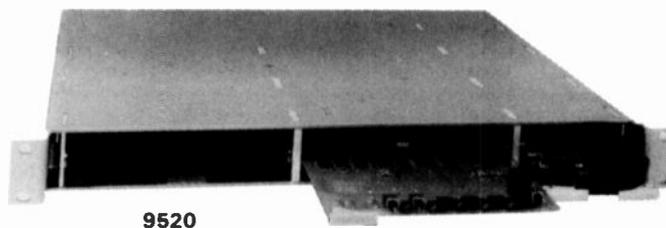
The heart of the 9500A Series, this two rack unit master provides two outputs each of pulse and subcarrier. Two color black and two encoded reference outputs are standard. The 9520A will genlock to video or encoded subcarrier signals.

The input power for the 9510A and 9520A are the same.

Input Power: 105-125VAC or 210-250VAC, 50/60Hz

Power Consumption: 30W maximum

9520A	NTSC Master Reference Synchronizing Generator	\$3,155.00
9520A-HS	9520 with Ovenized Crystal Oscillator . . .	3,650.00
9520-TSG	Test Signal Generator Module	800.00
9520-SID	Source Identification Submodule for TSG . .	300.00
9520-OXO	Ovenized Crystal Oscillator for 9520	550.00
9520-EFR	External Frequency Reference Module	500.00
Dual 9520A	Dual 9520A NTSC Sync Generator System	7,990.00
Dual 9520A-HS	Dual 9520A-HS NTSC Sync Generator System	9,120.00



9550A Sync Pulse Generator Changeover Switch

The 9550 will monitor both the on-line and backup generators with visual and audible alarms in the case of failure, and has an LED status display to assist in identifying the faulty signal. The 9550A is mounted in a one rack unit tray with removable modules for easy servicing. It has automatic and manual switching, ten signal channel capability, and crosstalk suppression greater than 65dB.

9550A	NTSC/PAL Automatic Changeover Switch	\$1,890.00
9550-RCK	9550A Remote Connector Kit	35.00
9500-EXT	9500 Module Extender	125.00
9500-PSM	9500 Power Supply Module	306.00
9500-RCK	Remote Connector Kit	35.00
STM-85N	NTSC Source Timing Module (fits in 8500 VDA Tray)	850.00
SCB-100N	NTSC Sync/Color Bar Generator	1,250.00
3258	NTSC SC/H Phase Meter	2,995.00

3240 Video Processing Amplifier

- SC/H phasing • Full regeneration of sync and burst • Adjustable blanking width • Soft and hard clippers • Cable equalization option • Selectable line deletions: 10-21 • Sin² pulse edges • Color black output option • Optional accessories

The 3240 Video Processing Amplifier is a high performance sync and blanking regenerative amplifier designed for signal processing in studio, master control, remote, and transmitter locations.

The basic 3240-10 system is a fully functional processing amplifier, available in one rack unit (RU = 1.75") height. Controls are available on the card edge or at a remote control point.

The compact and rugged construction, coupled with low power consumption and wide supply voltage range, make it ideal for remote van applications. All active components are accessible from the front of the rack.

Conservative ratings, and a sealed air design that keeps contamination out, will assure years of trouble-free service.

The expandable 3240-20 system in the two-RU frame contains four additional cells for accessories. The accessories are plug-in modules that complement the basic processor. The frame has been prewired to accept the accessories, and power is supplied from the 3200A Power Supply.

3240-10	NTSC Video Processing Amplifier	\$4795.00
3240-20	NTSC Video Processing Amplifier	4995.00
3240-101	Fade-to-Black Control Panel (Console Mtg.)	465.00
3240-102	Remote Control Panel (Console Mtg.)	525.00
3240-103	Remote Control Panel (Rack Mtg.)	525.00
3240-104	Local/Delegate Control Panel (Rack Mtg.)	695.00
3240-105	Remote Panel Parts Kit	275.00
3240-001	Extra Fade-to-Black Control Cable/Meter	3.00
3240-002	Extra Remote Control Cable/Meter	6.00
3240-203	Video A.G.C. Module	895.00
3240-204	NTSC VIR A.G.C. Module	995.00
3240-205	NTSC Linearity Corrector Module	995.00
3240-206	Relay Bypass Module	295.00
3240-207	NTSC External Reference Module	995.00
3240-208	NTSC Pulse DA-3 Module	725.00
3200-PS1	Backup Power Supply Module for 3240-20	245.00

3258 SC/H Phase Meter

The 3258 SC/H Phase Meter is a measurement instrument specifically designed to aid in establishing and maintaining an SC/H phased video system. It has two video inputs plus a color frame pulse (VI) input, which are used to measure absolute SC/H phase of either video input, the difference between the two video inputs, and absolute SC/H phase of either video input with respect to an externally applied house reference color frame pulse (VI).

The 3258 SC/H Phase Meter comes with a power supply, module extender and two instruction manuals.

3258	\$2995.00
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3274A Borderline Generator

- External matte • Complete downstream keyer • Matted inserts • Three modes of caption enhancement • Insert fade-in and fade-out operation • Optional matte colorizer • Optional non-sync detector

The 3274A Borderline Generator is a caption inserting device normally installed at the output of studio production switching systems.

3274A-10 NTSC Borderline Generator in 1-RU tray, power supply, AC line cord, module extender, two instruction manuals, and a 1.75"H x 19"W (4.45 x 48.3cm) control panel with 8m (26') of control cable. (Rackmounting panel)

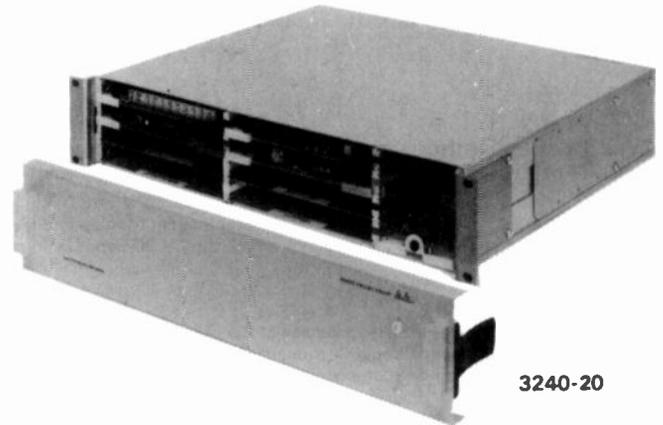
3274A-10	\$3995.00
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3274A-11 NTSC Borderline Generator in 1-RU tray, power supply, AC line cord, module extender, two instruction manuals, and a 2.25"H x 6.95"W (5.72 x 17.6cm) control panel with 8m (26') of control cable. (Console mounting panel)

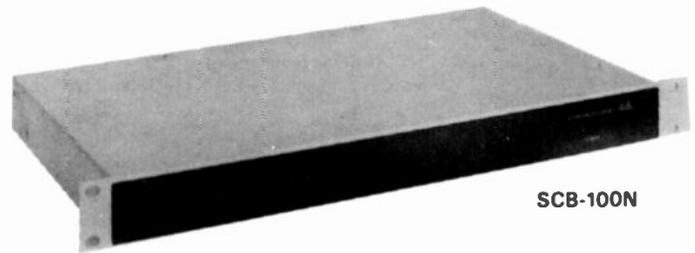
3274A-11	\$3995.00
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3274A-20 PAL borderline generator system (rackmounting panel)

		3995.00
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3240-20



SCB-100N

3274A-21	PAL borderline generator system (console mounting panel)	\$3995.00
3274A-101	Nonsynchronous Detector Submodule	255.00
3274A-102	NTSC Matte Insert Colorizer Module	925.00
3274A-202	PAL matte fill colorizer	1175.00
3274A-001	Extra Cable/Meter for 3274A	6.00

SCB-100N NTSC Sync/SMPTE

Color Bar/Audio Tone Generator

- One rack unit • Fully SC/H phased • Sync generator provides four color black outputs, two outputs each of sync, blanking and subcarrier, and one each of V1 and encoded subcarrier, two outputs of SMPTE color bars and one balanced Lo-Z output for audio tone

SCB-100N	\$1250.00
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STM-85N NTSC Source Timing Module

- Decodes the encoded subcarrier signal output of SPG generators, producing discrete sync, blanking and subcarrier, V1 and color black • Output phase relative to that of the driving SPG is adjustable over the range of +27/-35µs, using front mounted controls • Further adjustment of 2H advance and 1H delay is possible with internal dipswitch settings • When phase is adjusted, subcarrier and H sync move together, ensuring accurate SC/H phase at all settings

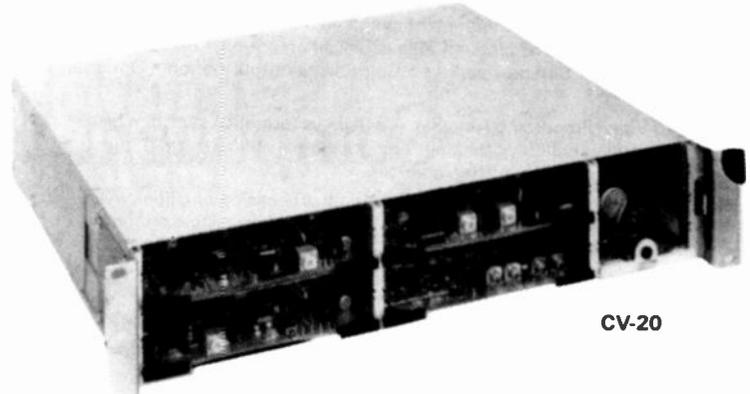
STM-85N	\$850.00
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DDA-101 Digital Distribution Amplifier

- Fully RP125 and EBU3246-E compatible digital amplifier • Available in a 2 rack unit frame • Modular design allows up to 4 DAs per 2 rack unit frame • Standard features include 1 input by 4 output, full 10-bit data path, and automatic cable equalization for up to 500' (150m) • LED indicator for video input signal • Independent driver per output for maximum reliability and ease of maintenance • High efficiency power supply for cool operation • Data reclocking for greater noise immunity

DDA-101 digital distribution amplifier features 1 input by 4 outputs with 8 or 10 bit data paths and automatic cable equalization for up to 500 feet. The digital DA comes with data reclocking, an independent driver for each output and a high efficiency power supply. The DDA-101 is available in a 2 rack unit frame that can hold up to 4 DAs with an optional back-up power supply.

DDA-101	Digital DA	\$ 725.00
DDAT2-115	2RU tray with 115VAC power supply	1000.00
DDAT2-230	2RU tray with 230VAC power supply	1000.00
DDA-PSM	Backup power supply (115/230VAC)	300.00
DDA-EXT	Digital DA Extender	125.00



CV-20

CV-20 Series Component Video Terminal Equipment

The CV-20 Series is a growing family of products providing component video system designers with signal generation and format conversion capability.

Whether the need is conversion between various component formats or conversion between the composite and component world, the CV-20 Series is an economical solution.

CV-11/85 Translator

The CV-11/85 Translator is a simplified version of the CV-21. It may be used in any application where "straight through" conversion from Y, R-Y, B-Y to RGB is required, such as displaying the component output of a Betacam* system on an RGB monitor. The CV-11/85 is designed to mount in a standard 8500 Series video DA tray, and may be used in conjunction with 8500 Series amplifiers to provide multiple RGB feeds.

Specifications

Inputs: Y, R-Y, B-Y (75 ohms terminating)
Y = 1V p-p including sync; R-Y, B-Y = $\pm 350\text{mV}$ (75% saturation)

Outputs: RGB (one each)

Frequency Response: $\pm 0.2\text{dB}$ to 6MHz

Gain Adjust: Unity $\pm 1\text{dB}$

CV-11/85 Y, R-Y, B-Y to RGB translator (mounts in 8500 Series DA tray) \$385.00

CV-21 Translator

The CV-21 converts Betacam or SMPTE standard Y, R-Y, B-Y signals to RGB. The CV-21 features full blanking processing which enables the user to delete sync on the RGB outputs, if desired, and to compensate for setup on the Y input signal.

Specifications

Inputs: Y, R-Y, B-Y (75 ohms terminating)
Y = 1V p-p including sync; R-Y, B-Y = $\pm 350\text{mV}$ (75% saturation)

Outputs: RGB (two each); Y

Frequency Response: $\pm 0.2\text{dB}$ to 6MHz

Gain Adjust: Unity $\pm 1\text{dB}$

Setup Adjust: $\pm 15\text{IRE}$

CV-21 Y, R-Y, B-Y to RGB translator (mounts in CV-20T tray) \$995.00

CV-22 Translator

The CV-22 converts RGB signals to Betacam or SMPTE standard Y, R-Y, B-Y. Full blanking processing and sync add/delete capability is provided to accommodate the large degree of variability which exists in RGB environments.

Specifications

Inputs: RGB (75 ohms terminating) 700mV video with or without sync.
Sync/color black (looping) required if input video is non-composite

Outputs: Y (three); R-Y, B-Y (two each); Y = 1V p-p including sync;
R-Y, B-Y = $\pm 350\text{mV}$ (75% saturation)

Frequency Response: $\pm 0.2\text{dB}$ to 6MHz

Gain Adjust: Unity $\pm 2.5\text{dB}$

Setup Adjust: 0 to + 10 IRE

CV-22 RGB to Y, R-Y, B-Y translator (mounts in CV-201 tray) \$995.00

CV-23 Color Bar Generator

The CV-23 is a component color bar generator which generates full-field color bars in both RGB and Y, R-Y, B-Y formats. It requires comp sync or color black as a timing reference and is capable of operating in either 525/60 or 625/50 systems.

Specifications

Output Signal: Full field color bars switch selectable to 75% or 100% saturation

Outputs: One set each RGB and Y, R-Y, B-Y

Reference Input: Composite sync or color black

Timing Adjust: Output timing may be adjusted to $\pm 2\mu\text{s}$ with respect to the input timing reference

CV-23 Component color bar generator (mounts in CV-20T tray) . . . \$1195.00

CV-24N NTSC Decoder

The CV-24N is a variable-Q notch filter design. Front panel controls are provided for input level, setup adjust, chroma phase and chroma gain. The output matrix may be strapped to provide RGB, Betacam, SMPTE, or YIQ outputs.

Specifications

Input: NTSC video (75 ohms terminating), 1V p-p nominal, adjustable $\pm 3\text{dB}$

Outputs: Two sets, strappable to any one of the following: RGB (700mV video/300mV sync); SMPTE-standard Y, R-Y, B-Y; Betacam; or YIQ

Luminance Bandwidth: DC to 6MHz $\pm 0.2\text{dB}$ with 3.58MHz notched out to approximately -30dB

S/N Ratio: $> 60\text{dB}$ (6MHz bandwidth)

Propagation Delay: Approximately 850ns

CV-24N NTSC Decoder (mounts in CV-20T tray) \$1500.00

CV-25N NTSC Encoder

The CV-25N produces high quality NTSC video (2 outputs) from composite or non-composite RGB. The CV-25N has a unique, onboard pulse regenerator which derives blanking from input sync, eliminating the need for separate blanking input, sync timing on the output may also be adjusted. An alignment test generator is also included.

Specifications

Inputs: Number and Type: One each R, G, B video (internally terminated), sync, subcarrier (looping)
Levels: 700mV RGB video with or without sync, with $\pm 1\text{dB}$ gain trim; 4V p-p sync $\pm 6\text{dB}$; 2V p-p SC, $\pm 6\text{dB}$; 2V p-p SC, $\pm 6\text{dB}$
CMRR (RGB inputs): $> 40\text{dB}$ at 60Hz (75 ohm source terminated)

Outputs: Number and Type: Two each NTSC composite video; Level: 1V p-p nominal (714mV video, 286mV sync and burst)

Frequency Response: $\pm 0.2\text{dB}$ to 5MHz (luminance)

Black/White Balance: $< 0.5\text{IRE}$ residual subcarrier

I/Q Quadrature: $> 0.5^\circ$ of subcarrier

Electrical Length: 810ns $\pm 40\text{ns}$ (RGB in NTSC out)

Adjustments: (Card Edge) H Phase, Fine Chroma Phase, Test Mode Enable, Green Tie Enable, I Black Balance, Q Black Balance, Setup

Mounting: Fits in CV-20T tray

Power: Provided by CV-20PS power supply

CV-25N NTSC Encoder (mounts in CV-20T tray) \$1500.00

CV-20 Tray

The CV-20T tray is a 2RU tray which will accept up to four CV-20 Series modules in any mix. It comes with one power supply; a second (backup) supply and module extender are available as options.

CV-20T 2RU tray with power supply (holds up to 4 CV-20 series modules) \$895.00

CV-20PS Backup power supply for CV-20 tray \$245.00

CV-20EXT Module extender for CV-20 series modules \$110.00

* Betacam is a trademark of Sony Corporation.

TEN-XL 10 x 1 Routing Switcher

- Breakaway stereo audio comes with every unit
- Both local and remote control panels are available
- Binary control system
- Differential inputs for both video and audio
- Video inputs are DC restored and switching is done in the vertical interval line (line 10)
- Built-in expansion capability lets the TEN-XL be a 19 x 1, 28 x 1 or more
- 12-hour minimum crosspoint memory in case of power failure

The TEN-XL encompasses video, stereo audio, optional RS422/232 serial interface module, relay module, and dual power supply, all in a one rack unit frame.

TEN-XT Monitoring Station

- Combines the capabilities of the TEN-XL with the Tektronix 1740 or 1750, as well as the 528 and 1420 waveform/vector monitors.

TEN-XTM Routing Switcher

- Designed to reside in a half-rack frame next to waveform and vector displays
- Incorporates all the features of the TEN-XT plus providing audio VU/Peak metering along with a built-in audio monitor/speaker combination
- Stereo audio monitoring is available via a front panel headphone jack
- Audio metering can be set to provide VU, Peak power, or both

All TEN-XL options can be used including serial interface, tally relay matrix, dual power supplies and the widest variety of useful remote control panels.

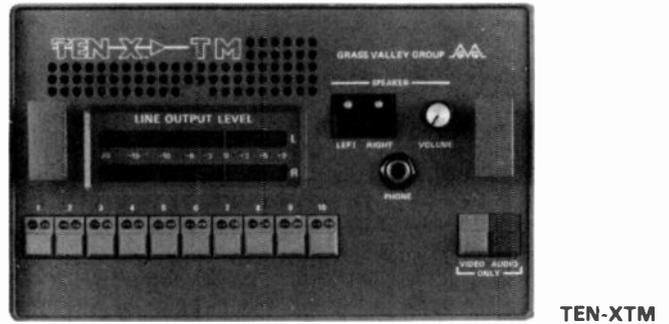
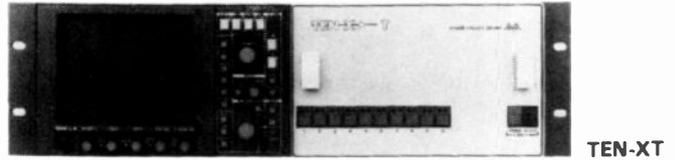
TEN-XL and TEN-XT Routing Switchers Complete Units

TEN-XL	10 x 1 video/stereo audio switcher with local control panel	\$1495.00
TEN-XLV	10 x 1 video only switcher with local control panel	1195.00
TEN-XLVA1	10 x 1 video/single audio switcher with local control panel	1345.00
TEN-XLRC	10 x 1 video/stereo audio switcher for remote control use (does not include remote control panel)	1460.00
TEN-XLRCV	10 x 1 video only switcher for remote control use (does not include remote control panel)	1160.00
TEN-XLRCA1	10 x 1 video/single audio switcher for remote control use (does not include remote control panel)	1310.00
TEN-XLA	10 x 1 stereo audio switcher with local control panel	1270.00
TEN-XLA1	10 x 1 single audio switcher with local control panel	1120.00
TEN-XLARC	10 x 1 stereo audio switcher for remote control use (does not include remote control panel)	1235.00
TEN-XLA1RC	10 x 1 single audio switcher for remote control use (does not include remote control panel)	1085.00
TEN-XLCV	10 x 1 component video/stereo audio switcher with local control panel	3950.00
TEN-XLCV-V	10 x 1 component video only switcher with local control panel	3650.00
TEN-XLCVA1	10 x 1 component video/single audio switcher with local control panel	3800.00
TEN-XTM	10 x 1 video/stereo audio switcher for half rackmount with VU/peak meters and audio monitor	2100.00

(For 220/240V operation add -2 to model number)

Control Panel Options

TNX-RCP	Standard breakaway remote control panel	\$ 150.00
TNX-CPL	Standard breakaway local control panel	200.00
TNX-SMP	3" x 4" AFV escutcheon mount control panel	525.00
TNX-AFV	AFV remote control panel with relegendable buttons	525.00
TNX-2AFV	AFV dual remote control panel	1050.00
TNX-AFV19	19 x 1 AFV remote control panel	1050.00
TNX-TCP	Remote control panel, 3 RU half-rack	200.00
TNX-SCP	Serial breakaway control panel	1200.00



Connector Kits/Cables

TNX-RCC	Remote control cable with connectors	\$ 35.00
		+ 3.00/M*
TNX-CON	Remote control connector kit	25.00
TNX-ICC	Interconnect cable to Model 100	35.00
		+ 3.00/M*
TNX-ICS	Interconnect cable to Model 300	35.00
		+ 3.00/M*
TNX-IRS	RS-232 computer/terminal interface cable	35.00
		+ 3.00/M*
TNX-IEC	19 x 1 expansion cable	35.00
		+ 3.00/M*
TNX-CCB	RGB interconnect cable(19.5" long)	135.00
TNX-RYC	Remote control "Y" cable(8" long)	135.00
TNX-MIC	RS-232 modem I/F cable to TEN-XL	35.00
		+ 3.00/M*
TNX-CPS	Serial control panel interface cable (specify number of TEN-XL's and length).	POR
TNX-CTM	RS-232 computer to modem cable	35.00
		+ 3.00/M*
TNX-AAD	Audio connector adaptor	80.00
TNX-AIC	Audio interconnect cable (For TNX-AAD) (1m long)	60.00

Options

TNX-RXP	Tally relay module	\$ 125.00
TNX-SIO	RS-422/RS-232 serial interface module	400.00
TNX-EXTV	Module extender, video	350.00
TNX-EXTA	Module extender, audio	165.00
TNX-IES	Input expansion hardware. (Includes cables and circuit board)	
TNX-IES28	28 x 1 requires 3 TEN-XL's	385.00
TNX-IES37	37 x 1 requires 4 TEN-XL's	485.00
TNX-IES46	46 x 1 requires 5 TEN-XL's	650.00
TNX-IES55	55 x 1 requires 6 TEN-XL's	750.00
TNX-IES64	64 x 1 requires 7 TEN-XL's	850.00
TNX-IES73	73 x 1 requires 8 TEN-XL's	950.00
TNX-IES82	82 x 1 requires 9 TEN-XL's	1050.00
TNX-IES91	91 x 1 requires 10 TEN-XL's	1150.00
TNX-IES100	100 x 1 requires 11 TEN-XL's	1250.00
TNX-RPS	Backup power supply, 120V	185.00
TNX-RPS2	Backup power supply, 240V	185.00

Spares/Replacements

TNX-VXP	Video crosspoint module	\$575.00
TNX-AXP	Audio crosspoint module	250.00
TNX-CTL	Control module (audio only)	250.00
TNX-PSM	Power supply module	185.00
TNX-BFC	Blank front cover for TEN-XL	95.00
TNX-SPK	Spare parts kit	150.00

TEN-X is a registered trademark of Grass Valley Group, Inc.
*Specify length.

TEN-20™/20-TEN™ Compact Routing Switcher Systems

- TEN-20 switcher ten input-by-twenty output
- 20-TEN switcher twenty input-by-ten output
- 4-level control, with numerous matrices per level
- Control via twisted shielded pair cables, for simple and cost-effective installation
- PC boards remove from the front for easy access
- "PROTECT" and locked panel features, standard on all control panels, guard your destinations against unauthorized intervention
- All systems available in component as well as composite versions
- Battery protected RAM saves your data for as long as 30 days

Choose from these versatile panel configurations:

- 20 input button per source—controls any combination of four levels
- 10 input button per source—controls any combination of four levels
- 4-level X-Y—controls all inputs and destinations

Each switcher is contained in a single rack unit frame, with both video and audio matrices available. Either may be configured video only, audio only or video plus multiple audio. A component video version is also available.

TEN-20 and 20-TEN video and audio routers feature high density, multi-layer boards with excellent bandwidth and signal-to-noise ratio.

These single crosspoint modules give you increased reliability and full functionality.

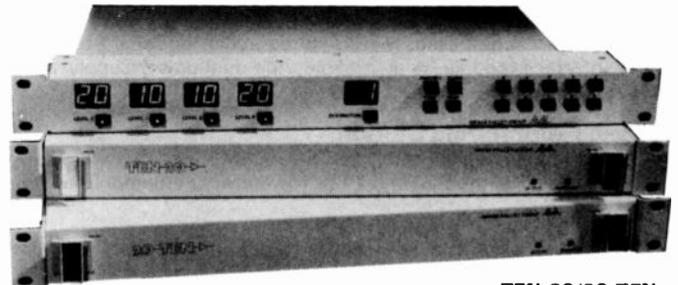
Options include the flexibility of an RS232/RS422 serial interface and the extra reliability of dual power supplies.

Video Performance Specifications

Differential Gain:	0.1% at 1V p-p output, 10-90% APL
Differential Phase:	0.1° at 1V p-p output, 10-90% APL
Frequency Response:	± 0.1dB, 100kHz-5.5MHz ± 0.5dB, 5.5MHz-10MHz
Slew Rate:	30V/μsec
Total Delay (Typical):	20ns
Crosstalk (worst case; all inputs and outputs driven):	-60dB at 5.0MHz -50dB at 10.0MHz
Signal-to-Noise Ratio:	75dB, 5.0MHz low pass

Audio Performance Specifications

Crosstalk (rel to + 24dBu) (Worst case, all inputs and outputs hostile and synchronous):	20Hz-2kHz: 90dB 20Hz-20kHz: 80dB
Frequency Response:	± 0.1dB: 20Hz-20kHz
Total Harmonic Distortion:	0.05% at + 24dBu, 20Hz-20kHz
Signal-to-Noise Ratio (ref. + 24dBu):	120dB: 20Hz-20kHz 110dB: 20Hz-80kHz



TEN-20/20-TEN

TEN-20-V	10X20 Video Switching System	\$ 5,500.00
TEN-20-A	10X20 Audio Switching System	4,300.00
TEN-20-SA	10X20 Stereo Audio Switching System	8,500.00
TEN-20-CV	10X20 Component Video Switching System	16,350.00
Ten-20-CVS	10X20 Component Video and Sync Switching System	21,700.00
20-TEN-V	20X10 Video Switching System	5,500.00
20-TEN-A	20X10 Audio Switching System	4,300.00
20-TEN-SA	20X10 Stereo Audio Switching System	8,500.00
20-TEN-CV	20X10 Component Video Switching System	16,350.00
20-TEN-CVS	20X10 Component Video and Sync Switching System	21,700.00
20-TEN-R	20X10 Relay Matrix Switcher	4,300.00

Control Panels and Options

JSL	Joystick Override Control logic, 120V	550.00
JSL	Joystick Override Control logic, 240V	550.00
XYCP	X-Y Control Panel, 120V	650.00
XYCP-2	X-Y Control Panel, 240V	650.00
10BPS	10 Button Per Source Control Panel	615.00
10BPS-2	10 Button Per Source Control Panel, 240V	615.00
20BPS	20 Button Per Source Control Panel, 120V	650.00
20BPS-2	20 Button Per Source Control Panel, 240V	650.00
SERIM	Serial Interface Module and Frame	795.00
SERIM-2	Serial Interface Module and Frame, 240V	795.00
RPSF	Redundant Power Supply Frame	595.00
VPS	Video Power Supply for RPSF	550.00
APS	Audio Power Supply for RPSF	550.00
OPEXP	Video Output Expansion Kit	1,000.00

Spares/Replacement Modules

TEN-20VXP	10X20 Video Crosspoint Module	\$4,500.00
20-TENVXP	20X10 Video Crosspoint Module	4,500.00
TEN-20AXP	20X10 Audio Crosspoint Module	3,300.00
20-TENAXP	20X10 Audio Crosspoint Module	3,300.00
VPST	Video Power Supply and Controller	695.00
APST	Audio Power Supply and Controller	695.00
RPSCT	Relay Power Supply and Controller	695.00
EXT	Video/Audio and Controller Module Extender	550.00
EMM	Extra Maintenance Manual (One supplied with each system purchased)	50.00

HORIZON™ Routing Systems

HORIZON is designed as a high-performance audio/video distribution routing switcher suitable for a wide variety of applications including composite and component video, HDTV, stereo or even multiple audio, plus time code.

HORIZON is offered in a variety of frame sizes and configurations from 128 x 128 multi-level systems through 16 x 16 frames and all are intermixable. 64 x 64, 48 x 32, and 32 x 16 sizes provide intermediate steps; each size available with the number of modules to meet your needs. Plug-in modules transfer from frame to frame without causing downtime or system interruption.

HX-16/HX-32

• Most compact routing systems in the HORIZON family. • Flexibility in control level selection makes them the ideal solution to component routing and stereo audio applications. • Their frames may be used as part of larger HORIZON systems, so you can configure exactly the system you need. • Available in video and audio mixtures to suit your needs.

HX-48

• 48 Input by 32 output video and audio capability are available in 18 rack units — including power supplies. • Space for optional dual power supplies and system controllers is part of this package. • For multiple audio or component video applications, simple interlevel cable allows the HX-48 to drive one or more smaller systems. • The same cable also allows you to use the HX-48 as part of a larger system. • Start with as few as 16 inputs by 16 outputs and build to frame capacity in 8 input/16 output steps. • Available in video/video, video/audio and audio/audio frame capability.

HX-64

• Each HX-64 matrix may be structured up to 64 inputs by 64 outputs — with unlimited matrices in as many as four control levels. • Each matrix is self-contained in an 18 rack-unit frame, including power supply, with space for an optional dual power supply and optional back-up controller. • Size of each matrix is fully independent from the rest of the system. • Composite video matrices may be full size, for example, while audio and time code or component matrices are smaller.

HX-128

• Largest member of the HORIZON family. • Building block frames allow one-time system structuring for all your needs so you can grow at your own pace without retiming or rewiring. • Each matrix frame, video or audio, occupies just 12 rack units. • Power for up to two matrix frames of the same type is supplied by a single 6 rack unit frame. • As many as 128 inputs x 32 outputs are housed in 18 rack units. • Extra-compact, 128 x 64 format is also available in 30 rack units, without adding extra frames for dual controllers or video/audio monitoring. • Matrix frames may be stacked in 128 x 32, 128 x 64, 128 x 96 or 128 x 128 systems. • Smaller matrices may be structured within each configuration. • Expand system and plug-in modules without system interruption.

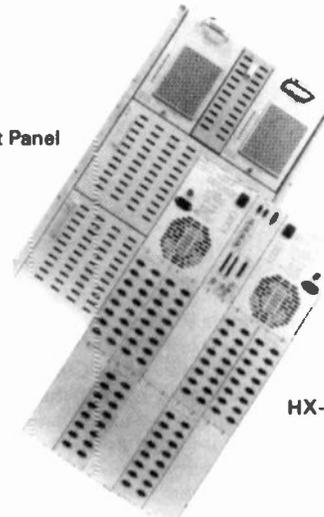
Options

• 35 standard control panels • Dual power options • Dual controller option without adding frames • On-line programmability and real time system diagnostics • Unlimited RS-232/422 control capability with HX-GPI • Interface option, including output exclusion • E-MEM™ Interface, with full 4-level breakaway capability for GVG production switchers • Full-time, real time video status display • Source tally for production/master control • Status displays for in-panel readout of HORIZON sources selected to GVG production or master control systems • Integrated machine control • RS-422 matrix

Specifications

VIDEO
Diff. Gain: < 0.1% at 1V p-p out, 10%-90% APL
Diff. Phase: < 0.1° at 1V p-p out, 10%-90% APL
Frequency Response: ± 0.15dB, 100kHz to 5.0MHz, +0.15, -0.5dB to 8MHz
2T Pulse/Bar Response: Pulse 0.25%; Bar 0.25%, Pulse/Bar 0.25%
Tilt: < 0.5%
X-Talk: -60dB at 5MHz (all inputs hostile and synchronous)
SNR: > 75dB
Output DC (DC Rest. System): Blanking at 0V, ± 50mV
Timing Scatter: ± 1° (NTSC or PAL) max., input to input on any one bus
Electrical Length: (HX-16, 32, 48, 64), typical: Outputs 0-15: 43.6ns; Outputs: 16-31: 44.4ns; Outputs 32-47: 45.0ns; Outputs 48-63: 45.8ns
Electrical Length: (HX-128), typical: Outputs 0-15 and 64-79: 48.1ns; Outputs 16-31 and 80-95: 49.7ns; Outputs 32-47 and 96-111: 51.4ns; Outputs 48-63 and 112-127: 53.0ns
Input Char.: All inputs 75 ohms internal term., return loss > 40dB to 5MHz
Output Char.: Two 75 ohm term. outputs per bus; ret. loss 40dB to 5MHz; output/output isolation 38dB to 5MHz
Signal Level: 1V p-p nom., 2V p-p max.
Gain: Unity adj. ± 1.0dB

HX-RS Front Panel



HX-RS Rear Panel

AUDIO

Frequency Response: ± 0.1dB, 20Hz to 20kHz
Harmonic Distortion: < 0.5% at + 24dBu, 20Hz to 20kHz
SNR: > 100dB, ref. + 24dBu, 20Hz to 20kHz
X-Talk: > -80dB, 20Hz to 20kHz, all inputs hostile
Input Char.: Bal. Z = > 12.5K ohms; CMRR > 65dB
Output Char.: One bal. output per bus, Z < 30 ohms
Recommended Load: 600 ohms or greater; 150 ohm available
System Level: ± 24dBu (12.28VRMS) max.
Stereo Phase Acc.: < 0.72 = L to R diff. at 20kHz
Gain: Unity, adj. ± 1.0dB

HORIZON Data Matrices

HX-RS Data Matrices eliminate the complexity of data patching encountered when using sophisticated editing systems, graphics devices and VTRs.

Systems may be configured in sizes from 16 inputs x 16 outputs up to 64 x 64 and from 2-wire to 8-wire capability. The 64 x 32 4-wire size takes just 18 rack units of space and has the capacity to double in size with the addition of a simple 12 rack unit frame.

Reliable, low current relays switch bi-directional paths. Additional software allows the system to function traditionally or as an "exclusive" system, which allows any source to be taken to only one destination at a time.

HX-RS matrices may be used as stand-alone systems, or as one level in a larger HORIZON system. More than one HX-RS may also be used to simplify complicated intercom systems.

Specifications

4 pole bi-directional switching
 9-pin "D" connectors for data paths, pin #9s at chassis ground
Max. End-to-End Resistance: 2 ohms
Max. Voltage Signal to Chassis: 100V
Max. Contact Current: 1A
Operate Time: < 20µs
Release Time: < 10µs

HORIZON Production Interfaces

Start with any model 300 with optional serial interface adaptor or with a model 200 with optional dual serial adaptor and the streamline option. Add a HORIZON production interface to your HORIZON Routing System. 300 Series systems may store as many as seven preset source selections per internal E-MEM register. Model 200 systems will direct the HX-GP200 to store source information in its resident memory.

A single HX-GPEM interface serves up to 16 model 300 inputs or up to 8 inputs of each of two 300's. One HX-GP200 interface is fully equipped to work with up to 20 model 200 inputs.

HORIZON production interfaces are simple, C-Bus options. Where several 300's or model 200's are in operation, multiple units may be used to take full advantage of HORIZON routing power.

For instant feedback to camera locations, the programmable HX-ST source tally option module plugs directly into HORIZON production interface frames. An economical 16 relay/16 optoisolator configuration, it performs the tasks of larger source tally systems at a fraction of the cost and space normally required. Source tally growth beyond 16 x 16 capability is simple and economical with expansion frames and additional HX-ST modules.

HX-GP200 \$3000.00
 HX-GPEM For use with model 300 only 3000.00

VPE-141 Editing System

• Computer electronics including drive controllers, memory, processor, I/O ports, and XGPI on a single PC board layout • DEC LSI 11/73 high speed processor • 512K bytes of RAM memory • Ability to boot the operating program from battery backed up CMOS memory • Edit decision list information is automatically saved in the event of power failure • Control of GVG switchers, audio mixers, and the ability to store E-MEM (effects memory) information on the edit decision list disk is also standard with the 141 • Control of up to 7 SMPTE RS-422 VTRs is included in the price of the system. VTR transport control is enabled through a touch sensitive "Jog-Pad"™ which allows the user to invoke VTR transport functions by sliding a finger along the surface area of the pad • The user may select from two types of menu displays, TTL color or RS-170 monochrome

Base Models

VPE-141*	NTSC	.....	\$25,000.00
VPE-141P*	PAL	.....	25,000.00

Machine Control Protocols

Machine control protocols selection of 16 per machine \$500.00

Keyboard Options (Choose 1)

141-JOGPAD	Keyboard with "Jog-Pad" motion controller (std.)	.....	.NC
141-JOGKNOB	Keyboard with rotary style knob (option)	.....	\$300.00

Options to Super Edit

EDL-XT	Includes 409, Trace, XEDL	.....	\$5,000.00
EDL-XTP	(PAL) Includes 409, Trace, XEDL	.....	5,000.00

Hardware Options

141-8DISK	8" Drive Kit	.....	\$950.00
141-Rackmnt	Rackmount hardware	.....	200.00

*Includes 5 machine protocols



VPE-141

GVG Video Switcher Protocols: - order 1

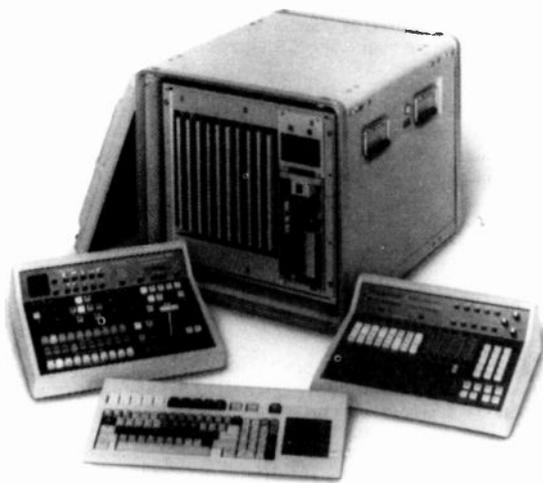
SS300-VPE	300 Serial Control	.....	.NC
SS200-VPE	200 Serial Control	.....	.NC
SS100-VPE	100 Serial Control	.....	.NC
SS100CV-VPE	100CV Serial Control	.....	.NC
S10XL-VPE	Ten-XL Serial Control	.....	.NC

Audio Mixer Protocols: - maximum of 1

SSAMX100-VPE	AMX-100 Serial Control	.....	.NC
SSA300-VPE	Model 300 Audio Control	.....	.NC
SSAMX170-VPE	AMX-1705 Serial control	.....	.NC
SSA-GP800	Graham Pattern 608/612/616	.....	\$950.00

Dubner Character Generator Protocols

SW-008B	CBG/TEXTA serial control	.....	.NC
SW-008C	10K/20K Serial control	.....	.NC
SW-008D	Graphics factory	.....	.NC



IPS-100

IPS-100 Integrated Production System

• Full capability post production system • Single chassis design • Will control most RS-422 machines including 3/4", Beta and M-II 1/2" formats, and type "C"

The unit includes a 100 video switcher, Editor and edit keyboard with Jog-Pad, a sophisticated audio mixer called the AMX-170, a powerful edit controller with full list management capabilities, sync and pulse distribution with test signals, and an optional character generator. Also optional are shock mounted transport cases.

The compact unit can handle the post production needs of a small facility or efficiently add an economical suite to a larger production facility. Because of its single chassis construction it is also ideal for mobile applications.

IPS-100*/1IPS-100P* (PAL) \$58,900.00

**IPS-100B*/
IPS-100BP***

As above—excludes AMX-170 and 100 Control Panel. System is capable of video and audio cuts, transitions, and limited video wipes . . . \$49,900.00

IPS-100VC IPS-100 Video Control Panel 3,000.00

IPS-170AC Audio Control Panel 7,000.00

PTR-80 Printer, serial I/F, buffer tractor feed (not available for 220V) 400.00

IPS-CC1 Chassis carrying case 1,900.00

IPS-AC1 Accessory carrying case 1,900.00

IPS-DOC IPS-100 manual set 200.00

IPS-CG Character Generator Kit Includes CG card, 3.5" disk drive, interconnect cables and installation guide 8,500.00

IPS-QC8 Quick connect cable set 8 meter Includes fan out panel for 4 VTRs, 4 interconnect cables, 4 "pig-tails" for the VTRs (video, reference, and audio interconnects included) 1,500.00

DM-12 TTL type color display monitor 12" (120V only) . . . 850.00

DM-9 TTL type color display monitor 9" (120V only) . . . 850.00

100-33 RGB Chroma keyer for 100 850.00

100-34 Chroma key by-pass 54.00

100-40 Digital border line 1,500.00

*Includes 5 machine protocols

Systems 31/41m/51Em Video Tape Editing Systems

Modular

Each editing system, while uniquely designed for specific applications, permits "personal tailoring" to satisfy individual editing needs.

Expandable

As your demands increase for additional editing features and equipment, GVG editing systems expand to accommodate your growth by adding hardware or software modules.

Flexible

GVG Editing systems have the industry's most flexible interfacing capabilities. Examples include RS-422 and RS-232 VTR Control as well as the ability to control a wide variety of switchers and other equipment.

Help File

Sometimes an editor needs a quick solution to a complex editing request. Help File with sub-categories insures easy access to definitive help—help you will remember and repeatedly use.

System 31

- DEC 11/23 CPU • 64K bytes of memory • Dual 0.5M byte floppy disk drives • Distributed processing control • 8 control ports for VTRs and switchers • 4 accessory ports • Sync interface • 132 column printer • DEC RT/11 operating system • Exclusive super edit • Assignable VTRs, video, audio • Video, dual audio editing • Edit list display, input-output • Multiple edit list disk files • Auto-track dissolve setup, anywhere in edit list • Match any edit, both sides of dissolves • Unique-timed action modes — XGPI, expanded switcher control, log in edit list • Full preview, edit functions • Sequential, checkerboard, and cue-ahead auto-assembly • Real-time edit mode • Replay any edits, with auto-scroll • Six-character alphanumeric reel ID • Multiple-record, synchronous replay • Help file • Event numbers to 999 • Notes in the edit list, with individual add, delete • User-bit time reference • Powerful edit list management, with/without ripple insert, delete groups, recall, replace, move groups, shift groups

The System 31 is an editing system of unusual functional dimension. With eight I/O ports, and exceptional features such as Super-Slave and Cue Ahead, the System 31 provides exceptional performance at an outstanding performance/cost ratio.

System 41m

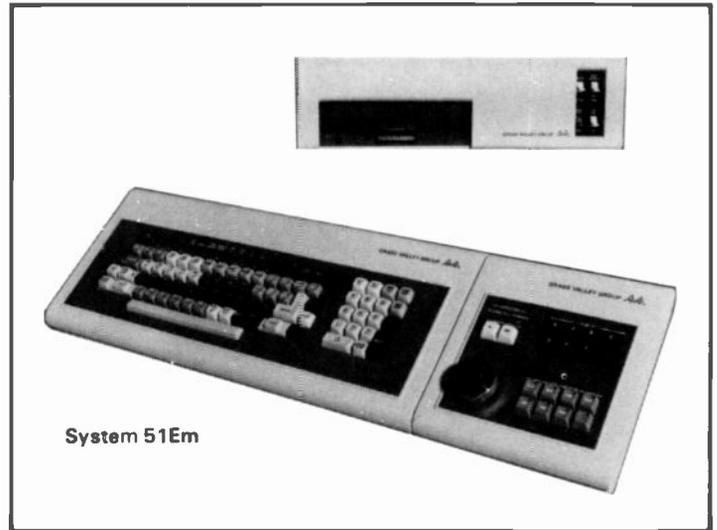
- Faster DEC 11/23 CPU • 64K bytes of memory • Dual 0.5M byte floppy disk drives • Distributed processing control • 8 control ports for VTRs and switchers • 4 accessory ports • Color-lock sync interface • 132 column printer • Jogger motion control • DEC RT/11 operating system • Exclusive super edit • Assignable VTRs, video, audio • Video, dual audio editing • Edit list display, input-output • 10 macro functions, with nesting • Multiple edit list disk files • Powerful edit list management, with/without ripple insert, delete groups, recall, replace, move groups, shift groups • Single-Keystroke dissolve • Auto-track dissolve setup, anywhere in edit list • Three freeze modes • Help file • Match any edit, both sides of dissolves • Auto-clean removes overlaps • Full preview, edit functions • Match to freeze, variable-speed • Replay any edits, with auto-scroll • Six-character alphanumeric reel ID • VTR speedometer • Event numbers to 999 • Notes in the edit list, with individual add, delete • Unique timed-action modes — XGPI, expanded switcher control, log in edit list • Fill mode computes VTR speed • User-bit time reference • Real-time edit mode • Multiple-record, synchronous replay • Super-slave — Slave 1 to 6 VTRs, easy slave setup, positive offset lock, easy offset change, slaves in edit list • Precise programmed motion control • Sequential, checkerboard, and cue-ahead auto-assembly

The System 41m has a faster CPU than System 31. It also has features which make variable-speed VTR control and editing precise and easy. System 41m software and hardware features permit full exploration of the professional's creativity.

System 51Em

Standard Equipment

- V3.0 Super Edit™ Software • 32 contact XGPI • 409™ list clean-up software • Trace™ software for film style rough cuts mode • Comprehensive diagnostics package



System 51Em

System Capabilities

- "Effects-Jog" ability to move KALEIDOSCOPE™ Effects through key-frame sequences by utilizing the "Jogger" motion controller • Preview preselect, using the TEN-XL®, true record re-assign (audio and video paths follow the control path) and preview is possible • Start up menu is easy to use, yet provides rapid access to editing programs, EDLs, diagnostic programs, and utility files • Enhanced diagnostics package provides for ease in installation and self-check trouble shooting • Effects Memories are written to EDL Disk and restored to 300 and 100 Switchers • Film mode capability in 24 and 30 film frames/SEC and NTSC and PAL tape frames • Over 200 software improvements including: auto-match, assemble edit, "slaves" stored and recalled • 4 level highlighted display format, improves clarity and operational ease • High speed list display and scroll capability

Interfaces

- KALEIDOSCOPE DPM-1 Digital Effects • AMX-100 • Dubner "Page" control for Texta and CBG • Abekas A-62 • Panasonic AU-600 MII format • Time line "Lynx" Synchronizers • Graham Patten 616 Audio Console • Harrison Pro-7 Audio Console • Improved Lexicon Dynamic Pitch Audio Pitch control

Manuals and Installation Guides

- Super Edit Manual • Installation Guide • Video tape on installation and operations

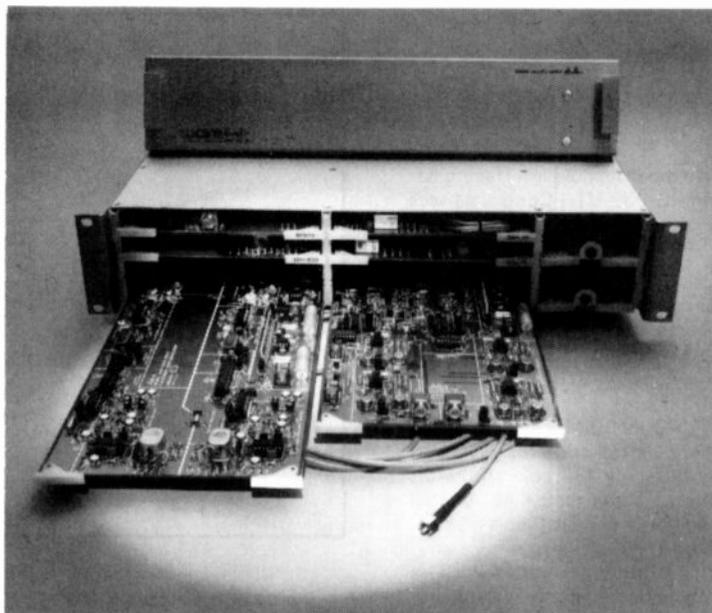
The System 51Em gives you extraordinary control over the most complex editing tasks. Its performance, ease of operation, and unequalled complement of software functions allow full expression of your creativity. A DEC 11/23 CPU and large memory capacity make your work fast and flexible. System 51EM interfaces with virtually all of the industry's leading equipment, and its 16 ports permit unrestricted control.

Pricing

51Em-8	System 51Em - one 8" Disk Drive/ 10M Byte Fixed Drive	\$46,900.00
41m-8	System 41m - two 8" Disk Drive	\$35,900.00
31-8	System 31 - two 8" Disk Drive	\$29,900.00
3141-8	Conversion Kit for System 31 to 41m (1A)	\$7,000.00
3151-8	Conversion Kit for System 31 to 51Em (1, 1A)	\$19,000.00
4151-8	Conversion Kit for System 41 to 51Em (1, 1A)	\$13,000.00

Note 1. Includes installation on site by field engineering, excludes XGPI. Includes one year software subscription.

Note 1A. GVG systems only, call for quote on ISC manufactured systems. Software subscription must be current to purchase kit.



**3291 COMPLETE UNIT WITH
DUAL CHANNEL AUDIO OPTION**

3290/3291 Wavelink® Fiber Optic Communications System

The 3290 is the broadband transmission component of the Wavelink system. It provides a full wideband 10MHz channel to accommodate any signal requiring such a bandwidth, for instance high-quality video. Incoming coaxial cable can be equalized by the 3290 with the addition of an optional submodule. The 3290 consists of an LED or laser-based transmitter, a receiver employing an APD detector, and compact mounting tray built to accommodate transmit and receive modules with their power supplies. The mounting trays are available in one rack-unit (RU, 1.75 inches) or two rack-unit heights. One RU tray package houses up to three transmitter or receiver modules or one laser transmitting system. Two RU tray packages will house up to six transmitter or receiver modules, or two laser transmitting systems, plus two power supplies for back-up redundancy.

3291

The 3291 is the multichannel transmission component of the Wavelink system. Like the 3290, the 3291 consists of an LED or laser-based transmitter and an APD-based receiver. In addition to a 5.8MHz video channel, the 3291 includes the multiplexing capability for two optional subchannels of audio and/or data. The 3291 also provides adjustable equalization of incoming and outgoing coaxial signal cables as an option. All 3291 receiving systems and LED-based transmitting systems are housed in two rack-unit mounting trays. Each of the two rack-unit trays will accommodate three transmit or receive systems. Laser-based transmitting systems are housed in either one or two rack-unit trays, one laser transmitting system being accommodated by each rack-unit of height.

3291 Audio, Data, and Alarm Options

Each option consists of plug-in modulator and demodulator modules which are fully interchangeable with the other option modules. The modulator module plugs into the frame of the transmitting system, while the demodulator module is housed in the standard two rack-unit frame used in the receiving system. Audio options use a unique

FM-on-FM modulation scheme to enhance the signal-to-noise performance. The baseband audio signals are individually preemphasized and modulated at 100kHz; one channel is then frequency modulated on a 9.8MHz carrier, and the other (dual audio systems) on an 8MHz carrier.

For the data option, serial asynchronous data (up to 20kbits/second) is accepted at the data modulator via an RS232 interface. The data is bandlimited to 500kHz to limit the spectral width of the modulator output, and then FM modulated on a 9.8MHz carrier. The audio/data option combines the features of the single audio and data options. Audio specifications are the same as for the dual audio option, and the data specifications remain unchanged. The GV43 audio option supports transmission of two channels of audio on carriers of 5.8MHz and 6.4MHz for common carrier applications; and 6.2MHz and 6.8MHz for satellite link applications.

Before transmission, each option channel is summed with the video channel on the exciter or LED transmitter module, and the resulting waveform is frequency modulated on a carrier of 24MHz. At the receiver the FM signal is demodulated and separated into its video, audio, and/or data components. The demodulator modules perform further FM demodulation and baseband filtering to restore the original audio or data signals. For the dual audio and the audio/data options, the audio output amplifier may be configured for a 600 ohm (20 dBm) or low impedance (50 ohm) balanced output. For the single audio option a choice of 600 ohm, 150 ohm, or a low impedance (50 ohm) balanced output is provided. The data output is available via an RS232-compatible interface. An optional alarm provides relay closures if a video input at the transmitter becomes disconnected, an optical carrier is absent at the receiver, or a redundant power supply fails.

Repeaters

Laser-based 3290/91 repeaters allow transmission distances to be greatly extended.



SMPTE EDIT CODE PRODUCTS

DR-107B SMPTE Data Receiver and Character Generator

The DR-107B offers an unusual number of capabilities in a minimum space at an economy price. All controls are on the front panel. In addition, there are internal selectors for drop frame status on the monitor, choice of monitor up-date change, and free running of time in the absence of code.

Reads and displays SMPTE, EBU or 24 frame time code or user bits on video monitors. Has restored output for dubbing.

Character heights may be varied from 8 to 64 lines in four increments, and the widths may be adjusted to the preferred aspect ratio. The characters may be plain or boxed. Characters may be inserted in the vertical interval, offering greater versatility to recording or transferring of tapes. Lines 12 through 19 are used in the vertical interval mode so no interference will occur. Size: 1 3/4" high; standard 19" relay panel x 9 1/2" deep excluding plugs.

DR-107B \$2795.00

DT-113 SMPTE Time Code Transmitter

SMPTE edit code is generated from a master clock which may be selected for drop frame count by a front panel switch. Transmits code at 30, 25, or 24 frame counts, color frame sync mode. User bits may be inserted from a parallel 32 line input. Time or user bits can be displayed on an 8-digit hexadecimal readout. The master clock may be reset or loaded to a time on an 8-digit thumbwheel switch. The clock can be stopped by a hold button. The clock and transmitted code can be synchronized to the 60Hz line or to video/sync frames. Code start is within the ANSI spec. (1 H-line in the vertical interval). The clock can be synchronized to the color burst phase for odd or even frame count when the sub-carrier is in phase. Size: 1 3/4" high; standard 19" relay panel x 9 1/2" deep excluding plugs.

DT-113 \$2995.00

Code Readers and Video Character Generators

DR-103A Data Receiver and Character Generator. Reads and displays edit code and equivalent film-frames on video monitor and has three switchable code inputs . . . \$4550.00

DR-115 Data Receiver and 4 Channel Character Generator. Provides four separate video character displays from one edit code input for Iso-Camera productions \$4250.00

DR-120 Data Receiver, Character Generator, Identifier, and Demultiplexer. Reads and displays time code, multiplexed user bits, and video source identification on video monitors. \$3150.00

DR-122 Data Receiver and Dual Character Generator. Allows simultaneous video displays of both time code and user bits with video source identification capability and complete independent adjustment of character positioning \$4450.00

Code Readers and Local Displays

DR-109B Data Receiver, Display and Demultiplexer. Reads and displays time code or multiplexed user bits on an 8-digit hex readout. Has dub output. \$2795.00

DR-109P EBU version of DR-109B \$2795.00

TBC-117 Edit Code Time-Base Corrector. Converts wide-band erratic code input to a truly regenerated "ANSI" spec code output. Used for dubbing and distribution \$3900.00

TCR-119 Time Character Reader. Reads the video characters generated by a Gray DR-107, DR-115, DR-120, or DR-122 from freeze to play speed and converts to longitudinal time code output for automatic computer editing . . . \$3950.00

Special Equipment

ACO-238 Automatic Change-Over. With inputs from two independent SMPTE time code generators, this unit will automatically sense failure of one generator unit and switch to the other to allow resumption of code output . . . \$5750.00



DT-113



DR-107B

Code Comparator

CC-114 Code Comparator. Compares a preset time with an incoming time code to produce an editing signal on coincidence. Must be used with a Gray time code reader. \$2330.00

CC-114A Reader Code Comparator. Same as CC-114 except unit incorporates a wideband reader. \$2750.00

Code Generators

DT-104F Data Transmitter. Transmits code at 30, 25, or 24 frames/sec., has advanced slave decoding, color frame sync, a variable code simulator/generator, NTSC/PAL compatibility, field or frame rate time code selection plus many more functions \$5950.00

DT-213 Data Transmitter and Character Generator. Transmits code at 30, 25, or 24 frames/sec., color frame sync mode in either frame or field rate time code. Sets and displays time code, and user bits in hex format. Slaves to incoming code and has a built-in character generator for both time code and user bits \$3495.00

DTG-236 Dual Time Code Generator. Transmits two separate SMPTE format codes: 24 frames/sec. and 30 frames/sec. The two codes have a synchronous start every five frames on the 30 frame code. \$5750.00

User Bit Equipment

MC-110 User Bit Modifier and Combiner. Combines time codes serially from two independent sources using user bits for the second time code \$2595.00

MD-111 User Bit Modifier, Display and Demultiplexer. Modifies multiplexed user bits on incoming edit code from a 32 line parallel input \$3295.00

UBE-118A User Bit Encoder. A 10 channel multiplexer that encodes user bits from parallel inputs. Encoder for VID-225, DT-104F, DT-113, DT-113P, or MD-111. A real time clock is provided for insertion into one channel of user bits. \$2550.00

Safe Area Generators

VR-116 Video Reticle Generator. Allows precise positioning of titles and graphics from dead center to the edge of the vertical and horizontal blanking \$2595.00

VR-216P PAL version of VR-116. \$2995.00

VR-121 Video Reticle Generator. Similar to VR-116 with the addition of monitor linearity check, variable reticle size and position with memory and recall and a keying switch to set the reticle areas from white to black \$3950.00

Code Phase Measurement Equipment

CPI-123 Code Phase Indicator. Measures and displays the phase difference between an actual code frame start on VTR versus ANSI spec to determine computer compatibility. \$2100.00

TCA-143 Time Code Analyzer. Measures, displays, and corrects the phase difference between the cue-track frame code and the video to allow computer acceptance. It also displays the code level and indicates phase error, bit count, sync word, and count error faults with memory \$2595.00



634

HVS 634 Component RGB Frame Synchronizer

- Component RGB mode • Digital noise reduction • 3-cable or 4-cable RGB inputs • Freeze field or frame • Heterodyne time base corrector

The most recent synchronizer to join the Harris family—based on the reliable and proven HVS 632 synchronizer.

The 634 will synchronize and time base correct both Component RGB and Composite NTSC video sources, making it a versatile tool in most broadcast and production environments.

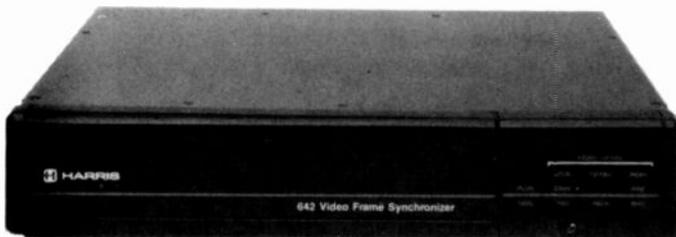
RGB component input capability, combined with DNR (Digital Noise Reducer) design makes the HVS 634 ideal for film to tape transfer applications.

Chrominance and luminance noise reduction is independently variable up to 10dB—without motion artifacts. RGB 3-cable (sync on Green) or 4-cable (separate black burst) operation is switch-selectable.

Full-bandwidth picture freeze increases production versatility by providing front panel selectable field or frame freeze. The 634 locks non-synchronous video sources—satellite, camera, studio feed, or heterodyne VTR—to station sync with precise accuracy. Hysteresis compensation is standard.

The component-coded architecture of the 634 results in a TBC that is inherently immune to color phasing problems and vertical or horizontal picture shift. The four-field NTSC color sequence is always correctly maintained.

HVS 634 \$28,000.00



642

HVS 642 Digital Frame Synchronizer

- High performance time base corrector • Exceptional noise immunity • Automatic noise reduction • High quality freeze field or frame • Audio synchronizer control • Separate, clean-switching TBC/synchronizer inputs • Full plug-in boards and power supply • Built-in diagnostic and troubleshooting aids • Optional full function remote

A proprietary input sync detection circuit maintains signal lock-up to 20dB in both synchronizer and TBC modes (patent pending). This feature enables the 642 to lock on noisy feeds, then reduce noise.

Smart Noise Reduction (SNR) provides true, automatic, frame recursive noise reduction up to 12dB. Depending on the amount of noise in the picture, noise reduction may be automatically switched off or reduced, to avoid the common motion artifacts from 3-dimensional filtering. (Patent pending).

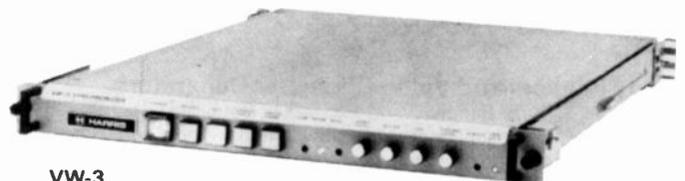
The built-in Time Base Corrector (TBC) operates with any non-segmented, heterodyne $3/4$ " or $1/2$ " VTR that employs subcarrier feedback and advanced sync inputs. The TBC features picture-in-shuttle, slow motion for dynamic tracking VTR's, and dropout compensation (DOC) from RF or TTL signal.

The HVS 642 synchronizes a multitude of today's remote feeds, including networks, satellites, microwave and cable systems. The 642 is equally at home timing and synchronizing internal video signals in your production and post-production studios.

HVS 642 Basic. \$7,900.00
HVS 642 With Freeze and SNR 9,495.00

Options and Accessories

Add-on Freeze and SNR \$2,000.00
 Remote panel 975.00
 BVU cable 250.00



VW-3

VW-3 TBC/Frame Synchronizer

- Exceptional degree of transparency in either TBC or synchronizer mode • Multiple source hot switching without video roll or breakup • Full frame "infinite window" TBC for direct or heterodyne signals. Superior time base corrector for 1 ", $3/4$ " and $1/2$ " format video tape machines • Electronic frame or field freeze for production applications • DOC: TTL or RF inputs • Velocity compensation in both direct and heterodyne TBC mode • Selectable freeze on loss of video—last good field or system black • High performance in a small package (only $1 3/4$ " high) • Remote control of all function switches, plus proc amp controls with presets • Match frame edit option

The VW-3 provides simultaneous time base correction and synchronization, making it possible to take random feeds from tape machines, microwave links, or satellites and "hot" switch them synchronously with program materials.

The VW-3 is a refinement in time base corrector/frame synchronizer technology. It is designed to provide the highest performance for a wide variety of time base correction and synchronization applications.

Basic VW-3 \$11,700.00
VW-3 With Match Frame Edit option. 12,700.00

Options

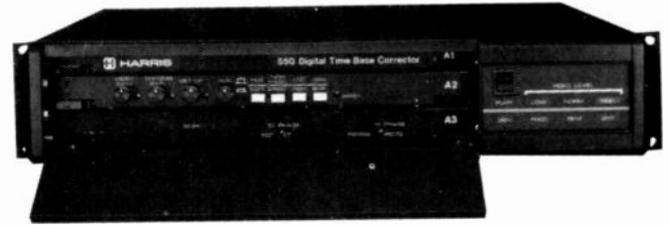
Remote control. \$1,500.00

HVS 550VT Digital Time Base Corrector

- Wideband subcarrier feedback mode
- Heterodyne process mode
- 8-bit, 4Xfsc architecture provides virtually transparent signal performance
- 16-line correction window
- Automatic vertical advance
- Built-in proc amp
- RS-170A sync output circuitry
- Complete operator control of video signals and genlock of external equipment
- Dropout compensation, RF or TTL
- Full remote panel option (only 1/2 rack width)

The Variable Tracking (VT) feature allows the 550VT to be used with slow-motion heterodyne VTRs such as the Sony BVU 820 with its Dynamic Tracking mode. The 550VT will dynamically track from 1X reverse play speed to 3X forward play speed, and will hold color lock to $\pm 5X$ shuttle speed. In addition, the 550VT will enable the VTR to present a stable picture in "Pause" as well as present a viewable picture in forward and reverse modes ($\pm 40X$ normal speed).

HVS 550VT \$5,595.00
Remote Control Option 975.00
Sony BVU Interface Cable 250.00


HVS 550VT
ESP II Digital Still Store

- Easy to learn, simple to operate
- Single independent user
- Single channel output, expandable to dual channel
- Digital effects transitions on separate output
- 1/2 second recall of stills
- On-line capacity up to 1700 stills (frames)
- Excellent for mobile and studio environments

The ESP II provides quality and versatility on a budget, combining still store features with digital effects.

With the ESP II, graphic artists can use multilayer art techniques as successive generations of stills. Up to 15 generations may be produced without degradation in picture quality.

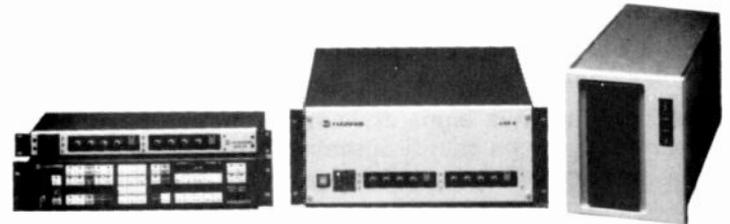
Multilayer graphics can be built in a single memory channel. For future use, stills can be stored to disk at random or in a sequence. A five-digit identification/address number identifies both the still and the disk on which the still is stored.

ESP II can function as two independent freeze frame synchronizers, with a separate third channel for digital effects transitions: horizontal and vertical wipes, fades and dissolves, pushes and pulls. Transitions may be selected at four preset rates: 16, 24, 32, or 48 frames.

With a single channel ESP II, you can transfer slides, still photos, artcards, titles and other graphics to digital frames for video production or special display. The freeze frame feature allows you to "grab" stills from live camera or tape productions. The single channel model is easily upgraded for dual channel operation.

The ESP II dual channel still store has sophisticated microprocessor control of sequence and stored image display, and a variety of digital effects transitions for on-air production or graphics generation.

With two independent channels, switching may be made between two still stores, two live pictures, or one of each. Dedicated pushbuttons for all key commands are incorporated for operational simplicity and accuracy.


ESP II

The modular architecture consists of two freeze frame synchronizer boards and a system genlock, control and transition effects board. These are housed in a mainframe that requires only seven inches of rack space.

Proc amp controls and mainframe and system timing adjustments are on the mainframe front panel or on an optional engineering remote panel. The engineering remote panel is only one rack unit high and is powered by the mainframe. Operation control of the system is afforded by a separate control panel measuring only 3 1/2" x 19".

ESP II Single channel with 80M byte RSD \$26,333.00
ESP II Single channel with 340M byte FSD 32,666.00
ESP II Dual channel with 80M byte RSD 30,995.00
ESP II Dual channel with 340M byte FSD 35,995.00

Options and Accessories

Single channel remote panel \$ 3,200.00
Dual channel remote panel 3,500.00
ACR-20 engineering remote panel 1,200.00
80M byte CDC/RSD cartridge drive 8,000.00
80M byte data cartridge 575.00
340M byte CDC/FSD fixed drive 13,000.00
Single rackmount kit for RSD/FSD 500.00
Dual rackmount kit for RSD/FSD 775.00

HarrisVws™ 5000 Video Workstation System

- Flexible workstation configuration
- User friendly
- Powerful Motorola 68020 based controller with math co-processor
- Open architecture, software based product for virtually open-ended growth potential
- Flexible, cost-effective storage, both magnetic and state-of-the-art optical disk drives available
- Convenient and flexible software, dedicated keys, and mouse or trackball control for executing commands, including creating, editing, and managing sequence lists
- Powerful 20 field database structure, catalog in excess of 1,000,000 stills
- EBU/SMPTE 4:2:2 Architecture meets CCIR Rec. 601
- Composite, RGB, and RP-125 digital inputs and outputs
- Heterodyne TBC/synchronizer inputs
- NTSC or PAL
- 2nd simultaneous user
- 32-bit processing power

The basic rackmounted system includes the system controller with embedded Apple Macintosh II microcomputer, an internal 90M byte or 300M byte disk drive, 13/14" frame buffer, a freestanding or rackmounted color monitor, keyboard, mouse or trackball and operating software, including high-capacity library software.

The keyboard has eight dedicated function keys and seven that may be user-programmed. It may be located at a distance of up to 1,000' via an optional keyboard extender.

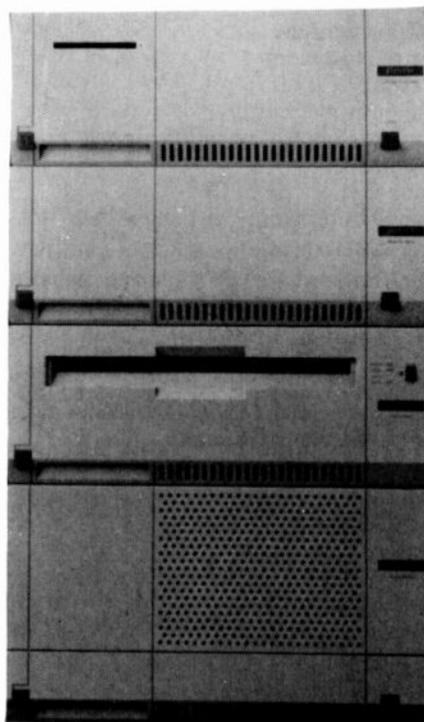
Any standard NTSC studio monitor may be used for line and preview outputs from the frame buffer.

Additional disk drives, both magnetic and optical, may be added to the system to increase its storage capacity.

The storage capacity, without optional external drives, is 100 or 400 two-field frames of video (double for single fields), depending on which of the two available internal drives is chosen. Magnetic and optical drives may be intermixed up to a maximum of five individual drives. A cluster of four optical drives or an optical disk changer is treated as a single drive up to a maximum of four such clusters.

2,400M byte (3,000 frame) capacity each, may be added to a basic system. An optional disk changer permits having up to 141 optical disks (450,000 frames) available in a semi on-line state for rapid recall.

A 15/16" ultrahigh-resolution color monitor (rack-mounted or freestanding), is available. This option is required for MultiViews, which presents 12 miniatures of frames conveniently on the control screen rather than on the line and preview monitors.



HarrisVws 5000

The frame buffer (Model 656V or 422V) has memory for four frames of video. It is provided with RGB and NTSC composite inputs plus optional digital input (in Model 422V) that meets the CCIR-601/RP-125 (4:2:2) standard; plus outputs for preview and line, each of which meet CCIR-601/RP-125, composite, and RGB standards. A second optional set of outputs permits simultaneous use by a second operator.

A transition option provides dissolves and up/down right/left wipes with programmable transition frame rates between pairs.

The system is provided initially with the Model 656V frame buffer; it may be upgraded to the Model 422V if digital I/O is required.

A HarrisVws 5000 system with one magnetic disk drive shelf and one optical disk drive, but exclusive of the control monitor, occupies 31 1/2" of vertical space in a standard rack.

HarrisVws 5000 90M byte single user system with control monitor \$39,990.00

FP-C1/FP-C2
3-Chip CCD Color Cameras

Features Common To Both Models

- Since the high sensitivity and low lag $\frac{2}{3}$ " CCD 3-chip is used, the sensitivity is one stop higher than that of a 3-plumbicon camera, making the FP-C1/FP-C2 ideally suited to use in low light conditions
- Auto knee and flare correction functions
- Subtle color differences among cameras can be controlled by the preset masking circuit
- Computer-controlled auto functions and self-diagnostics improve operational flexibility
- High resistance to shock and vibration
- Immune to magnetic field interference
- Adoption of the image sensor and highly stable design provides high reliability
- Bayonet mount
- Auto white balance
- Auto black balance
- Auto iris
- Auto knee
- Auto black set
- Auto black level
- Self-diagnosis display

FP-C1

- Over 280,000 picture elements offers a superb picture quality of 580 lines horizontal resolution
- Sensitivity: 2000 lux, f/6.7 (89.9% reflection factor)
- Auto white balance (2 memories)—Two kinds of memories for two different white balance data are available for the first time in a camera of this class
- Computer-controlled auto iris—The computer-controlled auto iris function offers a clear and natural picture. The auto iris operating point is adjustable for about $\pm 1f$ /stop
- Masking (with preset on/off switch)
- Test pulses
- Warning indicator
- Status display
- Character display function
- Min. Illumination: 20 lux, f/1.7 (+ 18dB)
- Signal-to-Noise Ratio: 56dB (NTSC), 53dB (PAL)
- Sync System: Internal (conforming to RS-170A) or genlock

The FP-C1 is a 3-chip CCD color camera employing the high density and high sensitivity image sensor with over 280,000 picture elements packed onto a chip.

The adoption of the latest image sensor leads to a superb picture quality of high resolution, a high sensitivity and a high signal-to-noise ratio. The operational flexibilities are greatly improved by the various automatic functions and the self-diagnostic functions controlled by the microprocessors.

Since various accessories are available, the FP-C1 is usable as an EFP/studio camera in conjunction with a remote operation panel.

- FP-C1UC with 12 to 1 lens \$7316.00
- FP-C1UD with 15 to 1 lens 7685.00



FP-C1



FP-C2

FP-C2 (Preliminary)

- Professional ENG camera is dockable to a Betacam VTR
- 620 line horizontal resolution
- High sensitivity 2000 lux with f/5.6
- Since there is no need for registration adjustment, the FP-C2 is ideal for ENG camera use
- Besides the ENG combo application, the FP-C2 can be used as a self-contained EFP studio camera with an optional camera adaptor
- Minimum illumination 16 lux with f/1.4 (+ 18dB)
- Signal-to-Noise Ratio: NTSC—57dB typ.; PAL 54dB typ.
- Sync system: Internal (conforming to RS-170A) or genlock (operation with composite video signal or black burst signal)

The FP-C2 is a 3-sensor CCD ENG dockable camera using a high density and high sensitivity image sensor for which precision special offset technology is utilized. Operational flexibility is greatly enhanced by superb picture quality with high resolution, high sensitivity and high signal-to-noise ratio, coupled with computer-controlled auto functions and self-diagnostic. Various accessories are available, making the FP-C2 usable as an EFP/studio camera in conjunction with an operational panel.

- FPC2UD With 15:1 lens \$ 10,950.00
- FPC2UC With 12:1 lens 10,600.00

Z-31A 3-Tube Portable Color Camera

The Z-31A can be used in full studio configuration with remote operation panel, in mobile units with triax, and ENG configuration for field shooting of all types including news and commercial production.

In addition to a wide choice of lenses, the Z-31A is offered with composite output and with modules for component output for use with any type small format VTR. The Z-31A features twist field type LOC MS Saticon tubes. These tubes offer 800 lines resolution and 60dB signal-to-noise.

This high resolution, auto setup camera features updated circuitry for improved registration, accuracy, and superior performance.

Even slight registration errors due to prism temperature changes are now corrected by a real-time correction circuit using a microcomputer to provide a stable picture at all times.

The 2H contour corrector with comb filter assures picture sharpness with minimal noise.

The horizontal contour signal is composed of both green and red signals.

With the built-in pre-set masking circuit even subtle color tones can be adjusted without affecting white balance.

The built-in automatic beam optimizer suppresses the comet-tails and expands the dynamic range to facilitate the highlight shooting.

The built-in shading correction circuit ensures a complete flat picture regardless of the pickup tubes and bias light shading.

The frame shading at the corners of the screen is corrected to offer a flat picture.

Other functions include:

- Character display function
- Built-in color bars
- Microphone circuit
- Test pulse

The basic camera can be purchased and accessory kits such as studio panel, triax/coax digital adaptors, 4.5" viewfinder, and component module, can be added at any time.

Specifications

Color System:	NTSC, PAL-B
Camera Tubes:	Three 2/3" Twist Field type M-S Saticon tubes
Optical System:	f/1.4 prism (with bias light)
Encoding System:	IQ (NTSC), UV (PAL-B)
Sync System:	Internal sync or genlock (operation with composite video signal or black burst signal)
Horizontal	
Resolution:	800 lines (G-ch at center)
Sensitivity:	2,000 lux (200fc), f/4 (89.9% reflection factor)
Min. Illumination:	40 lux (f/1.6 + 18dB)
Signal-to-Noise	
Ratio:	60dB (NTSC), 57dB (PAL-B) (typical)
Gamma Correction:	0.35 to 1.0
Optical Filter:	3200°K, 5600°K + 1/8ND, 5600°K, cap
Lens Mount:	Bayonet
Auto Functions:	Auto white balance Auto black balance Auto iris Automatic beam optimizer (ABO) Auto centering Auto setup Auto black set Auto registration correction Automatic fault diagnosis Auto black level


Z-31A
Standard
Configuration:

Z31A — Camera
 J15X9.5B4KRS (by Canon) — 15X power zoom lens
 GM-6 — 1.5" viewfinder
 AP-40 — AC adaptor
 TA-Z31 — One touch tripod adaptor
 CL-Z31 — Carrying case

Z-31AUE With ASU and lens	\$10,210.00
Z-31AUB Without lens . . . . .	.8,930.00
Z-31AUF With Fujinon 16:1 lens	10,880.00

Z-31P ENG/EPF Camera

This camera offers all the outstanding features of the basic Z-31A, but incorporates three 2/3" MS type low capacitance Diode Gun Plumbicon tubes.

Specifications

Horizontal	
Resolution:	660 lines at center (G. ch)
Signal-to-Noise	
Ratio:	57dB (NTSC)
Pickup Tube:	2/3" LOC DG PbO tube
Optical System:	f/1.4 prism (with bias light)
Scan Standards:	NTSC 525/60 field/s or IQ (NTSC)
Encoding System:	IQ (NTSC)
Minimum	
Illumination:	30 lux, f/1.6 + 18dB on
Sync System:	Internal sync or genlock
Gamma Correction:	Variable 0.35 to 1.0
Optical Filters:	3200°K, 5600°K, + 1/8ND, 5600°K, cap
Lens Mount:	Bayonet
Auto Functions:	Auto white balance Auto black balance Auto iris Automatic beam optimizer (ABO) Auto centering Auto setup Auto black set Auto registration correction Automatic fault diagnosis Auto black level

Standard
Configuration:

Z-31P Camera body, 15X power zoom lens, 1.5" viewfinder, tripod adaptor, AC adaptor, carrying case

Z-31PC With lens	\$15,950.00
Z-31PE Without lens	13,680.00


SK-97 FULL AUTO SET-UP CAMERA

- High performance pickup tubes—2/3", 3-tube • High resolution over entire screen—600 TV lines at center • High signal-to-noise ratio—58dB (NTSC) 55dB (PAL) • Improved prism optics • ABO (Automatic beam optimizer) • Encoder with dynamic contrast (Variable gamma) • High-precision static and dynamic registration • Linear matrix masking • Auto iris • Two filter disks • High-brightness, high-resolution viewfinder • Viewfinder character display • Power supply options • Preheat/operate switch • +9/+18dB high-gain switch • Centralized control panel • Chroma keying outputs • Selectable YIQ/RGB outputs • SMPTE/EBU color bar output • Hi-fi microphone amplifier • Two-wire/four-wire intercom system

Versatile Auto Set-Up System

- Zero method control • Auto set-up mode selection • Data files • Fault diagnosis • RCU (Remote control unit) • Auto/manual set-up by camera itself

The SK-97 is an epoch-making, 2/3", 3-tube, portable color camera with full auto set-up functions. The camera satisfies all the requirements necessary for a portable camera in EFP and studio applications; i.e., excellent picture quality, great ease of operation and extremely high reliability.

The SK-97 employs the same auto set-up system as that of the sister camera SK-970 for studio portable use, and can be used in combination with the SK-970. The SK-97 can also be controlled by the SK-110 full auto set-up studio camera system.

The SK-97 weighs approximately 13.2 lbs. (6kg) excluding a lens even with the improvement in performance and addition of the auto set-up functions.

Digital Command System Available

When an optional digital command system consisting of the MU-97A multi adaptor and the DU-97A DCU is used, all the camera operations can be remotely controlled from the RCU or the SK-110's SCU through a single coaxial cable. The MU-97A is attached to the camera side cover and the DU-97A of half-rack size is located near the BSU.

In addition, when a TX-97 triaxial adaptor is used together with the above units, power transmission up to 1.4 miles (2.3km) as well as camera control is possible through a single triaxial cable if using a Felten 2.5 LS/11.5 cable.

Superior Serviceability

The pickup tubes are rear-loaded for ease of replacement. In particular, the R and B channel tubes can be simply replaced by removing the top and the bottom cover of the camera respectively.

All of the electronic circuitries are divided by functions into printed circuit boards with silk printing on both sides, and major circuit boards are inserted into a PCB harness with mother board connection.

DIMENSIONS AND WEIGHT

	Width		Height		Depth		Weight approx	
	in	mm	in	mm	in	mm	lb	kg
Camera	3.9	100	11.0	280	14.0	355	13.2	6
BSU	8.3	210	7.1	180	13.8	350	28.6	13
RCU	3.0	76	14.2	360	6.3	160	8.4	3.8
DU-97	8.3	210	5.2	133	13.8	350	18.7	8.5
MU-97	1.2	30	6.1	155	13.6	345	3.5	1.6
TX-97	4.3	110	6.7	170	1.7	43	2.0	0.9

SK-97.3A Full Auto Set-Up

EFP/Studio Camera for Broadcast Use with LOC D.G. Plumbicon (XQ3427RGB), Less Lens

Package Includes:

- SK-97 Camera Head, built-in auto set-up • XQ-3427RGB LOC D.G. Plumbicons • VF-154 1.5" High Resolution VF w/Diagnosis Display • AP-40U AC Adaptor • TA-97 Tripod Adaptor • CL-97 Carrying Case • SVM-SK-97 Service Manual • Standard Accessories

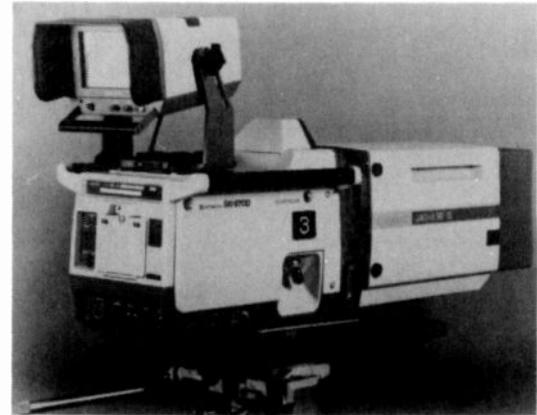
SK-97.3A\$47,230.00

Accessories

DU-97A/TX-97A	Triaxial Digital Command System	\$17,000.00
CB-97	Battery Bracket	110.00
DP-40	Battery (2 Hour)	505.00
BC-40	Battery Charger for DP-40	85.00
C-201VB	6' (2m) VTR Cable 10-pin	240.00
C-201VD	6' (2m) Cable 14-pin	340.00
C-201VC	6' (2m) VTR Cable for HR-100	340.00
MH-97	Microphone Holder	190.00
C-400M	Microphone Cable	90.00
RC-97	Rain Proof Cover	280.00
LFSC	Quick-Charger for DP-40	595.00
BU-97	Base Station Unit	7,250.00
RU-97	Remote Control Unit	3,670.00
VF-502	5" Viewfinder	2,940.00

SK-970D Full Auto Setup Studio/Field Camera

- 2/3" LOC DG Plumbicons offer superb picture quality
- Improved prism optics high speed (f/1.2) prism optics, brightest for 2/3" pickup tube guarantee high sensitivity and excellent color rendition
- Built-in ABO circuit eliminates comet tails, extends the dynamic range of the camera and thereby makes highlight shooting very easy
- High signal-to-noise ratio of 60dB (NTSC) (57dB with PAL-B) is obtained at 2,000 lux (200 fc), f/4.5 owing to a low-noise preamplifier and low-noise FET
- High voltage operation of the pickup tube, together with a wideband preamplifier, fully utilizes the tube resolution. In addition, a dynamic focus circuit greatly improves the resolution at 4 corners
- High-precision registration by world-first real-time lens error correction (RLC)
- Fifteen kinds of exclusive lenses (13X to 45X) incorporating a chart for auto setup are available
- Built-in dynamic contrast circuit controls highlight compression and black stretch of the luminance and chrominance signals to provide pictures having a wide contrast range
- 3DTL system is employed for the horizontal correction. It performs the optimum corrections for RGB channels and ensures the most effective edge correction for any kind of color tone
- Remote control of DTL and dynamic contrast
- Built-in linear matrix masking amplifier ensures high-fidelity color rendition and easy tone-matching among the cameras. Two modes of operation; 2 stages of FIX (Hitachi standard) and manual; and on/off control are provided
- High speed rotary shutter is available as an optional accessory
- Compact and lightweight system
- Microprocessor-controlled auto iris
- Two filter disks
- 7" viewfinder with various functions
- Viewfinder character display
- High-gain switch of up to +18dB provides a broadcastable picture even under low lighting conditions, in combination with the low noise preamplifier
- All the controls necessary for camera operation are on the rear control panel of the camera
- SMPTE/EBU color bar output
- Built-in chroma keying circuit provides a chroma keying signal output plus R, G and B video signal outputs at the BSU
- Hi-Fi microphone amplifier
- Two-wire/four-wire intercom system
- Automatic cable compensation
- Auto setup system utilizing a built-in microcomputer greatly reduces routine setup time and provides the highest picture quality at all times
- Zero method of control is capable of setting up the R, G and B channels automatically, thus eliminating troublesome manual adjustment of the G channel required for the G-reference method
- Auto setup mode selection
- Check function of auto-setup conditions with an external chart
- Data files
- Fault diagnosis



SK-970D

- Remote control unit
- Base station unit
- Auto/manual setup by camera itself
- Setup control unit, SU-97D

The SK-970D is the up-graded version of the SK-970 which are widely used in television stations throughout the world.

It is a camera featuring unique functions, ease of operation and maintainability as a studio/field camera, permitting versatile system applications.

Hitachi's computer technology, full auto-setup functions using the zero method of control (RGB control), library functions using a 3.5" floppy disk, real-time lens error correction (RLC), prism temperature correction, microprocessor-controlled auto iris, etc. are attained.

With an optional high speed rotary shutter, a picture of superb dynamic registration is ensured and super slow freeze picture having no blur is obtained without need of a special VTR.

In the triaxial cable operation, the maximum cable length is 2400m.

All the control including the commands for auto-setups are made from the remote control unit and the setup control unit via the base station unit.

The self-contained functions permit the auto-setups of the camera unit.

The SK-970D is a breakthrough camera which can be used with the SK-120 (1" tube) and the SK-110D (1 1/4") as well as the SK-97D Handy camera.

SK-970D Auto-Setup Studio/Field Camera, Less Lens Package Includes:

- SK-970D camera head with built-in auto-setup
- XO-3427RGB LOC diode gun Pbo tubes
- VF-710 7" high resolution viewfinder
- SVM-970D service manual

Standard Accessories \$63,330.00

BU-97D	Base station unit for remote control. (Requires RU-97 remote control unit).	\$9,350.00
RM-97D	Rackmount adaptor for BU-97-D	1,180.00
RU-97B	Remote control unit (Requires BU-97D).	4,080.00
RU-97D	Full function remote control unit with digital display. (Requires BU-97D and SU-97D for full operation)	6,110.00
AP-10B	AC adaptor for self-contained operation	680.00

**SK-110D FULL AUTO-SETUP
COLOR TV CAMERA**

SCU (Setup Control Unit)

This unit provides centralized camera control functions for multiple cameras.

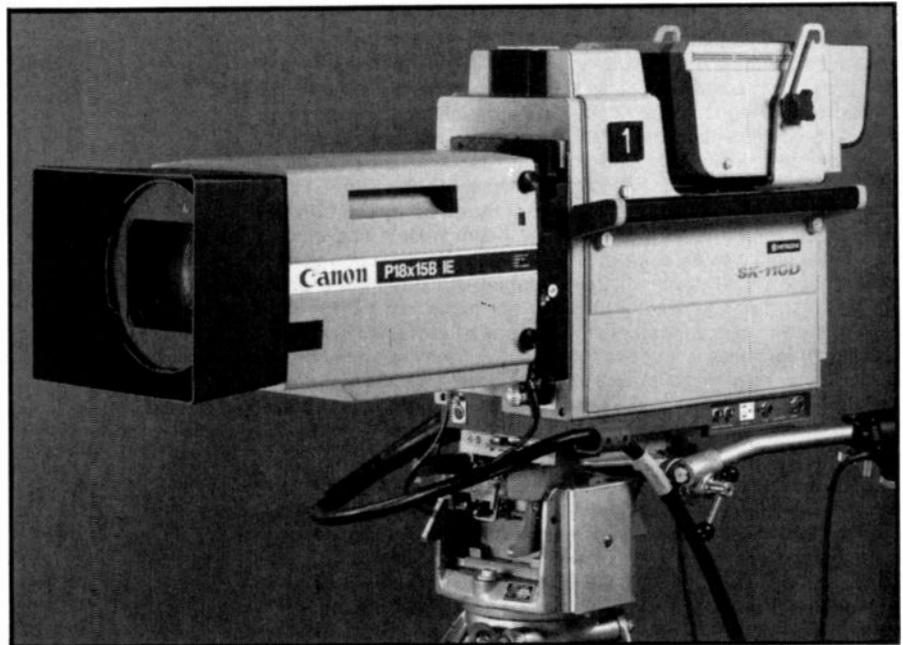
A power supply on/off, auto-setup, quick check, fault diagnosis, manual control, timeout, picture monitor character display, digital display of lens f-number, monitor picture selection, floppy-disk memory for manual adjustment data, and RCU function are provided for each camera. The picture monitor character display includes controlled parameters and percentage of controlled quantities. The DSU function for six cameras is built into the SCU to simplify the system. However, when controlling more than six cameras, use external DSUs.

DSU (Delegation Switch Unit)

This unit serves as a switching unit for data lines and video signals when several cameras are controlled by an SCU. It is possible to assign up to 6 CCUs to one DSU which can be located anywhere between the SCU and the CCU.

TSU (Transfer Switch Unit)

This unit provides switching for data lines and video signals when several camera groups are controlled by two SCUs. The group is selected in a block of a DSU and each camera is controlled through the DSU.



CAMERA HEAD

Pickup Tubes

1-1/4" LOC-DG Plumbicon[®] 1 pick-up tube; 750 TV lines; signal-to-noise ratio of 56dB or more.

Highly Efficient Prism Optics
f/1.8 prism optics.

High-Accuracy Static Registration

Auto setup control for camera registration including that for bow and skew distortions in both the horizontal and vertical directions guarantees high accuracy static registration of 0.05% over the entire screen, in combination with Digital Registration Compensation (DRC) and corner registration compensation which controls four corners independently.

High Precision Dynamic Registration

By using RLC (Real-time Lens Correction), the auto setup system controls on-line, real-time compensation for registration errors caused by variations of lens zooming and focusing.

Scrambling Use of Multiple Cameras

Computerized Tube Hour Meter

Controlled by the built-in microcomputer instead of a conventional electromechanical hour meter, providing a character display of operating hours on the viewfinder screen.

Dynamic Focusing Circuit

ABO (Automatic Beam Optimizer)

High Performance 7" VF with Numerous Functions

Built-in Microphone Amplifier/Limiter

Test Signals for Amplifier Calibration

A 100% and a 200% level sawtooth test signal are provided to facilitate calibration and setup of each video amplifier. By applying these signals in sequence to the input of the process amplifier-2, process amplifier-1 and preamplifier first stage, it is possible to calibrate the level of each amplifier as well as to verify the gamma, knee point, slope, clipping point, etc.

Easy Servicing

The PC boards in the camera head and CCU are simple to remove and are marked on both sides, making parts easy-to-find for quick servicing or inspection. Another serviceability feature is a coil assembly that can be removed while the camera is mounted on the dolly.

*1 © N.V. Philips

CCU

Compact Design

The CCU is designed as a dedicated camera control unit for a computer controlled camera. Both the video processing section and the computer section have been housed in one compact package. The width of the power supply unit is reduced to just a half of 19" rack for compact system configuration.

Linear Matrix Masking

High-Performance Contour Corrector

Compensation signals derived from the R and G channels provide clear, crisp images even for red subjects. The contour correction signals are automatically processed to match the type of subject, maintain optimum compensation and ensure natural images.

Standby Mode Operation

Three operating modes are provided to save power consumption and extend the life of the pickup tubes and CRT.

1. **CCU Power:** Main power supply is switched on; the CCU is operating.
2. **Power:** The camera head is on and the heaters of the pickup tubes and CRT are supplied with 50% of the normal voltage.
3. **Beam:** Beam current of the pickup tube is turned on and the camera operates.

Genlock

The SK-110D is genlocked to a black burst signal or a composite video signal. Horizontal and subcarrier phases can be adjusted manually.

High Reliability LSI Process Amplifier

Output picture quality is greatly affected by the stability of process amplifiers. LSI process amplifiers used in this camera provide stable operation against temperature variations and provide no deviation between channels.

Special Effects

1. The horizontal and vertical deflection currents can be independently reversed, a feature useful in picking up mirror images.
2. The video polarity of the R, G, and B signals can be independently inverted.
3. Swinging of horizontal deflection is provided by means of an externally applied audio frequency signal.

Encoder with Variable Gamma (Contrast)

Gamma control of luminance and chrominance signals is linked and can be adjusted by remote control, making adjustment of the picture contrast very easy, even under such difficult conditions as those encountered outdoors.

Built-In SMPTE/VIT Color Bar Generator

A color bar generator conforming to the latest SMPTE standards has been built in for convenient adjustment of monitors. Also built in is a VIT color bar generator, allowing monitoring of the characteristics of the encoder and the transmission line while on the air.

Computer-Controlled Auto Iris

Lens iris is automatically controlled by detecting the average and peak value of the object illumination and calculating the control output data for optimizing lens servo response by a built-in microprocessor.

AUTOMATIC SETUP

Zero Method Control

The zero method of control is capable of controlling the R, G, and B channels, thus eliminating the troublesome manual adjustment of the G channel required in the G channel reference method.

Expandable System Hierarchy

A microprocessor is built in each unit from the SCU to the camera head, so that the system can flexibly be configured from 1-camera chain to a large scale system. By using a DSU for every group of six cameras, up to 24 cameras can be controlled with just one SCU. By adding a TSU control capabilities can be expanded to up to 42 cameras using two SCUs, providing all the flexibility you will ever need.

Automatic Setup Modes

Eleven automatic setup modes are provided: AUTO SETUP (full), COLOR BALANCE, REGISTRATION, DRC AUTO, G REFERENCE, EXTERNAL chart full AUTO, EXTERNAL chart regi AUTO, EXTERNAL chart color balance AUTO, CHECK, AUTO WHITE, and AUTO BLACK.

Fault Diagnosis

Fault diagnosis of the video system, pulse system and power supply in the camera head and the CCU of the selected camera is performed by depressing the DIAG switch. Diagnosed results are displayed on the picture monitor and the viewfinder, and can be printed out on an optional teletypewriter, too.

Auto Setup of 38 Parameters

Total of 38 parameters of auto setup for color balance and registration including digital registration compensation are available for system setup.

Remote Control

The SCU, TSU, DSU, and CCU may be connected with just three twisted-pair cables and be separated from one another by up to 1,000m (3,000 ft.) The CCU and RCU may be connected using three twisted-pair cables and separated up to 100m (300 ft.)

SK-110D (excluding lens and tubes) . . \$98,000.00

V-069 Vectorscope (NTSC System)

- Guaranteed vector phase accuracy of $\pm 1^\circ$. This high measurement accuracy is unsurpassed in its class
- Two loop-thru inputs and a loop-thru external sync input are provided. The chrominance signal and sync signal may be independently selected and vector measurement of the input. A sub-carrier signal is also possible
- Input sensitivity can be calibrated to the 1V full scale, 75% saturation or 100% saturation and may be variable controlled over the range 0.5 to 5 times. The UNCAL lamp lights when variable controlled has been made
- The chrominance signal applied to an input may be used to display a non-synced circle to enable a self-check of gain balance and quadrature phase
- Differential gain and differential phase can be measured
- Differential gain is a change in color subcarrier amplitude as a function of luminance level. Differential phase is a phase modulation of the chrominance signal caused by change in the luminance level

V-069\$1950.00

V-079 Waveform Monitor (NTSC System)

- A line selector function is provided to enable selection of any displayed line of lines 9 thru 22 or either field 1 or 2. This enables observation of VIR and VITS signals, as well as Teletext signals
- Guaranteed flat response ($\pm 1\%$ over the range 25Hz to 3.6MHz and $\pm 1\%$ -2% over the range 3.6MHz to 6MHz). This wide bandwidth ensures high-accuracy waveform observation and measurement
- Frequency response may be selected as FLAT, IRE, CHROMA, DIFF GAIN. The horizontal-axis sweep may also be selected as 2V, 2V MAG (X20 magnified), 2H or $1\mu\text{s}/\text{div}$, enabling measurements on a wide variety of video signals
- By applying signals to a 9-pin connector on the rear panel, it is possible to display RGB. Optionally, YRGB display is also possible
- DC restore ensures a stable display even in the presence in the amplitude, APL and burst variations
- Two loop-thru inputs are provided
- Horizontal-axis position may be fine adjusted using a 10-turn potentiometer
- Two units may be mounted side-by-side in a 19-inch rack (the V-069 Vector Scope is the same size)

V-079\$1750.00

RM-079 Rackmount for Dual V-069/079.225.00

V-089 (Type NTSC) Vectorscope

- Chrominance Processing = Chrominance Bandwidth: Subcarrier Frequency (Fsc)/3.57945MHz Pull in Range: Within 100Hz of Fsc, Pull in Time: Within 1 second with subcarrier frequency within 100Hz of Fsc, Phase Shift with Subcarrier Frequency change: $\geq 1^\circ$ from Fsc to Fsc + 50Hz or from Fsc to Fsc - 50Hz, Change: $\geq 1^\circ$ from unity to 2 times unity or from unity to one-half unity
- Amplifier = Maximum input voltage: $\pm 5\text{V}$, VARGAIN Control Range: X0.5 ~ X5.0, Input Return Loss: $\leq 40\text{dB}$ down, 5MHz
- External Sync = Input signal requirement 1.6 to 4.5V composite sync. input impedance 15K ohm $\pm 10\%$
- Dimensions = 3.5"H x 5.8"W x 15.6"D (88 x 145 x 395mm)
- Weight = 8.9 lbs./4kg

V-089\$1684.00

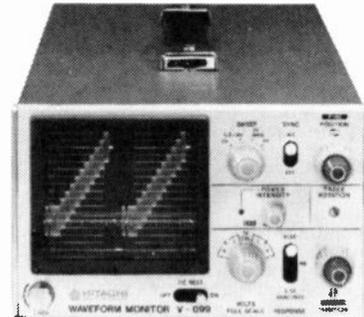
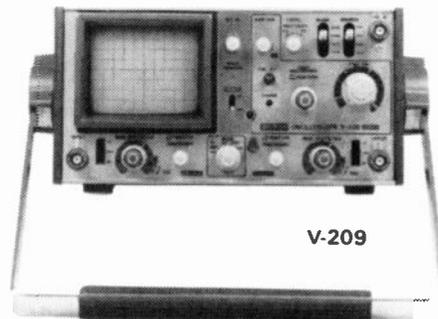
AD-099 Battery Pack for V-089/099310.00

V-099 (Type NTSC) Television Waveform Monitor

- CRT = 3.5" square with 2kV acceleration potential
- Vertical Deflection = Frequency Response at 1V Full Scale or 4V Full Scale: Flat...Response from 25Hz to 5MHz with $\pm 5\%$ of response at 50kHz, IRE...Response per 1958 IRE STD 23S-1 $\pm 10\%$, 3.58 Band Pass...Response at 3.58MHz does not vary between flat and 3.58 Band Pass by more than 1%
- Horizontal Deflection = 2V Sweep: = Frame Rate at applied Video or External Sync. 2V Mag Sweep: X20 within $\pm 10\%$, 2H Sweep: = half line rate of applied Video or External Sync, $1\mu\text{s}/\text{div}$ Sweep: $\pm 3\%$ (Accuracy)
- DC Restoration = Clamp time: Back Porch
- Dimensions = 3.5"H x 5.8"W x 15.6"D (88 x 145 x 395mm)
- Weight = 8.9 lbs./4kg

V-099\$1250.00

AD-099 Battery Pack for V-089/099310.00

V-089

V-099

V-209
V-209 Dual Trace Portable Oscilloscope

- CRT = 3.5" square with 1.5kV acceleration potential
- Vertical Deflection = Sensitivity: 5mV/div to 5V/div $\pm 3\%$, Max. Sensitivity: 1mV/div $\pm 3\%$ at X5 Magnifier extends, Bandwidth: DC to 20MHz (-3dB), DC to 5MHz (-3dB) at X5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD (DIFF)
- Horizontal Deflection = Time Base: 0.5 $\mu\text{s}/\text{div}$ to 0.2s/div $\pm 3\%$, Max. Sweep Rate: 50ns/div at X10 Magnifier extends
- X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 100kHz
- Dimensions = 4.3"H x 8.5"W x 13.8"D (110 x 215 x 350mm)
- Weight = 9.9 lbs./4.5kg

V-209\$1050.00

AD-209 Battery Pack for V-20992.00

V-509 Dual Trace Delayed Sweep Portable Oscilloscope

- CRT = 3.5" square with 12kV acceleration potential
- Vertical Deflection = Sensitivity: 5mV/div to 5V/div $\pm 3\%$, Max. Sensitivity: 1mV/div $\pm 3\%$ at X5 Magnifier extends, Bandwidth: DC to 50MHz (-3dB), DC to 10MHz (-3dB) at X5 Magnifier extends, Modes: CH1, CH2, ALT, CHOP, ADD (DIFF)
- Horizontal Deflection = A Time Base: 0.1 $\mu\text{s}/\text{div}$ to 0.2s/div $\pm 3\%$, B Time Base: 0.1 $\mu\text{s}/\text{div}$ to 2ms/div $\pm 3\%$, Max. Sweep Rate: 10ns/div at X10 Magnifier extends, Display Modes: A, A inten, B
- X-Y Operation (CH1: X, CH2: Y) = Phase Error: 3° from DC to 100kHz
- Dimensions = 4.3"H x 8.5"W x 13.8"D (110 x 215 x 350mm)
- Weight = 11 lbs./5kg

V-509\$1445.00

AD-509 Battery Pack for V-509352.00



WIRELESS MICROPHONE/ INTERCOM SYSTEMS

System 50 Body-Pac Wireless Microphone System

• VHF Hi-band RF link with switching diversity receiver • NRX-II™ Noise Reduction System designed for wireless mics, > 115dB dynamic range • Dual frequency selection • < 5 oz.

The TX550 body-pac transmitter operates on two switch-selectable frequencies in either the 160-174MHz (TX550) or 174-216MHz (TX550TV) frequency band. The input is compatible with dynamic or condenser microphones, via a 4-pin locking mini "Q-G" type connector. There is 6VDC power available at the connector for electret elements. There's a mute switch and a low battery indicator.

The TX550 delivers the maximum allowable 50mW RF output power with a maximum deviation of 15kHz. Its frequency multiplication and additional RF filtering minimize spurious and harmonic transmissions, enhancing its use in multiple system operations.

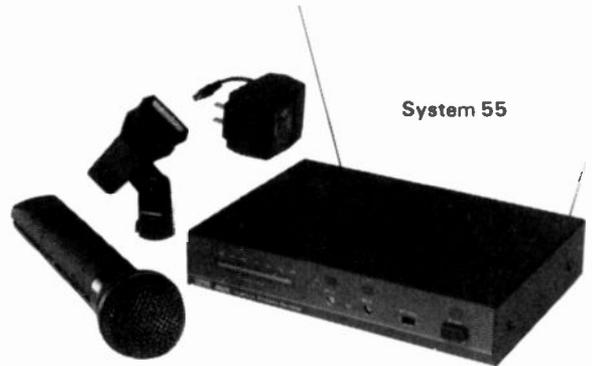
System 55 Handheld Wireless Microphone System

• VHF-Hi band RF link with switching diversity receiver • NRX-II noise reduction system, > 115dB dynamic range • Choice of 4 mike elements: HME HM58, Shure SM58, SM85, or SM87 • Ideal for multiple system operation—up to six in simultaneous operation

The TX555 handheld transmitter is available with a choice of four microphone heads: the standard HME HM58 dynamic, optional Shure SM58 dynamic, or Shure SM85/87 condenser cartridges. An auto lock on the power switch makes certain that power won't accidentally be turned off. There's a mute switch and a low battery indicator.

The TX555 delivers the maximum allowable 50mW RF output power with a maximum deviation of 15kHz. Its frequency multiplication and additional RF filtering minimize spurious and harmonic transmission, enhancing its use in multiple system operations.

C10220 System 50 Wireless Body Pac System (Includes TX550, RX520, TA4F connector, AC adaptor, belt clip and antennas) \$1095.00



- C10215** System 55 Wireless Handheld System includes TX555 with HME HM58 mike element, RX520, AC adaptor, MC 15 mike clamp and antennas . . .1110.00
- System 55 with Optional Microphone Elements**
- C10217** with Shure SM58 mike element1165.00
- C10218** with Shure SM85 mike element1365.00
- C10219** with Shure SM87 mike element1365.00
- C10221** RX520 Switching Diversity Receiver Dual Frequency includes AC adaptor and antennas615.00
- C10222** TX550 Body Pac Transmitter, Dual Frequency includes TA4F connector, belt clip and antenna480.00
- TX555 Handheld Transmitters Includes MC15 mike clamp and vinyl bag
- C10223** with HME HM58 mike element495.00
- C10225** with Shure SM58 mike element550.00
- C10226** with Shure SM85 mike element750.00
- C10227** with Shure SM87 mike element750.00

IC-150 Series Wireless Intercom System

• Full-Duplex Operation—Provides continuous hands-free intercommunication between the base station and as many as four remotes

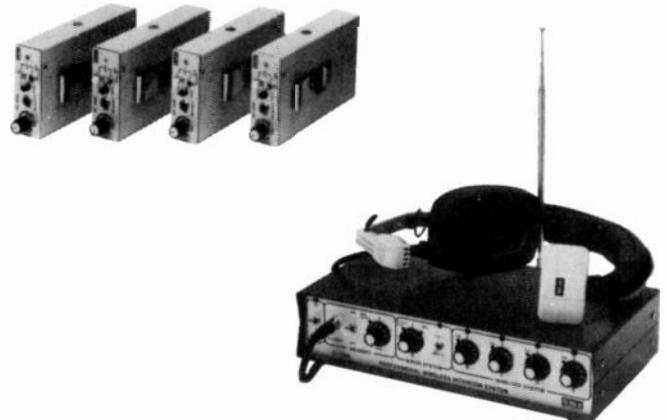
• Push-to-talk operation • Hard-wired system interface • Full inter-system level control • Ultra compact remote transceivers—single unit, metal enclosed, belt transceivers are only 5 1/2" x 3 1/4" x 1 1/8" and 10 oz. • Only 1 VHF high band channel required • HME dynamic expansion—assures clean, noise-free operation with a dynamic range of at least 80dB • Loop-around sidetone

The IC-150 base station transmits to each MT-1000 remote unit on a single VHF Hi-band frequency. It also receives the VHF mid-band transmission from the remote units. The received signal(s) is simultaneously fed to the base operator's headset, to the wired system interface and to the transmitter section for rebroadcast to each remote unit.

The MT-1000 remote transceivers receive the base operator's message on the VHF Hi-band channel, and transmit messages to base (and subsequently to any other MT-1000) on a VHF Mid-band frequency. In full duplex operation, each MT-1000 uses its own transmit frequency (the IC-150 will receive up to 4 different frequencies). In push-to-talk operation, all MT-1000s may use the same transmit frequency. Operator side-tone is provided through rebroadcast of the receive signal by the IC-150, automatically confirming receipt of communication.

IC-150 Series Wireless Intercom

- IC-150** Base Station includes: (1) KRM150 receiver module, AC-10C, diplexer and antenna. \$2055.00
- C10193** IC-150A (export)2055.00
- C10194** IC-150B (gen. purpose)2055.00
- C10195** IC-150C (Broadcast)2055.00



- C10113** RP150 Rackmount Kit for IC-150.75.00
- MT-1000** Remote Transceiver1140.00
- C10196** MT-1000A (export)1140.00
- C10197** MT-1000B (gen. purpose)1140.00
- C10198** MT-1000C (Broadcast)1140.00
- Each additional KRM-150 Receiver module installed345.00

VHF Hi-Band Microphone Systems

System 420

Concealable Body-Pac transmitter with soft compressor/limiter performance from almost any dynamic or electret lavalier microphone you wish to use. Versatile, easy to use WM 300A receiver with transformer balanced mike level output.

(150-174MHz) 420-TV (174-216MHz). AC or Ext. DC Commercial Receiver.

- C10118 System 420 Includes WM 300A Receiver and TX 425 or TX 425TV Transmitter \$895.00
- C10105 TX 425 or TX 425TV Transmitter 425.00
- C10106 WM 300A Receiver 470.00

*Includes Mike Mute Switch and Belt Clip
**Mike not included; suggest EM43-4

MA-6

4' mike cable, standard 3-pin XLR to 4-pin miniature Switchcraft. Allows use of standard handheld or self-powered lavalier with TX425 or TX425TV Transmitter.

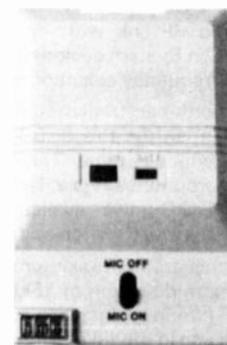
- C10079 MA-6. \$45.00

Ordering Information VHF Hi-Band Systems

Systems and models operating in the 150-174MHz band are type accepted under Part 90 of the FCC Rules.

Systems and models operating in the 174-216MHz band (TV Channel 7-13) are identified by the suffix "-TV", and are type accepted under Part 74 of the FCC Rules.

TX 425



WM 300A

HM58 Unidirectional Dynamic Handheld Microphone With Mike Mute Switch

Designed expressly for high quality professional applications, the HM58 comes standard with 3-pin XLR cable, mike clamp, vinyl bag, and a gift box. It has a non-glare finish, a mike-mute switch, and is perfectly balanced for use.

Specifications

Type: Dynamic; Frequency Response: 80-14,000Hz; Polar Pattern: Cardioid; Impedance: Low; Sensitivity: -75dB ± 3dB; Connector: Male, 3-pin XLR; Cable: 6mm x 5m with 3-pin XLR connectors; Dimensions: 52 x 167mm; Switch: Mike mute

- C10018 HM58 \$164.00



HM-58

RM77 Unidirectional Reverb Electret Microphone

The first affordably priced professional microphone offering built-in reverb. An adjustable control permits you to vary the amount of reverb, and a conveniently located 3-position switch provides the ability to "mute" the mike or add the "echo". Now you can get those "special effects" that previously could only be obtained with costly external units or tape delay machines that jam, and need frequent cleaning. The RM77 also comes standard with a 3-pin XLR cable, mike clamp, vinyl bag and a gift box. A built-in "pop" filter minimizes external interference commonly heard in condenser microphones.

Specifications

Type: Electret condenser reverberation; Frequency Response: 150-15,000Hz; Polar Pattern: Cardioid; Impedance: Low; Sensitivity: -72dB ± 3dB; Connector: Male, 3-pin XLR; Cable: 6mm x 5m with 3-pin connector; Dimensions: 53 x 190mm; Battery Type: "AA" cell 1.5V; Battery Life: Approx. 25 hrs. in Echo mode; Approx. 1000 hrs. in Mike mode; Reverb Time: 0-.2 sec. (variable); Switches: Off-Mike-Echo; Controls: Echo rate

- C10017 RM77 \$144.00



RM-77

EM43-4 Omnidirectional Lavalier Microphone

The EM43 omnidirectional, electret lavalier microphone is small in size, but big in sound. With sensitivity and frequency response only obtainable in far more costly "name brands," the EM43 is easily one of the best lavalier values available today. Mike clip, windscreen and case are included. The EM43 is designed to work in Radio Frequency (RF) environments.

Specifications

Type: Electret; Frequency Response: 20-20,000Hz; Polar Pattern: Omnidirectional; Impedance: 2.2K ohms; Sensitivity: -63dB ± 4dB; Connector: 4-pin Tiny QG; Cable: 2mm x 3m; Dimensions: 7.5 x 20mm

- C10111 EM43-4 \$70.00

**Series 700 Cabled and
Wireless Intercom Systems**

- Compatible with popular existing systems
- Battery or AC operation
- Internal foldback protection
- Rugged construction

A communications system that lives up to the HME reputation of high technology manufacturing and design. The HME 700 Series provides features professionals require: battery operation, compatibility with current systems, high power, mike cable connections, rugged construction, and good value.

BH720

The BH720 is a single channel intercom belt pac, compatible with the 700 series and other similar 3 wire intercom systems. Advanced electronics provide superior audio quality in a compact, lightweight package. The BH720 supercedes the BH710, weighs less and offers more features.

C10058 BH720 \$160.00

BH721

The BH721 provides all the functions of the BH720 while also offering 2 channel capability (using 4 conductor cable). A top panel toggle switch allows the user to communicate in full-duplex on either channel. Two 4 pin XLR connectors provide loop-thru capability for adding additional belt pacs.

C10064 BH721 \$180.00

PS730 Power Supply

The PS730 is a single circuit power supply offering 30 station capability, DC status lights (green for normal and red for shorted), four output connectors, high or low level signal control, current foldback, and a very small package size.

C10065 PS730 \$235.00

**WL742 Two-Way
Loudspeaker Station**

The WL742 is a two channel (over a three wire shielded cable), wall-mounted, loudspeaker intercom station. The WL742 is designed to fulfill the majority of the requirements for wall-mounted intercom stations. The WL742 is capable of two way communication in three ways:

1. Simultaneous talk/listen via external headset or handset.
2. Simultaneous talk/listen via internal loudspeaker and gooseneck-mounted microphone.
3. Talk/listen via internal loudspeaker and external push-to-talk mike.

The WL742 is compatible with existing HME 700 series products, as well as other popular 3 wire intercoms. The WL742 has a switch which selects either Channel A or Channel B.



Series 700

Additionally, a mike on/off switch, an illuminated call-light switch, and a user adjustable volume control are provided. The WL742 features an automatic loudspeaker mute capability, which automatically mutes the loudspeaker when headphones are connected.

The WL742 will fit a standard 4 gang (with plaster ring) electrical outlet box. This feature allows ease of installation and maintenance.

Speaker Station. Flush mounts in standard 4-gang electrical box with plaster ring. Allows two-way communication through use of loudspeaker and external mike, or via standard headset. 2-channel.

C10122 WL742 \$255.00

WH710

Flush Mount headset station. 2 channel. Same electronics as WL742, without speaker. Mounts in standard electrical box.

C10015 WH710 \$165.00

RH710 Rackmount Headset Station

Same features as WH710 in a standard 19" rack configuration.

C10124 RH710 \$180.00

Accessories

C10134 700-2 Rackmount Kit for PS731 \$40.00

C10135 700-3 Rackmount Kit for PS730 40.00

C10136 700-4 Rackmount Kit for two PS730 45.00

C10138 700-10 Push-To-Talk Mike. Dynamic element. Comes with coiled Cable and XLR connector. Mutes in normal mode . . . 45.00

C10151 700-11 25' Cable with connectors 35.00

C10139 700-12 50' Cable with connectors \$50.00

C10140 700-13 100' Cable with connectors 80.00

C10141 700-14 Wallplate outlet with 2 channel switch. 3-pin XLR connector for interfacing with belt-pacs 35.00

C10142 700-15 Headset "Y" cable 50.00

C10143 700-16 Telephone handset with push-to-talk button and 4-pin XLR connector. Replaces headset in system 80.00

C10144 700-17 Channel Isolator/ Adaptor allows multi-channel operation with single circuit power supply 35.00

C10145 700-19 Tabletop enclosure for WL742 40.00

C10147 700-21 Y-cable, adapts 2, 3-pin XLRs to 1, 4-pin XLR. For use with an RP732 to a BH721 69.00

C10148 700-22 50' 4-pin XLR cable 100.00

C10149 700-23 100' 4-pin XLR cable 123.00

C10091 HS-100-2 Lightweight headset, single muff, with electret microphone. 4-pin XLR connector 70.00

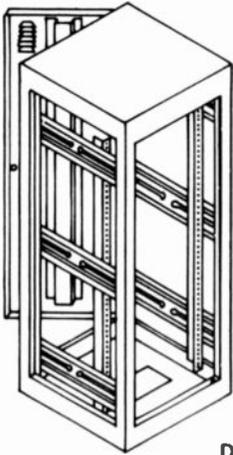
C10083 HS210-2 Lightweight headset, single muff with dynamic mike 70.00

C10085 HS300-2 Setcom 5-1103XP Single Muff Headset . . . 130.00

C10086 HS310-2 Setcom 5-1203XP Dual Muff Headset . . . 170.00

C10081 HS400-2 Beyer DT-108 Single Muff Headset 262.00

C10088 HS410-2 Beyer DT-109 Dual Muff Headset 374.00



DR-HD

19" Modular Racks

DR Series

- Sturdy welded construction of 16 Ga. CRS

DR-HD Series

- Extra-sturdy 11 Ga. CRS welded construction

Optional Side Panels:

Removable for multiple bolt-together assemblies

Panel Mounting:

Adjustable 11 Ga. angles tapped for 10-32 screws on standard E.I.A. spacing

Cable Opening:

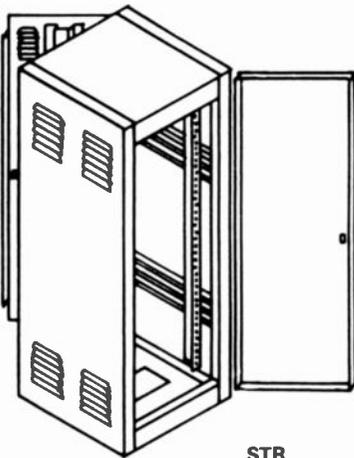
Provided in bottom panel (5" x 16")

Rear Door:

Included with lock and handle

Color:

Your choice of 20 standard baked enamel colors



STR

19" Transmitter Racks

STR Series

- K. D. or assembled only

WTE Series

- Welded construction only

Material:

16 Ga. CRS with 11 Ga. bottom panel on STR series and 14 Ga. bottom on WTE series

Panel Mounting

STR—16 Ga. punched with 9/32" holes

Angles—Adjustable:

WTE—11 Ga. drilled and tapped for 10-32

Louvers:

Inside for WTE series; outside for STR series

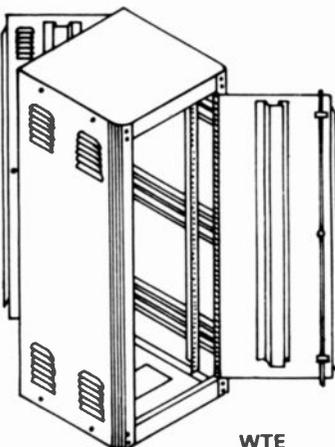
Doors:

Front and rear included with locks

Color:

Your choice of 20 standard baked enamel colors

Assembly charge is \$25.00 per unit



WTE

Model No.	Price	Dimensions			
		Height	Panel Space	Width	Depth
DR 6125-19-18	\$609.00	67 ³ / ₈ "	61 ¹ / ₄ "	22 ¹ / ₈ "	18 ¹ / ₈ "
DR 6125-19-22	654.88				22"
DR 6125-19-24	678.20				24"
DR 7000-19-18	666.95	76 ¹ / ₈ "	70"	22 ¹ / ₈ "	18 ¹ / ₈ "
DR 7000-19-22	714.28				22"
DR 7000-19-24	759.35				24"
DR 7700-19-18	724.88	83 ¹ / ₈ "	77"	22 ¹ / ₈ "	18 ¹ / ₈ "
DR 7700-19-22	773.68				22"
DR 7700-19-24	840.48				24"
DR-HD-6125-19-24	1057.35	65 ⁷ / ₈ "	61 ³ / ₈ "	23 ⁵ / ₈ "	24"
DR-HD-7000-19-24	1085.18	74 ⁵ / ₈ "	70 ¹ / ₈ "	23 ⁵ / ₈ "	24"
DR-HD-7700-19-24	1126.93	81 ⁵ / ₈ "	77 ¹ / ₈ "	23 ⁵ / ₈ "	24"

Model No.				Dimensions			
STR Assembled or K.D.	Price	WTE Welded	Price	Height	Panel Space	Width	Depth
STR-3675	\$596.00	WTE-3675	\$643.60	42"	36 ⁷ / ₈ "	STR 22 ¹ / ₈ "	18 ¹ / ₂ "
STR-4200	644.68	WTE-4200	697.60	47 ¹ / ₄ "	42 ¹ / ₈ "		18 ¹ / ₂ "
STR-6125	753.38	WTE-6125	809.83	66 ¹ / ₂ "	61 ³ / ₈ "	WTE 22 ¹ / ₈ "	18 ¹ / ₂ "
STR-7000	814.53	WTE-7000	863.78	75 ¹ / ₄ "	70 ¹ / ₈ "		18 ¹ / ₂ "
STR-7700	861.53	WTE-7700	902.53	82 ¹ / ₄ "	77 ¹ / ₈ "	22 ¹ / ₈ "	18 ¹ / ₂ "

19" Cabinet Relay Racks (Economy Series)

SCR Series

- K.D. or assembled
- WRE series welded only

Material — 16 Ga. CRS

Panel Mounting Angles — Fixed

SCR — 16 Ga. punched with 9/32" holes

WRE — 11 Ga. drilled and tapped for 10-32 screws

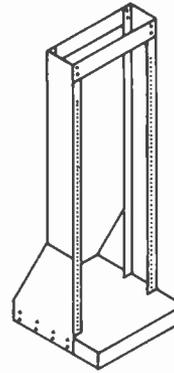
Louvers

WRE series have inside louvers

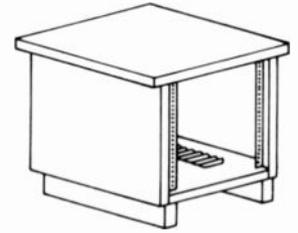
SCR series have outside louvers

Rear Door — Included with lock

Color — Your choice of 20 standard baked enamel colors



RR Series

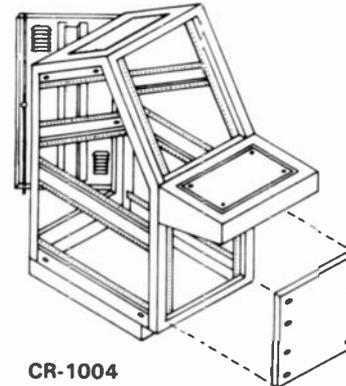


ERB/200

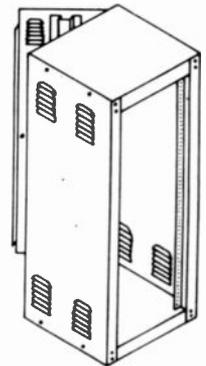
Model No.		Dimensions			
SCR K.D.	WRE Welded	Height	Panel Space	Width	Depth
SCR-3675	WRE-3675	41 1/8"	36 7/8"		
SCR-4200	WRE-4200	46 3/8"	42 1/8"		
SCR-6125	WRE-6125	65 5/8"	61 3/8"	22 3/8"	18 1/2"
SCR-7000	WRE-7000	74 3/8"	70 1/8"		
SCR-7700	WRE-7700	81 3/8"	77 1/8"		

SCR/K.D.	Price	WRE Welded	Price
SCR-3675	\$370.45	WRE-3675	\$412.80
SCR-4200	385.50	WRE-4200	430.15
SCR-6125	457.20	WRE-6125	492.55
SCR-7000	510.08	WRE-7000	549.00
SCR-7700	535.08	WRE-7700	575.43

Assembly Charge is \$25.00 Per Unit.



CR-1004



SCR/WRE

19" Channel Racks

RR Series

- K.D. or assembled

Material — 16 Ga. CRS base with 11 Ga. bottom CRS channels

Panel Mounting — 11 Ga. channels tapped for 10-32 screws on universal E.I.A. spacings

Color — Your choice of 20 standard baked enamel colors

Model No.		Dimensions			
RR/K.D.	Price	Height	Panel Space	Width	Depth
RR-156	\$212.00	61 3/16"	56 1/8"		
RR-163	225.25	68 9/16"	63 1/8"		
RR-170	238.50	75 3/16"	70 1/8"	19 5/16"	20"
RR-177	251.75	82 3/16"	77 1/8"		
RR-184	265.00	89 3/16"	84 1/8"		

Assembly Charge is \$25.00 Per Unit.

Model No.	Height	Dimensions		
		Writing Width	Surface Depth	Panel Space
ERB-202		70"		
ERB-201	29 1/8"	53"	30"	21 1/8"
ERB-200		26"		

ERB-202 (Triple pedestal)	\$1216.35
ERB-201 (Double pedestal)	911.60
ERB-200 (Single pedestal)	633.35

CR-1004 19" Modular Cabinet Console

Material — 14 Ga. CRS frame and base with 11 Ga. CRS mounting angles and 16 Ga. CRS rear door and front panel

Panel Mounting — Angles tapped for 10-32 screws on universal E.I.A. spacing

Slope — Upper panel space on 30° slope

Castors — 2 1/2" diameter with load capacity of 120 lbs. each

Rear Door — Provided with center support channel, 4 groups of six 6" louvers, spring hinge and 2 point chrome flush lock

Top Panel — Made of perforated metal

Writing Surface — Included; available in two standard finishes

Color — Your choice of 20 standard baked enamel colors

Model No.	Depth	Dimensions		Writing Surface	
		Height	Width	Size	Height
CR-1004	30"	50 1/8"	22 1/8"	15" x 22 1/2"	30"

CR-1004	\$980.00
DSP92 Detachable side panels (optional) (sold in pairs)	176.66

ERB Series Pedestals

- Panel mounting hardware is supplied with all units
- All units will be painted gray hammertone unless specified
- All writing surfaces will be finished in walnut unless specified

Material — 18 Ga. CRS of welded construction

Panel Mounting — Flanges recessed 9/16" and punched with 9/32" holes on universal E.I.A. spacing

Back Panel — Removable with 2 rows of 6" louvers

Knockouts — Five 7/8" knockouts provided in each pedestal

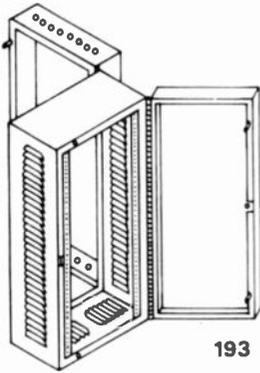
Knee Panel — Provided between each pedestal

Levelers — Four leg levelers provided

Top Surface — Available in two standard, attractive finishes with stainless steel edge trim

Louvers — 2 rows of 6" louvers in back and bottom panels

Color — Your choice of 20 standard baked enamel colors



193

193 Series 19" Swingout Wall Cabinets

Material— 16 ga. CRS

Panel Mounting— Angles tapped for 10-32 screws

Continuous Hinges

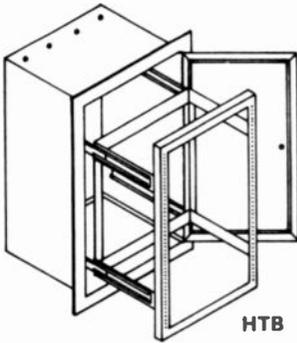
Front Door— Included with lock. Models also available without front doors.

Knockouts— Eight (8) 7/8" dia. knockouts in top and bottom of back section of 193 series

Bracing— 11 ga. reinforcing angles available when components exceed 250 lbs. (optional)

Optional Series— 140 (14 sizes) features slip joint hinges.

Model No.	Price	Dimensions			Depth of Sections		
		Height	Panel Space	Width	Center	Rear	Front
193-15	\$373.18	18 ¹³ / ₁₆ "	15 ³ / ₁₆ "	20"	11"	4 ¹ / ₂ "	1 ³ / ₄ "
193-17	380.40	20 ⁹ / ₁₆ "	17 ⁹ / ₁₆ "				
193-21	413.95	24 ¹ / ₁₆ "	21 ¹ / ₁₆ "				
193-26	440.18	29 ⁵ / ₁₆ "	26 ⁵ / ₁₆ "				
193-28	566.60	31 ¹ / ₁₆ "	28 ¹ / ₁₆ "				
193-42	801.28	45 ¹ / ₁₆ "	42 ¹ / ₁₆ "				
193-61	944.95	64 ⁵ / ₁₆ "	61 ⁵ / ₁₆ "				



HTB

Series HTB 19" Pull-Out Cabinet

Material— 16 ga. CRS cabinet with 11 ga. CRS door frame

Panel Mounting— Angles tapped for 10-32 screws on universal EIA spacing

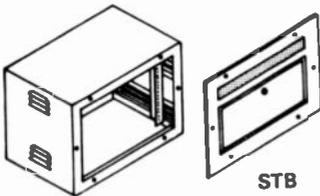
Rack— Completely removable and mounted on (4) nylon ball bearing slides

Knockouts— Four (4) 7/8" dia. knockouts in top and bottom

Front Door— Standard with locking handle and 3" frame

Color— Your choice of 20 standard baked enamel colors

Model No.	Price	Dimensions			
		Height	Panel Space	Box Width	Box Depth
HTB-2800	\$734.23	31 ¹ / ₄ "	30 ¹¹ / ₁₆ "	21 ¹ / ₂ "	18 ¹ / ₄ "
HTB-4200	841.73	45 ¹ / ₄ "	44 ¹¹ / ₁₆ "		



STB

Series STB 19" Fold-Out Cabinet

Material— 16 ga. CRS cabinet with 11 ga. CRS door and frame

Panel Mounting— Adjustable angles punched with 9/32" holes on universal EIA spacing. Supported in slotted brackets, adjustable 9¹/₂" front to rear

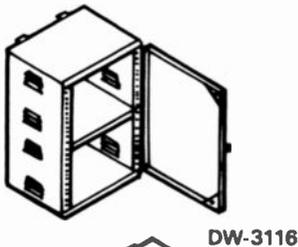
Door— Standard 10¹/₂" x 20" with flush lock

Ventilation— Slide louvers and grill above door

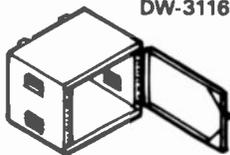
Cabinet Mounts— Surface type with adjustable angles

Color— Your choice of 20 standard baked enamel colors

Model No.	Price	Dimensions			Vertical Panel Space
		Height	Width	Depth	
STB-1200	\$344.40	16"	23"	12"	14 ¹ / ₈ "
STB-1500	356.83			15"	
STB-1800	370.58			18"	



DW-3116



DW-1616

Series DW 19" Deluxe Wall Cabinet

Material— 16 ga. CRS

Flanges— Front flanges punched with 9/32" holes on universal EIA spacing

Shelf— DW-3116 has welded center shelf

Front Door— Features locking handle and tamper-proof inside hinges

Mounting— Back panel has two wall hanging channels

Knockouts— Four (4) 7/8" knockouts provided along bottom of back panel

Color— Your choice of 20 standard baked enamel colors

Model No.	Price	Dimensions				
		Depth	Height	Panel Space	Width	Shelf
DW-3116	\$381.95	16"	31"	29"	21"	Yes
DW-1616	216.95	16"	16"	14"	21"	No



AE61 and AE61B

Time Base Correctors

- Time base correction for heterodyne VTRs
- Constant H phase for matched frame edit
- 4 times subcarrier sampling, 8 bit resolution
- VTR 3.58MHz subcarrier feedback
- Adjustable horizontal and vertical blanking
- Handle high speed search
- Full processing amplifier control

The AE61 and AE61B are broadcast quality digital Time Base Correctors. They operate with 525 line/60Hz monochrome, and accepts heterodyne VTR video signals.

The AE61 and AE61B are small size TBCs with complete features, light weight, low power consumption, and high performance at low cost.

Specifications

Video Signal

Accepts non-segmented heterodyne and monochrome 525 line/60Hz video signals

Recorder Interface

Any non-segmented VTR

Correction Range

16 lines

Signal-to-Noise Ratio

58dB (p-p signal to RMS noise) (see note 1)

Residual Time Base Error

Differential phase better than 2°

Differential gain better than 2%

Monochrome ± 20 ns

Bandwidth

Direct color ± .5dB to 4.2MHz

Heterodyne with 3.58 feedback ± .5 to 4.2 MHz

Monochrome ± .5dB to 4.2 MHz

AE61B Bandwidth

2.5MHz Luminance

1.2MHz Chrominance

Genlock Range

Adjustable, more than ± 2µs

K Factor (2T)

Direct mode 1%

Heterodyne mode with 3.58 feedback 1%

Monochrome 1%

Input Signals

Video

1V composite video signal (76 ohms, terminated)

Genlock

Blackburst or standard NTSC composite video signal

Dropout Compensator (Optional)

RF from VTR (75 ohms, terminated) or TTL

Output Signals

Video

1V p-p at 75 ohms, terminated composite

VTR 3.58

1V p-p at 75 ohms, terminated

Sync Drives

Adv. Sync 1V p-p at 75 ohms

Options

Noise reducer

Digital Color Bar Generator

Digital Drop Out Compensator

Station Identification

AE61 \$3000.00

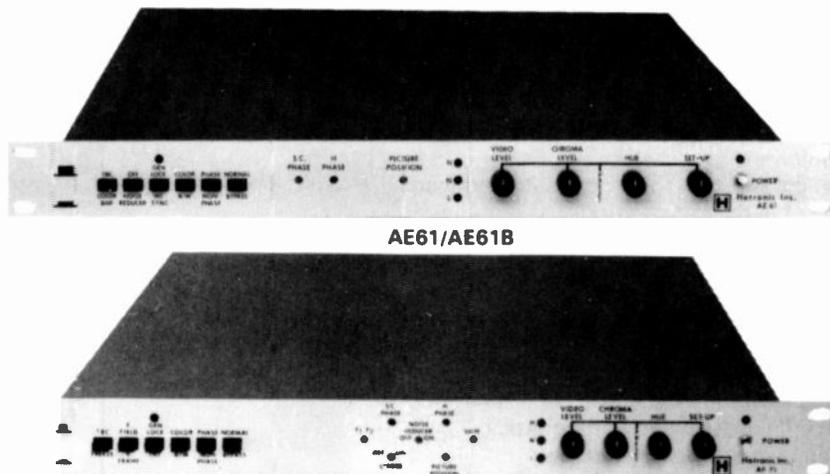
AE61B ea./2500.00

Y/C option 500.00

Options

SMPTE Digital Color Bar

and Blackburst \$300.00



AE61/AE61B

AF71

Digital Color Pixel by

Pixel Dropout Compensator

(RF input PR TTL Input) \$500.00

AE61 Service Manual 25.00

AF71 TBC/Frame Synchronizer

- Time base correction for heterodyne VTRs
- Frame synchronization with more than two frame memories
- Constant H phase for matched frame edit
- 4 times subcarrier sampling, 8 bit resolution
- VTR 3.58MHz subcarrier feedback
- Adjustable horizontal and vertical blanking
- Handle high speed search
- No interruption presettable/variable processing amplifier
- Highly stable pause mode capability
- Adaptive comb filter
- 3dB chroma noise reduction
- Full bandwidth freeze field/freeze frame (Field 1 or Field 2 selectable)
- Accept noise satellite feed
- 1¾" height; less than 15 lbs.
- Precise automatic microprocessor control freeze frame (optional)
- 16 bit automatic matched digital audio delay (optional for frame synchronization mode)

The AF71 TBC/Frame Synchronizer is the resultant climax of 5 years of ceaseless engineering innovation and refinement.

The powerful features of the AF71 earn their way to the production.

Specifications

Video Signal

Accepts non-segmented heterodyne and monochrome 525 line/60Hz Video Signals, and stable NTSC signal

Recorder Interface

Any non-segmented VTR

Correction Range

Memory size two frame

Signal-to-Noise Ratio

58dB (p-p signal to RMS noise) (see note 1)

Residual Time Base Error

Differential phase better than 1.5°

Differential gain better than 1.5%

Monochrome ± 20 ns

Bandwidth

Direct color ± .5dB to 4.2MHz

Heterodyne with 3.58 feedback ± .5 to 4.2MHz

Monochrome ± .5dB to 4.2 MHz

Genlock Range

Adjustable, more than ± 2µs

K Factor (2T)

Direct mode 1%

Heterodyne mode with 3.58 feedback 1%

Monochrome 1%

Input Signals

Video

1V composite video signal (75 ohms, terminated)

Genlock

Blackburst or standard NTSC composite video signal

Dropout Compensator (Optional)

RF from VTR (75 ohms, terminated) or TTL

Audio Input or SMPTE Input

50mV min. 2.5K ohms

Output Signals

Video

Composite video output 1V p-p at 75 ohms, terminated

VTR 3.58

1V p-p at 75 ohms, terminated

Sync Drives

Adv. Sync 1V p-p at 75 ohms/4V p-p at 75 ohms

AF71 \$4500.00

AF71B Without 3.58MHz subcarrier feedback \$4000.00

Option

Pixel by Pixel Digital

Dropout Compensator \$500.00

Notes

1. Signal-to-Noise Ratio is measured with a Rhode and Schwarz noise meter, using 100 IRE flat field.

2. Differential Phase and Gain are measured with a green ramp.

AF-72 Frame Synchronizer

4x sub-carrier sampling, 8 bit resolution; two frame memories; freeze two frames for perfect image; accept noisy satellite feed \$6,500.00

Optional adaptive comb filter; full bandwidth interpolated freeze field/freeze frame \$1,000.00

Optional 16 bit automatic matching digital stereo or monaural audio delay . . \$2,000.00

CCD-770

Compact 3-Chip ENG Color Camera

Preliminary

- Vertical smear problem is greatly reduced
- Free of panning distortion
- Moire, ringing and return distortion are greatly reduced
- Electronic shutter captures bodies in motion in a fraction of a second
- Highlight compression circuit and wide dynamic range CCD accommodate scenes with wide contrast range (600%)
- Free of sticking
- Free of microphone noise
- Not influenced by earth magnetics
- After image is greatly reduced
- Registration accuracy of within 0.05% (whole picture area)
- Small size, lightweight, well balanced on the shoulder for ease of operation
- Low power consumption; operates at least 2 hours using a 2.5AH battery
- CCD has long life span, regular CCD replacement is not required
- Registration adjustment not required

The CCD-770 is a high performance, lightweight, compact 3-chip CCD camera incorporating the latest advances in charge-coupled device (CCD) technology.

While turning to best advantage the salient features of CCD, such as freedom from sticking, light weight, miniature size, and long life, the CCD-770 incorporates significant improvements over conventional CCD cameras relative to vertical smear, panning distortion, moire, and other problems.

Also featuring incredibly enhanced operation, the CCD-770 lends itself especially to ENG applications.

Specifications

Optical System:	f/1.4, RGB prism beamsplitter
Lens Mount:	Bayonet type (same as ITC-730A)
Color Temperature Filter:	3200°K/5600°K/5600°K + ND (12.5%)/BLIND
Transducer:	TSL system MID
Effective Picture Elements:	649(H) x 491(V)
Scanning System:	2:1 interlace, 525 lines, 60 field/sec., 30 frame/sec.
Sync System:	Internal sync: sync signal generator built in External sync: Genlock system (Automatically switched to internal sync mode when external sync signal is not supplied.)
Encoder System:	I/Q
Aspect Ratio:	4:3
Horizontal Resolution (G ch):	480 TVL or better (whole picture area)
Signal-to-Noise Ratio:	≥ 53dB (p-p/rms, Isig 0.2μA, encoder output, with gamma and detail off)
Illumination:	a) Minimum 40 lux, f/1.6/3200°K (89.9% reflectance, + 18dB gain) b) Standard 2000 lux, f/4.0/3200°K (89.9% reflectance)



Gain Switch	
Position:	0dB/ + 9dB/ + 18dB
Shading Correction:	Black and white shading correction for both H and V
Video Matrix:	Built-in (with on/off switch)
Flare Compensation:	Built-in
Highlight Compression:	600%
Detail Correction:	H: balance (with comb filtering) V: balance (2H system)
Color Bars:	Split Field type (RS-189A)
Registration:	Within 0.05% (whole picture area)
Automatic Function:	Auto white balance Auto white balance memory Auto black balance and level Auto iris Auto knee (highlight compression)
Shutter Function:	1/100, 1/125, 1/250, 1/500 sec.
Microphone Input:	-60dBm, 600 ohms
Audio Output:	Balanced (-60dBm, 600 ohms) or Balanced (-20dBm, 600 ohms, with AGC) switchable
Intercom:	Mike on/off switch provided switchable between Carbon/Dynamic
Video Output:	VBS 1.0V p-p/75 ohms
Monitor Output:	VBS 1.0V p-p/75 ohms or VS 1.0V p-p/75 ohms R/G/B/R-G/B-G/ENC switchable)
Power Requirement:	DC + 12V nominal
Stability:	Stable when the DC input voltage fluctuates 11V ~ 32V
Power Consumption:	9W approx.
Ambient Temperature:	+ 14°F ~ + 104°F (-10°C ~ + 40°C)
Dimensions:	10.59" H x 3.74" W x 12.32" D (269 x 95 x 313mm)
Weight:	8.6 lbs. (3.9kg) approx.
CCD-770-1	Camera head only. Includes mike amp, DBS unit, genlock unit, 2H DTL, shoulder pad, operation manual, battery bracket w/protection plate \$ 6,328.00
CCD-770-2	Same as CCD-770-1 plus 1.5" viewfinder, carrying case for head and tripod mounting plate 7,138.00
CCD-770-3	Same as CCD-770-2 plus A13X Fujinon zoom lens 8,483.00
CCD-770-4	Same as CCD-770-3 except: Studio-4, EFP version, CCU, 5" viewfinder, 15 meter camera cable, remote module 12,992.00



HL-379A CCD Color Television Camera System

- 1.5" viewfinder
- Test extender card
- Dynamic detail incorporated for correction of lens corner resolution
- White shading correction circuitry in lens extender use incorporated
- Auto highlight compression
- Knee aperture correction
- SMPTE color bars incorporated
- Genlock circuitry incorporated
- High grade picture quality obtained by horizontal three DTL
- Auto iris permits easy shooting of backlighted scenes
- External remote control using digital commands. The following functions can be remotely controlled:
R/B Gain, R/B/M Ped, Iris, DTL Level, Iris Auto/Manual, VTR Start/Stop, Call, Auto White
- A built-in sound monitor speaker
- Compact, lightweight, 3.1kg with VF
- Low power consumption, 13W
- Adjustment tool
- Parts case
- Spare fuse
- Extractor tool
- Tripod mounting plate
- Shoulder pad
- Instruction manual
- Carrying case

The HL-379A is a broadcasting quality CCD camera which has high-performance and high-stability despite its compactness and light weight. Besides its usefulness with various types of VCRs, it can be used as a multi-purpose camera with the host of various accessories.

Specifications

Mechanical

Dimensions:	9.8" H x 3.7" W x 6.5" D (250 x 95 x 165mm)			
Weight:	3.1kg (with 1.5" VF)			
Lens Mount:	Bayonet (interchangeable with HL-95B/79EAL)			
Optical Filter:	1	2	3	4
	3000°K	5600°K	5600°K	OPTION
			+ 1/4ND	

Electrical

DC Input Signal:	12V (11 ~ 16V)
Power Consumption:	13W
External Sync Input Signal for Genlock:	VBS 1V p-p or BBS 0.45V p-p
Return Video Signal:	VBS or VS 1V p-p
MIKE Input:	-20dBm, 600 ohm, balanced (with CA-95C)
Tally Input:	Power/Contact (with CA-95C)
Intercom:	2-wire/4-wire/RTS (with CA-95C)
Sensitivity:	f/5.6
Gain Up:	•0, +12, +24dB •0, +6, +12dB •0, +12, +18dB (STD) •0, +6, +18dB *Selectable by internal switches
Signal-to-Noise Ratio:	> 58dB
Resolution:	H: 650 TVL V: 380 TVL
Video Output Signal:	VBS 1V p-p, 75 ohms, 1 output Component output 1 CH RGB output 1 CH
VF Video:	R+G+B (normal) or monitor output signal selected by the monitor switch
Monitor Output Signal:	R, G, B, R-G, B-G, Y, ENC

HL-379A-1	For use with on-board Beta recorder only (Beta adaptor not required). Camera head 50-pin connector type (less lens) \$24,842.00
HL-379A-2	Basic camera configuration. Compatible with HL-95B accessories. Camera head 79-pin connector type (less lens and system adaptor) 24,842.00
HL-379A-ENG	ENG configuration. Same as basic camera configuration with camera adaptor, module test extender card, rain cover, battery bracket with protection plate. 28,020.00

ITC-735 ENG/EFP Color Camera

- High-speed f/1.4 prism optical system produces quality color reproduction, high sensitivity, excellent resolution and low shading
- Three Saticon® IV tubes with high voltage operation, and low-noise preamplifiers offer excellent picture quality with 750 TV lines resolution and 58dB S/N ratio
- 2:1 interlaced 525 lines, 60 fields/30 frames/sec. (NTSC)
2:1 interlaced 625 lines, 50 fields/25 frames/sec. (PAL)
- Dramatically sharp pictures are achieved with a 2H detail corrector (standard) and a built-in comb filter, with crisp and level dependent circuits which maintain optimum setting for best picture quality
- A built-in switchable highlight compression circuit automatically enables reproduction of scenes, and contains up to 600% video level
- Operates under lighting conditions as low as 40 lux, using the high gain position (+ 18dB)
- Black shading circuit corrects for frame shading as well as sawtooth and parabola effects, so that the black level will be optimal throughout, even with + 18dB gain
- Sawtooth and parabola white shading correction is provided for each channel
- Employs a video matrix circuit for accurate color reproduction
- Dynamic focus compensates for R, G, and B tubes independently for sharper pictures in the corners
- Individual flair correction circuits correct flare generated in lens optical system, pick-up tubes, etc., thereby ensures satisfactory black levels
- Saticon IV tubes further improves LAG and high-light sticking characteristics
- Compact and lightweight camera head (4.7kg) is balanced to reduce operator fatigue during extended operation
- Furnished with advanced micro-computerized automatic functions required in an ENG camera
- Full range of character display functions, visible on the VF screen, contain overall condition of the camera, to minimize the risk of operational errors. Character displays can be switched off
- In the Auto Iris mode, a unique system allows shooting scenes with high luminance, such as the sky background, where peaked average values can be selected
- Automatic iris close protects tubes from damage wherever the power is off
- Tubes are also protected by a delay circuit, which opens the iris after the beam has stabilized
- Filter settings are:
Indoors—3200°K, outdoors (cloudy weather), 5600°K, outdoors (sunny weather) 5600°K + 1/8ND, CAP (when not in use) BLIND
- For optimum matching of video levels, an easy-to-read zebra pattern indicator is displayed in the VF
- Power consumption can be reduced by using Standby mode (during Standby: approx. 2W)
- Memory of auto white, auto black and auto centering is retained with a 10-year lithium battery
- External switches and controls are functionally positioned to minimize operational errors
- Built-in stable genlock circuit makes external sync operation possible. Switching between external and internal sync operation is automatic
- Horizontal and vertical blanking widths are adjustable. For vertical blanking width, a 3-position switch is provided (18H/19H/20H)



ITC-735

- VTRs supplied with component signals can be connected by adding an optional module in the camera for the appropriate format
- The CCU can be operated from the camera head to a distance of up to 100 meters
- Optional remote unit connects directly to camera using a single coaxial cable for control
- The TCU-735 (option) is especially designed for teleconferencing applications. Four cameras can be controlled and powered simultaneously via coaxial and DC power cables
- Plug in modules
- Electronic rotation adjustment makes back focus much easier
- A monitoring switch is provided on the outside of the camera for convenience
- Bayonet mount
- Minimum 40 lux illumination at f/1.6/3200°K (+ 18dB gain)
Standard 2000 lux at f/4.0/3200°K, 89.9% reflectance
- Automatic camera tube protection is provided in case of sweep failure of either horizontal or vertical scanning

Accessories

- CCU-735 Camera Control Unit
- TCU-735 Tele-Conference Unit
- VFM-152 1.5" Viewfinder
- VFM-572 5" Viewfinder
- ACP-735 AC Power Pack
- RCU-735 Remote Control Unit

CCU-735 Camera Control Unit

- Add the CCU-735 and a variety of remote control functions are possible
- Cable length: 300m maximum
- 2-wire/4-wire/RTS intercom system available, common/private selectable

ITC-735 ENG version (less lens). Includes: Camera head, 2/3" Saticon tubes H4299, mic amp, DBS unit, genlock, 2H DTL, shoulder pad, battery bracket, 1.5" viewfinder, rain cover, module extender, cord for head, tripod mounting adaptor, carrying case for head, AC power pack with AC/DC cord, operation manual. \$ **8,973.00**

ITC-735 EFP studio version (less lens). Same as ITC-735 ENG except with remote/component unit, 5" viewfinder with bracket, CCU-735 camera control unit (300m), 15m camera cable and without rain cover **12,381.00**



HL-95B

HL-95B Unicam™

- High sensitivity: Max. 24dB
- Small size: 250H x 95W x 165D mm
- Weight: 3.0kg (Camera + 1.5" VF)
- Full shading correction: Black and white
- Dynamic focus correction
- Flare correction
- Geometry correction
- Color video matrix
- Knee aperture correction
- 1.5" high resolution electronic viewfinder:
 - White balance indication
 - Battery warning indication
 - Tally (Red) indication
 - Gain up indication
 - Stand-by indication
 - Audio level indication (CH1, CH2)
 - Tape remaining time indication
 - Filter position indication
- Color bars: Split field, in accordance with RS-189
- Sync generator: RS-170A, adjustable H. V Blanking
- Automatics:
 - Auto iris
 - Auto iris close
 - Auto iris waiting
 - Auto white balance — A/B/Off (preset)
 - Auto beam, control
 - Auto highlight compression
- Module extender card 1 and 2
- Tool kit
- Shoulder pad
- Quick release tripod adaptor plate
- User's manual
- Carrying case

The HL-95B Unicam provides handheld color camera flexibility, versatility, as well as higher performance, lower weight and power consumption than obtained with previous cameras based on three 2/3" Plumbicon® pick-up tube configurations.

Utilizing a unique building-block concept, the HL-95B is available as a standalone camera, as well as in many other configurations, accommodating on-board professional 1/2" and 1/4" cassette format VCRs, as well as separate 3/4" and 1" VTRs, and remote triax or multicore cable control units.

A 2/3" SM diode gun Plumbicon (electrostatic focus/magnetic deflection) is incorporated into the HL-95B. This tube's photoconductor size, combined with a diode gun electron tube, results in a high sensitivity and high resolution for the camera.

By taking advantage of the low input capacity of the tube, circuit components and advanced circuit technology, a S/N ratio of -60dB is obtained. This allows video gain of up to +24dB for a maximum sensitivity of under 15 lux (using an f/1.6 lens).

Specifications

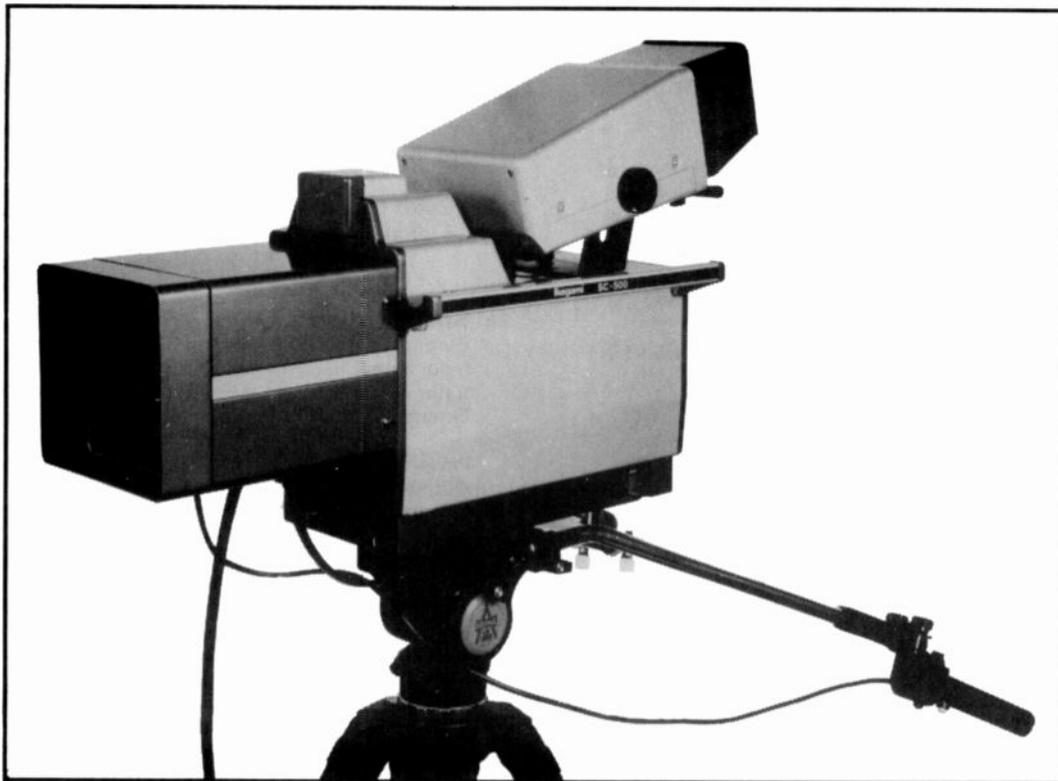
(Rating)	
Input Signal	VBS 1.0V p-p (positive), 75 ohms
Return Signal:	Optional BBS 0.45V p-p (negative), 75 ohms
External Sync (G/L):	(using the optional adaptor) 12VDC
Power:	
Output Signal	VBS 1.0V, positive polarity, 75 ohms
Composite Signal:	RGB, R-G, B-G, ENC
Monitor Signal:	RGB, R-G, B-G, ENC
Pick-up Tubes:	2/3" SM Diode Gun Plumbicon
Filter:	3000°K, 5600°K, 5600°K + 25% ND, CAP
Lens Mount:	Bayonet, interchangeable with HL-79A/D/E
(Performance)	
Sensitivity:	At 2000 lux — f/4.5 or greater lens opening
S/N Ratio:	-60dB
Resolution:	650TVL center (horizontal)
Registration:	Zone 1 < 0.05% of picture height
(Deviations of R, B with respect to G)	Zone 2 < 0.1% of picture height Zone 3 < 0.2% of picture height
Geometric Distortion:	< 1.5%
Power Consumption:	17W

System

(Weight)	
Camera (includes VF and Shoulder Pad)	3.5kg
VTR Adaptor	0.6kg
Lens	1.5kg
VTR (Bosch 1/4")	2.9kg
Battery	1.0kg
Total	9.5kg

HL-95B	Basic Camera Configuration	\$30,287.00
HL-95ENG	Stand-alone ENG System. Same as HL-95B with CA-95C camera adaptor and rain cover	33,464.00
HL-95MA	Studio/EFP w/Multicore RC System. Same as HL-95B with MA-95CA camera adaptor and rain cover, MA79/95 base station with outer case, AC power cable, spare fuse and connectors	41,161.00
HL-95TA	Studio/EFP w/Triax RC System. Same as HL-95MA except with TA-95CA camera adaptor and TA-79E/95 base station with outer case	52,444.00

Prices do not include lens and genlock.
Plumbicon is a Registered Trademark of N.V. Philips.



SC-500/SC-500P Studio Camera

- Three $\frac{2}{3}$ " Saticon II or Plumbicon pickup tubes available
- 7" viewfinder with studio hood, tilt and remote type
- Dynamic focus to ensure superior corner resolution
- Deflection distortion corrector for extremely low registration error
- Camera control unit
- Lens hood for ENG type lens
- 2H detail corrector for crisp, sharp images
- Black and white full shading correction
- Video matrix to provide accurate color matching between cameras
- Servo-controlled filter disc
- +6/+12dB video gain switch
- Dynamic beam stretch
- Return video
- Level suppression to accommodate high-contrast scenes
- Horizontal resolution (at G channel) — 700TVL at center, 600TVL at corners
- S/N ratio — 57dB/NTSC, with Gamma, DTL off
- Automatic centering control
- Automatic iris with weighting system
- Auto cap for tube protection
- Auto white and black balance
- Auto black level

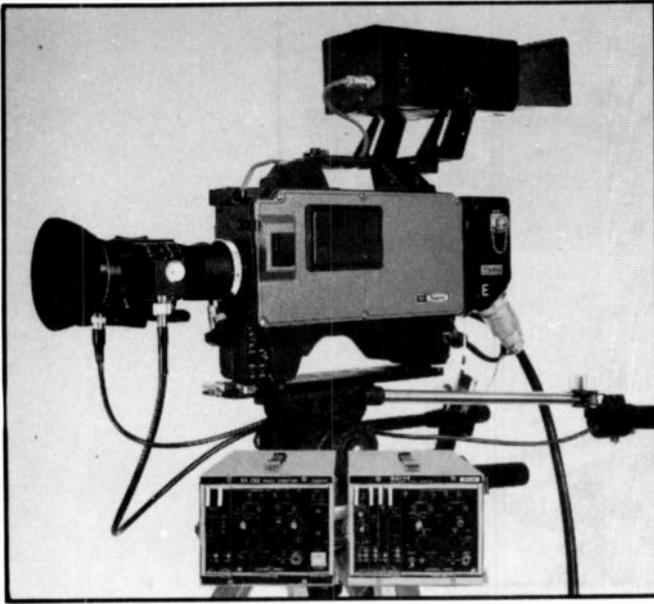
- A non-volatile memory retains all the automatic correction data for several years, even when power is removed
- Character generator
- Genlock

The SC-500 is an economical professional studio color TV.

The SC-500/SC-500P viewfinder camera employs three $\frac{2}{3}$ " pickup tubes and a prism-optics system to produce pictures of superb clarity and color fidelity. The sturdily built, easy-to-service camera can be relied on to keep performing under the most demanding studio conditions. A zebra-pattern video signal indicator in the 7" viewfinder ensures optimum matching of video signals, and a built-in split-field color-bar generator is provided. A character display in the viewfinder permits easy monitoring of camera status while the camera is being used.

Fully modular construction is employed to simplify service and maintenance. Plug-in printed-circuit boards, divided according to circuit function, are utilized. All major controls are located in front of each unit to facilitate adjustments.

SC-500	Saticon II Tubes (less lens and cable)	\$30,766.00
SC-500P	Plumbicon Tubes (less lens and cable)	36,921.00



HL-79EAL

HL-79EAL Self-Contained Color Television Camera

Although it is smaller and lighter than its HL-79 Series predecessors, the HL-79EAL uses the same proven $\frac{2}{3}$ " low capacity Plum-bicon pick-up tubes, while achieving important performance improvements in the areas of sensitivity, signal-to-noise ratio, registration accuracy, resolution and RFI immunity. Picture quality is further enhanced by employing chroma aperture correction, dynamic detail correction, automatic highlight compression, which improves picture quality in highlight areas (particularly effective in exterior operations involving high dynamic light areas), and knee aperture correction.

The HL-79EAL is designed for ease of maintenance with a micro computer to carry out self diagnostic functions. The micro computer assesses the camera's operating condition and makes any necessary corrections in a short time.

The ADC-79E incorporated in the system prints out a statement of the camera's condition via an RS232C port, thus control of the camera can easily be made for the long term.

Performance Parameters

- Standard sensitivity is 2000 lux at f/5.0. Maximum sensitivity at +18dB video gain is 20 lux at f/1.4 (using 89.9% reflectance chart).
- Signal-to-noise ratio of -59dB is achieved with low input capacitance tubes using conventional measuring techniques (0dB video gain).
- Registration deviation of Red and Blue with respect to Green is within 0.05% in Zone 1, 0.1% in Zone 2, and 0.3% outside of Zone 2 as a result of the Quadrant Geometry Correction Circuit used.
- By operating the pick-up tube in a high voltage mode, center resolution of 650TVL limiting and corner resolution of 500TVL limiting is achieved (using Diode Gun pick-up tubes, measured at 2000 lux illumination on a standard RETMA resolution chart).
- 1.5" high resolution electronic viewfinder, crisp, high contrast pictures are assured by the use of an improved cathode-ray tube.
- Output signal characteristics in accordance with EIA Standard RS-170A, blanking pulse widths and SC-H phase relationship adjustable.

Performance Features

- RFI Immunity up to 10V per meter (140dB) from 100kHz to 600MHz for the entire camera surface (not including lens port).
- Horizontal aperture correction

- Generates chroma aperture correction signal when Green information is absent from the signal, results in improved sharpness of picture in Red and Blue content areas.
- Dynamic focus: parabolic modulation of electrostatic focus voltage improves corner resolution.
- Dynamic 2H vertical and balanced horizontal detail correction: parabolic modulation of detail correction signal improves corner picture sharpness.
- Knee aperture correction: expands horizontal video frequency response in highlight areas of picture to compensate for aperture correction fall-off due to gamma compression of correction signal.

Operational Conveniences

- Selectable white balance corrections
 - Dual concentric filter wheels
 - Selectable video gain
 - SC/H phase adjustment
 - Adjustable blanking widths
 - Viewfinder indicators
- Numerous readouts available to assist the camera operator: white balance mode (A, B, Preset), tally, battery warning, auto white balance, auto black balance, video level (Zebra), gain mode, standby mode, lens extender on
- RGB outputs
 - Color bar signals
 - Genlock input
 - Camera head with EIA RS-170A genlock sync generator
 - RGB dynamic beam stabilization
 - Bias light
 - Full white and black shading correction
 - Quadrant geometric corrector
 - Quick release tripod adaptor plate
 - Module extender cords (2 pcs.)
 - Module extractor tool
 - Rain cover
 - Tool kit with spare fuse and lamp
 - Detachable shoulder pad
 - Battery bracket with protection plate
 - VTR cable (10')
 - User's manual
 - Carrying case

Automatic Features

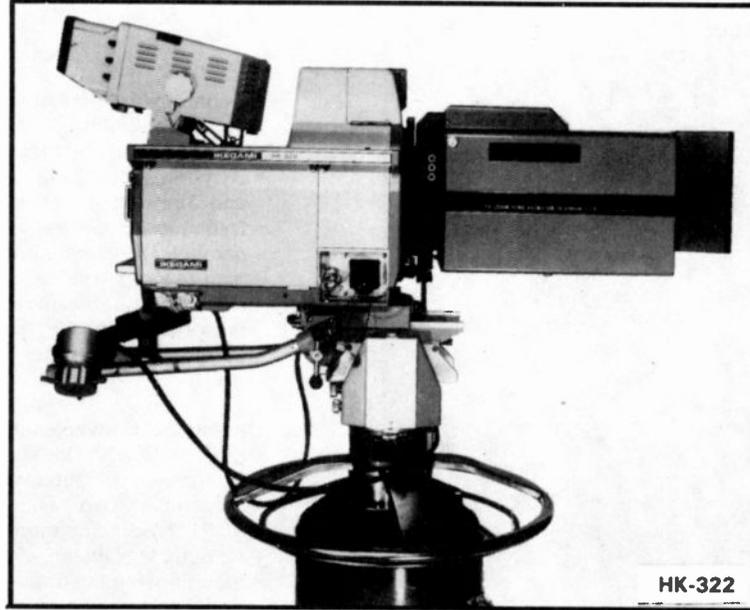
- Auto iris control
 - Auto white balance (2 modes)
 - Auto black balance
 - Auto iris closure
 - Auto iris waiting
 - Auto highlight compression
 - Auto beam control
- HL-79EAL (Lens not included) \$53,337.00

Accessories

RDC-79E	Digital remote control (100m)	\$ 5,633.00
ADC-79E	Auto setup box (30m)	2,753.00
MA-79	Multicore remote control system	9,150.00
TA-79E	Triax remote control system	22,871.00
VF45-3	4 1/2" Studio viewfinder	2,768.00
	Remote paint box without cable	592.00

Lenses

Canon	J13x9BIE Type 2 w/2X	f/1.6	\$ 6,610.00
Canon	J18x8.5BIE w/2X	f/1.6	10,700.00
Canon	J8x6B	f/1.6	8,800.00
Fujinon	A12x9FERM	f/1.7	2,750.00
Fujinon	A14x9FERM	f/1.7	5,800.00
Fujinon	A18x8.5FERM	f/1.7	9,300.00



HK-322 Broadcast Color Camera

- Horizontal resolution – 60% performance response at 400 TV lines, center
- S/N ratio of 56dB
- Precise geometry of <0.1% distortion
- Superior registration accomplished digitally resulting in minimal errors, maintained with 0.05% throughout the entire picture area
- Independently adjustable bias lights for R, G and B channels
- 8 pre-programmable zoom lens and diascope error correction modes
- ND and color correction filter wheels quickly removable "cassette fashion" for easy maintenance or special effects filter insertion
- Zoom lens heater power is available when the head power is turned off
- Video and power is provided for a video prompter system
- Dual tally system
- 2-channel return video
- Dual mike amplifiers

The HK-322 is a fully automatic television camera system. The Master Control Panel contains a computer to perform all of the setup functions automatically.

One Master Control Panel can control up to 24 cameras directly by using a Camera Switching Unit (CSU). By the addition of a Studio Selector Unit and other CSUs, up to 10 camera groups or a total of 100 cameras may be controlled by a single MCP. For backup purposes, a second MCP may be connected in parallel.

Several other TV cameras have computerized automatic setup controls—but it takes a lot more than just a computer to produce top quality color.

Ikegami has that extra something: color technology. So, when you get an HK-322, you're not just getting a fully automatic camera—you're getting excellent picture quality, superior craftsmanship, and many non-computerized, automatic correction functions.

Camera Head

- 7" high resolution viewfinder with tilt, elevate and rotate capabilities
- Reversal file (H/V, H and V deflection)
- Dream effect
- Mic amp
- Lens files (8)

Camera setup functions are performed by the digital control system contained within the MCP. This information is stored in a camera memory system. The camera becomes a "black box", requiring essentially no internal adjustments.

Camera Control Unit

- BBS/VBS/SYNC-SC genlock
- Totally automatic cable compensation for up to 600m of small diameter multicore cable

- Plug in FM Triax system with an operational range of 1500m
 - Digitally controlled automatic shading correction
 - R/G/B Detail corrector employs a novel design. Picture detail is no longer lost in red or blue picture content as is common with the "contour out of green" principle
 - Chromakey (option)
 - Negative video (option)
 - Color corrector (option)
 - Jumpers for negative and H aperture modules
 - 6 blank panels for CCU option unit
 - Color matrix
 - SMPTE color bar
 - Scene file
 - Operation control panel (less cable)
- Similarly to the camera head, the CCU's memory system retains the setup control data from the MCP. The "black box" concept permits the mounting of the CCUs out of the control area.

Automatics

Basic automatics, other than CPU setup, include:

- Auto white balance/black balance
- Auto iris control
- Auto cable compensation
- Auto pedestal control
- Auto detail level control/selection control
- Auto optical cap
- Auto highlight compression

Special Effects

- H and V deflection reversal, with stored linearity correction
- Negative video permits RGB video polarity reversal
- Horizontal deflection modulation for "dream scenes"
- Scene compression and expansion for improving high contrast and/or hazy scenes
- Various effects may be stored in a data file. Up to 8 presets may be retrieved on command

The Operation Control Panel controls the camera during normal "on air" operation.

After initial setup, each camera may be operated by its individual OCP, independently of the MCP.

In addition, to provide up to 10 studio parallel Automatic Setup capability, additional CPUs may be added for each of the studios.

Standard Accessories

AC and DC power cables, VF extension cable, CCU WFM remote cable, camera head dust cover, VF hood (studio type) head and CCU test extender card, spare fuses and lamps, user's manual
HK-322 Camera Head (less lens and tubes) \$87,000.00

HK-323 Fully Automatic Color Camera

Suitable for outdoor and indoor applications, the HK-323 is a small, lightweight, high quality and flexible color camera. The camera head itself can be used for self-contained applications. For systems flexibility, the base station is provided.

HK-323 Control System

- Maintenance Control Panel (MCP) and Operation Control Panel (OCP) can be included in the HK-323 system
- Up to 40 cameras can be controlled by one MCP using Camera Selection Units (CSU)
- The camera head and the base station can be connected via triax cable, multicore cable, or fiber cable
- The HK-323P portable camera is available, which may be connected to the HK-323 base station
- Using RS-232C interface the camera conditions can be printed out so that records can be maintained
- Various correction files available for ease of operation

HK-323 Color Camera

- 1" Diode Gun Plumbicons® are utilized. Upon request 2/3" Diode Gun Plumbicon tubes are also available
- Full auto-setup function for easy operation
- By changing modules, triax cable, multi-core cable, and fiber cable can be used

Type of camera and extension:

Triax cable Belden 9267 (9.14mm dia.)	.750m
Belden 9232 (13.2mm dia.)	.1500m
Fujikura (8.5mm dia.)	.900m
Fujikura (14.5mm dia.)	.1800m
Fiberglass cable Fujikura G2 80/125	.3000m
Multicable TV24/TV39/TV36	.600m

- Size and weight are minimized for operability. The camera head is 410H x 230W x 390Dmm. 1" type camera head weighs 26kg. 2/3" type weighs 25kg
- High performance prism optics are used. Quartz filter is employed to improve polarization characteristics
- Broad contrast range provided by Highlight Compression circuitry
- Video Matrix is built-in for color correction and matching
- Comet tail is eliminated by Auto Beam Control (ABC)
- Chroma Aperture Function provides sharp pictures of the object regardless of scene color content or special color lighting
- The camera person's name can be indicated on the monitor at the base station
- Viewfinder indications include:
 - Box Cursor, Crossover Cursor, Safe Title Area, Center Cross (HK-323 only), Auto-Setup, Filter Position, R and G Tally, Lens Extender, Gain Up, Video Level (Zebra)
- In the event of camera head or base station trouble the self-diagnosis system alerts the operator, prompting him to take corrective action
- Head test extender
- Blind plate for head lens mount
- Tool kit
- AC power cable
- Spare fuse and lamp
- Manual

HK-323P Handheld Camera

- 2/3" low capacitance diode gun Plumbicon tubes
- Motorized filter wheel
- Full automatics including geometry and shading

Standard Accessories

1.5" viewfinder, test extender 1, 2 and 3, shoulder pad, tripod mounting adaptor, tool kit, rain cover, spare lamp and fuse, manual, carrying case.

Specifications

Construction

HK-323 Camera Head

Pick-up Tubes:	1" diode gun or equivalent (2/3" diode gun or equivalent)				
Viewfinder Tube:	7" standard, 6" and color VF available as option				
Optical Prism:	1" f/1.2, 2/3" f/1.2				
Optical Filter:	1	2	3	4	5
ND:	CAP	100%	25%	6.2%	1.6%
	A	B	C	D	E
CC:	EFF	3200°K	4300°K	6300°K	8000°K



HK-323 Camera Head

HK-323P Camera Head

Pick-up Tubes:	2/3" diode gun or equivalent			
Viewfinder Tube:	1.5" standard, 4.5" VF available as option			
Optical Prism:	f/1.4			
Optical Filter:	1	2	3	4
ND:	CAP	100%	25%	6.2%
	A	B	C	D
CC:	EFF	3200°K	4300°K	6300°K

Overall Performance

Frequency Response:	NTSC	
	Below 60Hz	Falling
	60Hz ~ 4.5MHz	Within ± 0.5dB
	4.5MHz ~ 6MHz	Within ± 1dB
	Over 6MHz	Falling

With reference to 100kHz

Signal-to-Noise Ratio: 1" 59dB (NTSC) 2/3" 60dB (NTSC) (with Gamma, Aperture, DTL, Matrix all off. Band-width: 4.2MHz NTSC, 5.0MHz PAL)

Sensitivity: 1" f/5.6, 2/3" f/4.5
Under the following conditions:
Color temperature 3200°K
Illumination 2000 lux
Reflectance 89.9%
Gain control 0dB

Gamma: Step change over 1.0, 0.35, 0.4, 0.45
Fine adjustment ± 0.05 Continuously

Pedestal Variable

Range: RGB > ± 5%
Master > ± 10% (with Gamma off)

Gain Control: Master -3dB, 0dB, +3dB, +6dB, +12dB

Resolution at Center: 1" 700 line, 2/3" 650 line

Registration
Zone 1: ≤ 0.05%
Zone 2: ≤ 0.1%
Zone 3: ≤ 0.2%

Deflection Distortion: All areas within 1%

RFI: 140dB (at Head self contained)

HK-323P (less lens and camera adaptor) \$54,000.00

HK-323S-18 Self-contained camera system with 2/3" (18mm)

low capacitance diode gun Plumbicon tubes XQ-3427

RGB \$63,934.00

HK-323BM-18 Multicore version (with head multicore

adaptor) \$66,552.00

HK-323BT-18 Triax version (with head triax adaptor) \$66,552.00

HK-323BF-18 Fiber version (with head fiber adaptor) \$81,196.00

HK-323S-25 Self-contained camera system with 1" (25mm)

low capacitance diode gun Plumbicon tubes XQ-3070 G/B

XQ-3075R \$58,750.00

HK-323BM-25 Multicore version (with head multicore

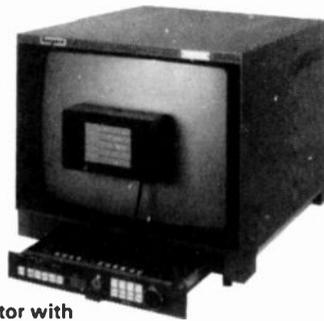
adaptor) \$74,214.00

HK-323BT-25 Triax version (with head triax adaptor) \$74,214.00

HK-323BF-25 Fiber version with head fiber adaptor \$84,815.00



TM14-15RH



TM20-15RH Monitor with
Optional ASP-15 Auto Setup
Probe



TM20-16R

15-Series Color Monitors

- Fine dot pitch shadow mask • Black matrix surrounding phosphor dots assures high contrast under bright ambient lighting • Digital Control System (DCS) simplifies monitor setup • In-line self converging electron gun assures stability • Preset level modifications • Two operator memories • Beam Feedback System (BFS) detects CRT current deviation and eliminates brightness changes due to changes in CRT emission • Controlled phosphors provide consistent colorimetry

By providing an optional Auto Setup Probe, the 15-Series is menu-driven, user friendly, with all instructions shown on the screen. An optional Remocon Box provides for remote control operation.

The 15-Series high resolution color monitors are available in 13V and 19V configurations.

TM14-15RH units are available in cabinet or rack configurations, occupying 10¹/₂" H. The TM20-15RH configurations are available in cabinet or rack configuration occupying 15³/₄" H.

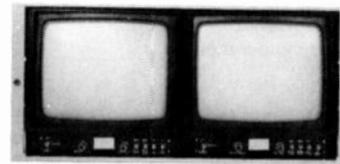
TM14-15RH	14" Auto setup color monitor . . .	\$8140.00
TM20-15RH	20" Auto setup color monitor . . .	\$7666.00
ASP-15	Auto setup probe	1998.00
C-TM14-15	Case for TM14-15RH	284.00
C-TM20-15	Case for TM20-15RH	361.00
RCT-15N	Wireless remote control box	154.00

16-Series High Performance

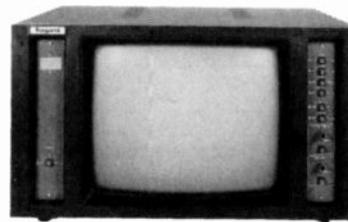
In-Line Gun Color Monitors

- 500 lines resolution • In-line self converging electron gun assures stability • Black matrix surrounding CRT face • Comb filter provides wide band luminance, switchable to notch filter at front panel • Feed-back clamp provides excellent black level stability with varying APL • Pulsecross switch for sync signal verification • Preset operating controls (hue, chroma, brightness, contrast) • Sweep failure protection circuits prevent phosphor burns • Underscan switch permits observation of picture corners • 3 Video inputs (A/B/RGB) • 13V can be rackmounted in 10.5" H • 19V can be rackmounted in 15.25" H • Horizontal time constant can be selected either 0.5msec or 2msec

TM20-16R	20" NTSC Monitor with case . . .	\$2859.00
TM14-16R	14" NTSC Monitor with case . . .	2455.00



PM9-3HDP 19" Dual Rackmount



PM14-3HDP Cabinet Type



PM9-5

3HD-Series Monochrome Monitors

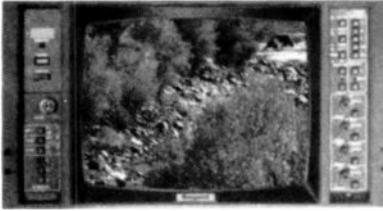
- Keyed back porch clamp, switchable to DC restorer
- Dual (A/B) inputs, front panel selectable • Internal/external sync, front panel selectable • Notch filter on/off, front panel selectable on 14" • Tally light • Remote control (Video Select, Sync Select, Tally On/Off) • Cross-pulse • 9" configurations are available as A) Bare chassis, B) Cabinet with handle and C) for 19" rackmounting in an 8³/₄" H for single, single with WFM space, single with Vectorscope space, and dual unit uses • 14" configurations are for cabinet use or for 19" rackmounting in a 10¹/₂" H • Resolution at brightness of 30 fL: Center—800 lines or more; Corner—500 lines or more

PM9-3HDP	\$1587.00
PM14-3HDP	2229.00

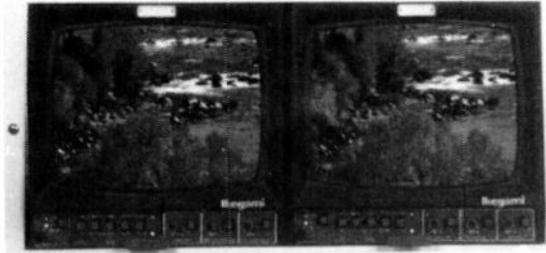
PM9-5 9" Broadcast Monochrome Monitor

- Keyed back porch clamp, switchable to DC restore
- Dual (A/B) inputs, internal/external sync, normal/wide scan, all front panel selectable • 800 lines resolution • D6500°K phosphor • Scan delay/normal • Tally light • Remote control (video select, sync select, tally on/off) • 9" configurations are available as cabinet and 19" rackmounting in an 8³/₄" H, single with WFM space, single with Vectorscope space, and dual units

PM9-5	\$350.00
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TM14-9RH



TM10-9RH

TM20-9RH



9-Series Color Monitors In-Line Gun CRT Type

- In-Line Electron Gun eliminates convergence adjustments
- High resolution 600 TV lines fine-pitch, dot-mask CRT. A black matrix effect is provided on the CRT screen, enabling pictures to be displayed with a high contrast ratio even under bright lights
- Signal generator internal crosshatch signal generator for convenient means of checking deflection linearity
- A three video input system with a selector switch located on the front panel
- The IQ standard is used for color signal demodulation; remarkably faithful color signals are reproduced
- Automatic frequency phase control for accurate color locking
- Keyed back-porch clamp system to prevent black level fluctuation
- Pulse cross circuit with three functions: V. Delay, H. Delay, and V.H. Delay
- Protective circuits to prevent the CRT from being damaged
- Sweep failure detection circuits are also utilized for CRT protection
- Three types of horizontal-AFC time constants are selectable
- Comb filter maintains high resolution in color images. Color trap/comb filter selection is possible
- Internal degaussing circuit is provided. The CRT is equipped with a magnetic shield to prevent interference from external magnetic fields
- Residual subcarrier test
- Matrix switching to reproduce color similar to a TV receiver or NTSC standard
- Optional functions: RGB operation, switching between RGB and NTSC operation
- Convenient pull-out panels on the front of the monitors
- Streamlined look

14" and 20" Series 9RH Monitors In-Line Tube

TM14-9RH/N	
14" NTSC-rackmount	
(less case and chassis tracks)	\$5531.00
TM14-9RH/N/RGB	
14" NTSC/RGB rackmount	
(less case and chassis tracks)	6489.00
TM20-9RH/N	
20" NTSC-rackmount	
(less case and chassis tracks)	6292.00
TM20-9RH/N/RGB	
20" NTSC/RGB rackmount	
(less case and chassis tracks)	7242.00

10" Series RH Monitors

- Pulse cross
- Keyed back-porch clamp
- Preset contrast/hue/saturation/brightness controls
- On-demand degaussing
- Aperture correction
- Dual video inputs
- Sync mode selection
- Color/monochrome selection
- Individual electron gun cutoff switches
- Remote control capability, etc. are standard
- 10" (8.5V) high resolution shadow mask cathode ray tube with a self-converging in-line gun
- Can be operated from AC or DC power
- Cabinet or rackmountable versions
- Rackmountable versions are 8³/₄" high and furnished in single, dual, single with adjacent WFM space or single with adjacent Vectorscope space configurations

TM10-9RH/N \$4004.00



TM14-10RH



TM20-10RH

10 Series High Resolution Delta Gun Color Monitors

- Three video inputs each with bridging BNC connectors
- Pulse cross for examination of horizontal and vertical blanking interval
- Underscan/overscan selection switch
- Residual subcarrier verification, for evaluation of input signal condition
- Color/monochrome selection switch, to facilitate white balance adjustment
- Trap/comb selection switch
- A tally lamp is provided
- Blue phase verification—the Blue Gun On/Off switch facilitates chroma level and hue adjustment
- External sync input with a bridging BNC connector
- Preset controls for contrast, brightness, chroma level, and hue
- Switchable AFC time constants for 2msec, 0.5msec, and 7msec
- Pushbutton control for degaussing CRT shadow mask
- Corrective matrix permits rotation of color decoding vectors towards NTSC aim points
- Multi-turn potentiometers are used for RGB background controls, GB gain control, preset controls, and height/width controls for easy operation
- TM14-10RH's are available in cabinet or rack configurations occupying 10¹/₂" height
- TM20-10RH configurations are available in cabinet or rack configuration occupying 15³/₄" height

TM14-10RH 14" NTSC rackmount less case and chassis track	\$8186.00
TM14-10RH/N/RGB 14" NTSC/RGB switchable rackmount less case and chassis track	8956.00
TM20-10RH 20" NTSC, less case	8701.00
TM20-10RH/N/RGB 20" NTSC/RGB switchable, less case	9530.00



ITE-T30 Tripod Elevation Column

Features 3-section legs with radial locks for extension and contraction. An adjustable, lockable spider provides structural stability. The ITE-T30 is equipped with a spirit level and combination rubber leg tips and metal spikes.

Camera/Head	
Load Capacity:	15 lbs. (6.8kg)
Min. Height:	24" (60cm)
Max. Height at 40°	
Included Angle:	69" (175.5cm)
Leg Angle (adjustable):	40° included (max.)
Elevator Column	
Adjustment:	14" (35cm)
Min. Folded Length:	27" (67.5cm)
Min. Folded Width:	4 1/2" (11.25cm)
Weight:	6.5 lbs. (2.92kg)
Finish:	Anodized aluminum and black wrinkle
ITE-T30	.....\$225.00

ITE-T40 Tripod "A" Frame

Lightweight, heavy-duty system that features 2-section, positive cam locked legs that are indexed for easy length adjustment.

An adjustable, lockable spider for structural stability, the elevator column adjusts to 16". Spirit level and rubber-tipped legs are provided.

Camera/Head Load	
Capacity:	40 lbs. (18kg)
Min. Height:	20 1/2" (51.25cm)
Max. Height at 40°	
Included Angle:	66" (165cm)
Leg Angle (adjustable):	100° included (max.)
Min. Folded Length:	32" (80cm)
Min. Folded Width:	7" (17.5cm)
Weight:	10 lbs. (4.5kg)
Finish:	Anodized aluminum/black wrinkle
ITE-T40	.....\$435.00

ITE-T45 Pneumatic Tripod "A" Frame

Camera/Head	
Load Capacity:	28 lbs. (12.7kg)
Min. Height:	24 1/2" (62.25cm)
Max. Height at 40°	
Included Angle:	78" (198cm)
Leg Angle (adjustable):	90° included (max.)
Elevator Column	
Adjustment:	12" (30.5cm)
Min. Folded Length:	32" (81.3cm)
Min. Folded Width:	7" (5.22cm)
Weight:	11 1/2 lbs. (5.22kg)
Finish:	Black wrinkle
ITE-T45	.....\$595.00

ITE-T50 Tripod ENG with Spyder

The T50 Tripod is a rugged lightweight all metal unit which provides outstanding rigidity and stability.

Load Capacity:	40 lbs. (18kg)
Min. Height:	
(at max. leg spread):	17" (43cm)
Max. Height:	56" (142cm)
Min. Folded Height:	35" (84cm)
Min. Folded Width:	7 1/4" (19cm)
Weight:	7 1/2" lbs. (3.4kg)
Ball Leveling Bowl:	100mm
Finish:	Black anodize
ITE-T50	.....\$795.00
Includes: Removable, adjustable spreader assembly	

ITE-T553 Tripod

Load Capacity:	45 lbs. (20.5kg)
Min. Height:	6 1/2" (16.5cm)
Max. Height:	64" (162.5cm)
Min. Folded	
Length:	30" (76cm)
Width:	7 1/2" (19cm)
Weight:	8 lbs. (3.6kg)
Leg Sections:	3
Bowl:	110mm
Finish:	Anodized aluminum and black wrinkle
Optional	
Accessories:	Reducer Bushings 110mm to 100mm; 100mm to 75mm

ITE-T553	.....\$725.00
Includes rubber foot pads and spikes	

ITE-T553C Tripod 3-Section Leg with 110mm Bowl

Equipped with combination leg spike/rubber foot pads. Legs are lockable at 3°, 28° and 40° angles. Constructed of lightweight alloy material, with black, hard anodized leg tubes.

ITE-T553C\$695.00
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ITE-T554 Tripod

Load Capacity:	60 lbs. (29.5kg)
Min. Height:	6 1/2" (16.5cm)
Max. Height:	61" (155.5cm)
Min. Folded	
Length:	23 1/2" (60cm)
Width:	7 1/2" (19cm)
Weight:	8.5 lbs. (3.8kg)
Leg Sections:	4
Bowl:	110mm, adjustable to 75 and 100mm
Finish:	Anodized aluminum and black wrinkle
ITE-T554	.....\$775.00
Includes rubber foot pads and spikes	

ITE-T554C Tripod Four Section Leg with 110mm Bowl

Equipped with combination leg spike/rubber foot pads. Legs are lockable at 3°, 28° and 40° angles. Constructed of lightweight alloy material, with black, hard anodized leg tubes.

ITE-T554C\$725.00
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ITE-T60 Tripod-ENG-Leveling Bowl

Load Capacity:	55 lbs. (25kg)
Min. Height:	16" (40.6cm) (without spreader), 24" (61cm) (with spreader)
Max. Height:	58" (147.3cm)
Min. Folded Length:	33" (83.8cm)
Min. Folded Width:	7" (17.8cm)
Leg Angle:	
(without spreader)	
Locked:	Up to 80°

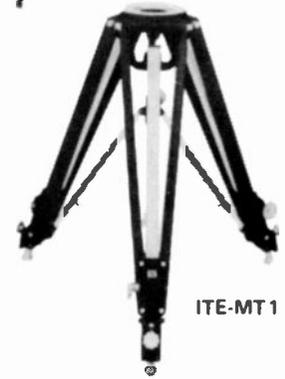
Weight	
(including spreader):	13 lbs. (5.9kg)
Ball Leveling	
Bowl:	110mm
Finish:	Black wrinkle
ITE-T60	.....\$885.00

ITE-T605 Baby tripod-ENG with ball leveling	.....885.00
Same as ITE-T60 except:	

Min. Height	
(without spreader):	20" (55cm)
Max. Height:	37 1/2" (95cm)
Min. Folded Length:	27 1/2" (70cm)
Weight	
(including spreader):	12 lbs. (5.4kg)
Optional	
Accessories:	SP60 Tripod spreader, RFPFI rubber foot pads



ITE-T50



ITE-MT1

ITE-T70 Tripod-ENG-Leveling Bowl

Load Capacity:	85 lbs. (38.6kg)
Min. Height	
(with spreader):	28.5" (72.4cm)
Max. Height:	60" (152.4cm)
Min. Folded Length:	37" (94cm)
Min. Folded Width:	9" (22.8cm)
Leg Angle	
(without spreader)	
Locked:	Up to 80°
Weight	
(including spreader):	17 lbs. (7.7kg)
Ball Leveling	
Bowl:	150mm
Finish:	Black wrinkle
ITE-T70\$1350.00

ITE-T705 Baby tripod-ENG with ball leveling1350.00
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Same as the ITE-T70 except:	
Min. Height	
(with spreader):	21 3/4" (55cm)
Max. Height:	39 1/2" (100cm)
Min. Folded Length:	8" (20cm)
Weight	
(including spreader):	16 lbs. (7.3kg)
Optional	
Accessories:	SP70 Spreader, TFPI rubber foot pads, DG70 dolly

ITE-MT1 Tripod For Camera and Microwave Applications

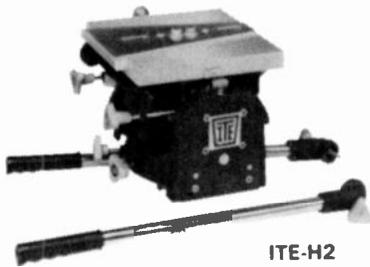
Camera/Head	
Load Capacity:	250 lbs. (112.5kg)
Min. Height:	25" (62.5cm)
Max. Height:	43" (107.5cm)
Min. Folded Length:	34" (85cm)
Min. Folded Width:	9 1/2" (23.75cm)
Max. Leg Angle:	38°
Weight:	33 lbs. (14.85kg)
Finish:	Aluminum and black wrinkle

ITE-MT1	.....\$1400.00
Includes spreader; foot pad/spike/spherical ball set; Mitchell base	



INNOVATIVE TELEVISION EQUIPMENT

HEADS



ITE-H2

ITE-H2 Cam Head

Camera Load Capacity: 120 lbs. (54kg)
 Tilt Angle: Up to $\pm 50^\circ$
 Pan Rotation: 360°
 Height: $7\frac{1}{2}$ " (18.75cm)
 Width: 9" (22.5cm)
 Length: 10" (25cm)
 Weight: 25 lbs. (11.25kg)
 Base: Mitchell Type
 ITE-H2 \$1650.00
 Includes dual handles; wedge adaptor and wedge plate.

ITE-H6 Hydrocam Head

Camera Load Capacity: 130 lbs. (58.5kg)
 Tilt Angle: Up to 50°
 Pan Rotation: 360°
 Height: 8" (20cm)
 Width: 9" (22.5cm)
 Length: $9\frac{1}{2}$ " (23.75cm)
 Weight: 23 lbs. (10.35kg)
 Base: Mitchell type
 ITE-H6 \$3100.00
 Includes dual handles and wedge adaptor and wedge plate

ITE-H8 Microwave Pan/Tilt Head

Camera Load Capacity: 250 lbs. (112.5kg)
 Tilt Angle: $\pm 45^\circ$
 Pan Rotation: 360°
 Height: 7" (17.5cm)
 Width: 8" (20cm)
 Length: 9" (22.5cm)
 Weight: 19 lbs. (8.55kg)
 Base: Mitchell type
 Optional Accessory: Control handle
 ITE-H8 \$1275.00
 Mounting plate designed for standard L-bracket attachment

ITE-H10 Hydro Head—Adjustable Counterbalance

Camera Load Capacity: 40 lbs. (18kg)
 Tilt Angle: $\pm 60^\circ$
 Pan Rotation: 360°
 Height: $6\frac{1}{2}$ " (16.25cm)
 Width: $6\frac{3}{4}$ " (16.9cm)
 Length: $6\frac{3}{4}$ " (16.9cm)
 Weight: 9 lbs. (4.05kg)
 Base: $1\frac{3}{4}$ " (4.4cm) clamp or claw ball
 Camera mounting plate/quick release: 4" L x 2" W (10cm x 5cm) with $\frac{3}{8}$ " (.94cm) slot for mounting cameras with $\frac{1}{4}$ " (.625cm) or $\frac{3}{8}$ " (.94cm) screws
 Optional Accessories: Dual handles
 ITE-H10 \$1995.00

ITE-H11A Fluid Head

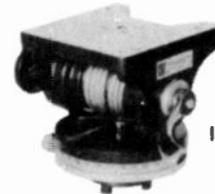
Camera Load Capacity: 10 lbs. (4.5kg)
 Tilt Angle: $\pm 80^\circ$
 Pan Rotation: 360°
 Height: 5" (12.5cm)
 Width: $3\frac{1}{2}$ " (8.75cm)
 Length: 4" (10cm)
 Weight: 2 lbs. (.9kg)
 Base: Flat
 ITE-H11A \$285.00



ITE-H8



ITE-H10



ITE-H6



ITE-H17

ITE-H12A Fluid Head

Camera Load Capacity: 20 lbs. (9kg)
 Tilt Angle: $\pm 80^\circ$
 Pan Rotation: 360°
 Height: 5" (12.5cm)
 Width: 4" (10cm)
 Length: $4\frac{1}{2}$ " (11.25cm)
 Weight: 5 lbs. (2.25kg)
 Base: Flat
 Optional Accessories: Claw ball leveling; dual handles; quick-release assembly
 ITE-H12A \$695.00

ITE-H14A Fluid Head

Camera Load Capacity: 30 lbs. (13.5kg)
 Tilt Angle: $\pm 80^\circ$
 Pan Rotation: 360°
 Height: $5\frac{1}{2}$ " (13.75cm)
 Width: $6\frac{1}{2}$ " (16.25cm)
 Length: $5\frac{1}{2}$ " (13.75cm)
 Weight: 8 lbs. (3.6kg)
 Base: Flat
 Quick Release Plate: $\frac{1}{4}$ -20 and $\frac{3}{8}$ -16 camera screws
 Optional Accessories: Pro claw ball leveling; dual handles
 ITE-H14A \$895.00

ITE-H17 Fluid Head—Adjustable Counterbalance

This system utilizes four step drag adjustable (dial-in-type) with free wheeling in both pan and tilt modes, for smooth, effortless and trouble free control.
 The H17 directly interfaces with the T17 ENG/EFP tripod and other ITE claw ball base tripods.
 Camera Load Capacity: 15 lbs. (6.8kg)
 Tilt Angle: $\pm 90^\circ$
 Pan Rotation: 360°
 Height: 6" (153mm)
 Width: 4" (100mm)
 Length: 5" (127mm)
 Weight: 5 lbs. (2.3g)
 Base: 75mm claw bowl
 Camera Attachment: $\frac{1}{4}$ -20 and $\frac{3}{8}$ -16 camera screws
 Finish: Black wrinkle
 Optional Accessories: Includes: control handle, H17CA flat base adaptor; dual handles
 ITE-H17 \$1125.00

ITE-H30 Fluid Head—Counterbalanced

Capacity: 10 lbs. (4.5kg); counterbalanced for 2" Vertical C.G.
 Tilt Angle: $+90^\circ$, -75°
 Pan Rotation: 360°
 Pan and Tilt Drag: High viscosity system Independent of drag system; positive lock design
 Pan and Tilt Lock: 4" (10cm)
 Height: 5" (12.5cm)
 Width: 4" (10cm)
 Length: 2 lbs. (.90kg)
 Base: Flat
 Camera Mounting Plate/Quick Release: 2" x 2" (5cm x 5cm) with positive lock $\frac{1}{4}$ -20 screw and anti-rotational pin
 Handle: One with adjustable angle
 Level: Spirit
 Finish: Black wrinkle
 Optional Accessory: Extra handle
 ITE-H30 \$205.00
 ITE-RH30 Right hand zoom handle \$45.00

ITE-H40 Fluid Head—Counterbalanced

Capacity: 30 lbs. (13.5kg)
 Tilt Angle: $\pm 80^\circ$
 Pan Rotation: 360°
 Pan and Tilt Drag: High viscosity system Independent drag system; positive lock design
 Pan and Tilt Lock: 6" (16.25cm)
 Height: $7\frac{1}{2}$ " (18.75cm)
 Width: $7\frac{1}{2}$ " (18.75cm)
 Length: 6" (16.25cm)
 Weight: 7 lbs. (3.15kg) (without handle)
 Base: Flat
 Camera Mounting/Quick Release Platform: $3\frac{3}{4}$ " W x $5\frac{3}{4}$ " L (9.36cm x 14.37cm) with positive lock and sliding $\frac{1}{4}$ -20 and $\frac{3}{8}$ -16 camera screws
 Handle: One with adjustable angle
 Level: Spirit
 Finish: Black wrinkle
 Optional Accessory: Claw ball leveling, extra control handle
 ITE-H40 \$495.00
 ITE-RH40 Right hand zoom handle \$50.00



ITE-H50 Fluid Head—

Adjustable Counterbalance

Camera Load Capacity: 30 lbs. (13.5kg)
Tilt Angle: Up to $\pm 90^\circ$
Pan Rotation: 360°
Height: $7\frac{1}{2}$ " (20cm)
Width: $6\frac{1}{4}$ " (16cm)
Length: $5\frac{3}{4}$ " (14.5cm)
Weight: 6.5 lbs. (3.0kg)
Level: Spirit
Handle: Telescopic
Base: 100mm claw ball
Finish: Black wrinkle
Optional
Accessory: Extra telescopic control handle, as shown, ITE-H50CA flat base adaptor



ITE-H50



ITE-H50E



ITE-H60

ITE-H50 \$1050.00

ITE-H50E Fluid Head—

Adjustable Counterbalance

Camera Load Capacity: 40 lbs. (18kg)
Tilt Angle: 90°
Pan Rotation: 360°
Height: $6\frac{3}{4}$ " (17.1cm)
Width: $6\frac{1}{4}$ " (15.9cm)
Length: $5\frac{1}{4}$ " (13.3cm)
Weight: 6.5 lbs. (3.0kg)
Level: Spirit
Handle: Telescopic
Base: 100mm claw ball
Camera Mounting Plate
Quick Release: $2\frac{1}{2}$ " x $3\frac{1}{2}$ " with $\frac{3}{8}$ " slot
Finish: Black wrinkle
Optional
Accessories: ITE RH50E, extra telescopic control handle; ITE-H50CA, flat base adaptor

ITE-H50E \$1125.00

ITE-H60 Fluid Head—

Adjustable Counterbalance

Uses adjustable, toggle lever controlled helical springs and sliding quick release camera plate. Drag control (in both pan and tilt) can be dialed in for eight different levels of personal feel—from freewheeling to maximum drag. The H60 directly interfaces with the T60 ENG/EFP tripod and other ITE claw ball base tripods.

Camera Load Capacity: 30 lbs. (13.6kg)
Tilt Angle: $\pm 90^\circ$
Pan Rotation: 360°
Height (incl. ball base): 8" (20.3cm)
Width (incl. handle brackets): $6\frac{1}{2}$ " (16.5cm)
Length (incl. handle brackets): $6\frac{3}{4}$ " (17.2cm)
Weight: 9.2 lbs. (4.2kg)
Base: 110mm claw ball
Camera Attachment: $\frac{1}{4}$ -20 and $\frac{3}{8}$ -16 camera screws
Finish: Black wrinkle
Optional
Accessories: Second control handle step ball (100mm/110mm)

ITE-H60 \$3395.00
ITE-RH60T Telescopic handle 155.00

ITE-H70/H90 Fluid Heads—

Adjustable Counterbalance

Designed for remote and studio applications. These heads provide unsurpassed smoothness of pan and tilt action for heavy camera loads. Perfect counterbalance is obtained by simply preloading three groups of reactive spring elements and fine tuning by adjusting the sliding camera platform. This complete setup procedure can be accomplished with the camera mounted (on quick release plate) and ready to shoot.

Drag control is simple and precise. By dialing in one of 8 selections in pan and 7 selections in tilt, the camera person can obtain desired level of drag, from freewheeling (pan only) to maximum, with unmatched smoothness and precision.

ITE-H70

Camera Load Capacity: 65 lbs. (28kg)
Tilt Angle: $\pm 90^\circ$
Pan Rotation: 360°
Height (incl. ball base): 9" (22.9cm)
Width (incl. handle brackets): $8\frac{1}{2}$ " (21.6cm)
Length (incl. handle brackets): $7\frac{3}{4}$ " (19.7cm)
Weight: 19 lbs. (8.63kg)
Base: 150mm claw ball
Camera Attachment: $\frac{1}{4}$ -20 and $\frac{3}{8}$ -16 camera screws
Finish: Black wrinkle
Includes Dual control handles
ITE-H70 \$4995.00
ITE-H70A Mitchell base adaptor 285.00
ITE-RH70T Telescopic handle 155.00



ITE-H70

ITE-H90

Camera Load Capacity: 150 lbs. (68.1kg) at 7" C.B.
Tilt Angle: $\pm 80^\circ$
Pan Rotation: 360°
Height (incl. ball base): $11\frac{1}{2}$ " (29.2cm)
Width (incl. handle brackets): $10\frac{1}{2}$ " (26.7cm)
Length (incl. handle brackets): $9\frac{1}{2}$ " (24.1cm)
Weight: 41 lbs. (18.6kg)
Base: Mitchell base
Camera Attachment: Wedge plate
Finish: Black wrinkle
Includes Dual control handles
ITE-H90 \$8500.00



ITE-H100

ITE-H100 Fluid Drag Head

Camera Load Capacity: 250 lbs. (112.5kg)
Tilt Angle: $\pm 53^\circ$
Pan Rotation: 360°
Height: $8\frac{1}{2}$ " (21.25cm)
Width (less handles): 12" (30cm)
Length (less handles): 14" (35cm)
Weight: 31 lbs. (13.95kg)
Base: Mitchell type
Optional
Accessory: Right hand telescopic handle
Includes: telescopic control handle; zoom stub handle; quick-release, lever-action wedge adaptor and wedge plate
ITE-H100 \$3600.00



INNOVATIVE TELEVISION EQUIPMENT

PEDESTALS/DOLLIES

ITE-P2 ("Low Boy") Pneumatic Studio Pedestal

Camera/Head
 Load Capacity: 290 lbs. (130.5kg)
 Min. Height: 24 1/2" (62.25cm)
 Max. Height: 45 1/2" (113.75cm)
 Min. Doorway Clearance: 30" (75cm)
 Wheelbase: 28 1/2" (71.25cm)
Dual Wheel
 Diameter: 8" (20cm) (cast aluminum; polyurethane tires)
Steering Wheel
 Diameter: 30" (75cm) (vinyl coated)
Steering Mode: Crab and Tricycle
Cable Guard: Adjustable from 1/8" (.31cm) to 1" (2.5cm) above floor
Air Pressure: Pressure relief valve opens at 200 PSI representing equivalent overload condition of 300 lbs. (135kg)
Construction: Cast aluminum structure with steel tank and outer column to ASME Pressure Vessel Safety Code; aluminum center column
Pressure Differential
 Trim: Nine 1 lb. (4.5kg) wafers
 Weight: 180 lbs. (81kg)
 Mount: Modified Mitchell type
 Finish: Black wrinkle
 Optional
 Accessory: Air supply charging system

ITE-P2 \$11,800.00
 Note: Head not included. Min./Max. heights to cam head mounting surface.

ITE-P3 Elevation Pedestal with Cable Guards

Camera/Head
 Load Capacity: 60 lbs. (27kg)
 Min. Height: 31" (77.5cm)
 Max. Height: 49" (122.5cm)
 Elevation Adjustment: 18" (45cm)
 Caster Radius: 19" (47.5cm)
 Wheel Diameter: 4 1/2" (11.25cm)
 Weight: 36 lbs. (16.2kg)
 Finish: Black wrinkle
 Optional
 Accessories: FHT flat base H25T Mitchell base

ITE-P3 \$2,100.00

ITE-P5 Studio Pedestal—Counterbalance

Camera/Head
 Load Capacity: 265 lbs. (119.25kg) first 174 lbs. (78.3kg) spring counterbalanced
 Min. Height: 34" (85cm)
 Max. Height: 52" (130cm)
 Min. Doorway Clearance: 32" (80cm)
Dual Wheel
 Diameter: 7" (17.5cm) (polyurethane tires)
Steering Wheel
 Diameter: 25" (62.5cm)
Steering Mode: Crab
Base Construction: Cast aluminum
Weight (less camera balance weights): 180 lbs. (81kg)
Mount: Mitchell type
Finish: Black wrinkle
 Optional
 Accessories: Additional capacity to 310 lbs. (139.5kg)

ITE-P5 \$7,400.00
 Note: Head not included.



ITE-D7

ITE-P6 Studio Pedestal—Counterbalance

Camera/Head
 Load Capacity: 145 lbs.
 Min. Height: 32" (81cm)
 Max. Height: 52" (132cm)
 Min. Doorway Clearance: 28" (71cm)
Dual Wheel
 Diameter: 7" (17.5cm) (polyurethane tires)
Steering Wheel
 Diameter: 20" (50cm)
Steering Mode: Crab
Base Construction: Cast aluminum and fiberglass
Weight: 125 lbs. (56.25kg)
Mount: Mitchell type
Finish: Black wrinkle
 ITE-P6 \$6,100.00
 ITE-P6L Studio pedestal—Counterbalance—"Lowboy" \$6,300.00

ITE-P7 Elevation Pedestal with Cable Guards

Camera/Head
 Load Capacity: 75 lbs. (33.75kg)
 Min. Height: 32" (80cm)
 Max. Height: 49" (122.5cm)
 Elevation Adjustment: 18" (45cm)
 Caster Radius: 19" (47.5cm)
 Wheel Diameter: 8" (20.32cm)
 Weight: 45 lbs. (20.25kg)
 Finish: Black wrinkle
 Optional
 Accessory: Mitchell mount adaptor
 ITE-P7 \$2,750.00

ITE-D3 Dolly

Load Capacity: 90 lbs. (40.5kg)
Folded Length: 26" (65cm)
Folded Width: 12" (30cm)
Height: 7" (17.5cm)
Diameter: 42" (105cm)
Wheel Diameter: 5" (12.5cm)
Weight: 17 lbs. (7.65kg)
Finish: Black wrinkle
 ITE-D3 for T4A, T6, T10 and T12 \$775.00

ITE-D3G Dolly

Load Capacity: 90 lbs. (40.5kg)
Folded Length: 26" (65cm)
Folded Width: 12" (30cm)
Height: 7" (17.5cm)
Diameter: 42" (105cm)
Wheel Diameter: 5" (12.5cm)
Weight: 17 lbs. (7.65kg)
Finish: Black wrinkle
 Includes cable guards
 ITE-D3G \$825.00

ITE-D5 Dolly

Load Capacity: 60 lbs. (27kg)
Folded Length: 23" (57.5cm)
Folded Width: 6" (15cm)
Height: 6" (15cm)
Diameter: 42" (105cm)
Wheel Diameter: 5" (12.5cm)
Weight: 7 lbs. (7.65kg)
Finish: Black wrinkle
 ITE-D5 For T1A, T4A, T9 and T12 \$450.00
 ITE-D5G Dolly with cable guards \$500.00



ITE-P5



ITE-P2

ITE-D7 Dolly

Load Capacity: 325 lbs. (147.5kg)
Folded Length: 29" (72.5cm)
Folded Width: 15" (37.5cm)
Height: 9" (22.5cm)
Diameter: 45" (112.5cm)
Wheel Diameter: 8" (20cm)
Weight: 25 lbs. (11.25kg)
Finish: Black wrinkle
 Includes adjustable cable guards
 ITE D7 For T10, T60, T70 and MT1... \$1,495.00

ITE-D20A Dolly

Load Capacity: 15 lbs. (6.8kg)
Folded Length: 17" (43cm)
Folded Width: 6" (15cm)
Height: 5" (12.5cm)
Diameter: 32" (81.25cm)
Wheel Diameter: 2.5" (6.3cm)
Weight: 3 lbs. (1.36kg)
Finish: Anodized aluminum
 ITE-D20A For T20A \$75.00

ITE-D30 Dolly

Load Capacity: 20 lbs. (9.1kg)
Folded Length: 19 3/4" (49.37cm)
Folded Width: 6 1/2" (16.25cm)
Height: 6" (15cm)
Diameter: 38" (95cm)
Wheel Diameter: 4" (10cm)
Weight: 8 lbs. (3.6kg)
Finish: Anodized aluminum and black wrinkle
 ITE-D30 Dolly For T30 \$195.00

ITE-D40 Dolly

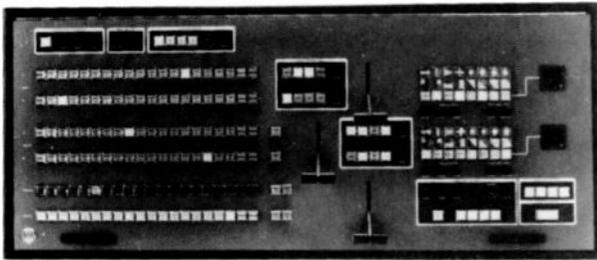
Load Capacity: 50 lbs. (22.7kg)
Folded Length: 22" (55cm)
Folded Width: 8" (20cm)
Height: 6" (15cm)
Diameter: 40" (100cm)
Wheel Diameter: 4" (10cm)
Weight: 9 lbs. (4.05kg)
Finish: Anodized aluminum and black wrinkle
 ITE-D40 For T40 and T45 tripods \$225.00

ITE-D50 Dolly

Load Capacity: 55 lbs. (25kg)
Folded Length: 24" (61cm)
Folded Width: 8" (20cm)
Height: 6 1/2" (16.5cm)
Diameter: 42" (106.7cm)
Wheel Diameter: 4 1/2" (11.4cm)
Weight: 9 1/2 lbs. (4.3kg)
Finish: Anodized Aluminum and black wrinkle
 ITE-D50 For T50 \$455.00

ITE-D670 Dolly

Load Capacity: 100 lbs. (45.4kg)
Folded Length: 24" (61cm)
Folded Width: 6 1/2" (16.25cm)
Height: 8 1/2" (21.6cm)
Diameter: 44" (111.7cm)
Wheel Diameter: 4" (10cm)
Weight: 13 1/2 lbs. (6.13kg)
Finish: Anodized aluminum and black wrinkle
 ITE-D670 For T60 and T70 \$875.00



9420

9400 Series Production Switchers

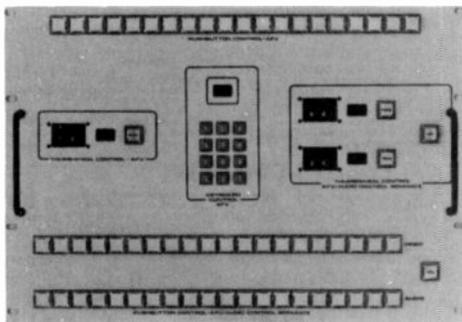
- 10 or 20 inputs • Black/color background generator • 6 buses • 2 independent mix/effects systems • 16 patterns • Program/preview flip/flop mixer • Combination mix • Wipe • Keys • Internal • External • Chroma keys • Normal/reverse wipe direction • Hard, soft or bordered wipes • Modulation • Rate controlled positioners • Pattern preset • Spotlight, DSK/edger with 4 input source selector • Master fade-to-black • Blanking processor • Microprocessor controlled • Serial editor interface • Diagnostics • Technical manual • Extender card(s) • 25' (7.6m) cable

- 9420** Video Production Switcher—Illuminated Pushbuttons (20 inputs) \$28,500.00
- 9410E** Video Production Switcher—Illuminated Pushbuttons (10 inputs) \$21,300.00

9310E Production Switcher

- 10 inputs • Blackburst/color background generator • 4 buses • 2 mix/effects with shared pattern generator • 14 patterns • Program/preview mixer • Combination mix • Wipe • Key • Internal • External • Normal/reverse wipes • Hard, soft or bordered wipes • Modulation • Rate controlled positioner • Pattern preset • Spotlight • Master fade-to-black • Blanking processor • Microprocessor controlled • Serial editor interface • Diagnostics • Technical manual • Extender card(s) • 25' (7.6m) cable • Illuminated pushbuttons

- 9310E** \$11,900.00



1100

1100 Series (BCD Controlled) or 1100C Series (Microprocessor Controlled) Routing Switchers

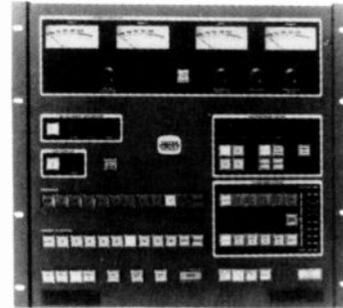
- Available in NTSC, PAL, and PAL-M • Vertical interval switching • Field expandable • Multiple audio channels • BCD controllers • Microprocessor controller • Modular construction • Audio breakaway capable • Individual frame power supplies • Various controllers available • Technical manuals • Extender card • 50' (15m) controller cable

Matrix Pricing on Request

8001 Master Control Switcher

- 8 AFV inputs • Colorblack generator • 2 audio breakaway inputs • Audio over • Autotransitions • Machine control • Black hold • Serial interface • Diagnostics • TBC bypass • Technical manual • Extender card • 25' (7.6m) cable

- 8001** \$7,400.00

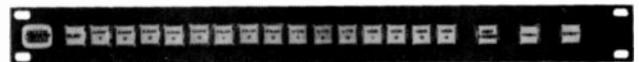


8012

8012/8020/8030 Master Control Switchers

- 12 to 30 AFV inputs • 5 audio breakaway inputs • Black/color background generator • Autotransitions • Audio over/under • DSK/edger with 4 input preselect • Monitor amplifiers • Blanking processor • Master fade-to-black • Technical manual • Extender cards • 50' (15m) control cable

- 8012** Master Control Switcher (12 inputs) . . . \$21,500.00
- 8020** Master Control Switcher (20 inputs) . . . \$24,500.00



1616

1616 Series Video Only Routing Switchers

- 16 video inputs • Vertical interval switching • Loop-through inputs • Self-contained • Basic • Effects and component versions

- 1616B** Basic 16 X 1 Video Only \$ 945.00
- 1616E** Effects (Preset/Take, Chop) \$1,350.00
- 1616R** Remote Control Kit for above models [25' (7.6m)] \$180.00
- Additional Cable/Per Foot \$1.25
- Additional Cable/Per Meter \$4.13

982 Series 10 X 1 AFV Routing Switchers

- 10 input • AFV system • Vertical interval switching • Loopthrough inputs • Self-contained • Remote controllable

- 982** Routing Switcher 10 X 1 Audio Follow Video \$930.00
- 972** Two Additional Channels \$650.00
- 992** Remote Control, Includes 25' cable. \$280.00
- Additional Cable/Per Foot \$1.25
- Additional Cable/Per Meter \$4.13



INTERGROUP TECHNOLOGIES

PRODUCTION SWITCHERS

9500 Series Production Switchers

• 2 complete mix/effects systems for maximum effects layering • 12 or 24 inputs providing for future expandability with +SIX • 4 linear keyers for crisp clean keys • REFEX Memory System for unlimited store and recall of effects • Internal auxiliary buses for optimum use of external devices • 6 ext. key sources/6 ext. key fills for maximum key flexibility • 7 layers of video for one pass productions • 10 hot keys for fast accurate event/sequence recall

Compact in size, but large in capability, the 12 input version of the 9500 can be rackmounted for reduced space applications. The 9500 was built around REFEX™ (Re-Programmable Effects) and uses extensive memory management for all aspects of the switcher operation. Not only does the 9500 offer more event storage than any other product (over 800 events), but the amount of what is stored in memory is much greater. All key selections store every parameter which effects that particular key. Even patterns have the ability to store pattern modifiers. The operator can select between six different preference registers recalling the unique switcher configuration they desire.

9512	Production Switcher	.....	\$28,500.00
9524	Production Switcher	.....	\$34,500.00



9500

Options

9557	Dual Key Edger	.....	\$3,500.00
9555	Dual Chroma Key/Aux./Prv.	.....	3,500.00
9542	Serial Editor Interface	.....	1,500.00
9551	Waveform Generator 2nd	.....	3,200.00
9508	Stereo Audio Follow	.....	8,500.00
9502	REFEX Level II	.....	2,500.00
9503	REFEX Level III	.....	7,500.00
9506	Redundant Power Supplies	.....	3,650.00
9509	GPI Output Control	.....	250.00



9600

9600 Series Video Production Switchers

• 16 or 24 inputs • 6 matte generators including black/color background • 8 buses • 1 or 2 mix/effects • 42 basic wipe patterns • Program/preview flip/flop mixer • Combination mix • Wipe • Key • 12 input external key bus with 12 input key fill bus • Second keyer with edging in each mix/effects • Panel microprocessor • Frame microprocessor • Serial RS-422 link • 4000' max. separation • 5 input downstream keyer with edging • Mask generator per mix/effects and DSK • Auto transitions • Preference programming, and event save/recall/play (REFEX I) • Dual auxiliary bus • Serial editor interface • Diagnostics • Technical manual • Extender cards • 50' (15m) cable • M⁴-Key—multi-element, multi-plane, multi-level memory key • Extensive standard pattern modifiers • Pattern Attribute Memory System (PAMS) • Title controls • Preview select • Fade-to-black

The heart of the 9600 is the microprocessor-based system known as REFEX. The visible benefits are concerned primarily with system setup, event storage, sequence automation and editing, off-line storage of events and peripheral equipment control; the true benefit of REFEX is much greater than the user-accessible functions.

REFEX Levels I through IV have been defined, Levels V and higher have not. It is this open-ended, fully compatible software/hardware enhancement effort which will insure 9600 owners of future growth options.

To prevent the loss of stored effects, all REFEX memory is battery backed-up in the event of main power failure.

The Series 9600 is one of the few new-generation production switcher systems to maintain the Program/Preview Bus Row architecture so necessary for on-air (or live-on-tape) applications. Yet the extensive effects automation capabilities of REFEX, the keying power of M⁴-Key, and the pattern memory and management of PAMS make it the most powerful post-production switcher available.

The Series 9600 is available in NTSC, PAL and PAL-M versions.

9616-1	Video Production Switcher—illuminated pushbuttons (16 inputs, 1 ME)	.....	\$44,494.00
9616-2	Video Production Switcher—illuminated pushbuttons (16 inputs, 2 ME)	.....	47,494.00
9624-1	Video Production Switcher—illuminated pushbuttons (24 inputs, 1 ME)	.....	46,494.00
9624-2	Video Production Switcher—illuminated pushbuttons (24 inputs, 2 ME)	.....	49,494.00

Options

9602	REFEX Level II	.....	\$2,500.00
9603	REFEX Level III	.....	7,500.00
9605	External Aux. Bus 8 Output VO	.....	4,500.00
9606	Redundant Power Supplies	.....	3,650.00
9608	Stereo Audio Follow	.....	8,500.00
9609	GPI Output Control	.....	250.00
9625	Triple Chroma Keyer	.....	6,250.00
9629	Dual Extended Patterns	.....	5,225.00
9641	Matrix Wipe Generator	.....	1,950.00
9642	Serial Editor Interface	.....	1,500.00



908-4S



9026

640 Downstream Key Edger

• Built-in colorizer • Outline, drop-shadow, border and normal keys (external cut with video fill) • 4 input selector • Remote control • 3 1/2" self-contained unit

640 Downstream Keyer/Edger \$2980.00

4001 Digital Pattern Generator

• 30 creative digital patterns • Frame accurate auto transition (0-99) • 4 input key source selector • Normal/reverse wipe directions • Remote control via RS-422 • Self-contained • Field installable • Desktop mounted • NTSC/PAL/PAL-M • Optional oak side panels

4001 Digital Pattern Generator \$1650.00

660, 660-4 RGB Chroma Keyer

• Saturation selective • Soft keying • Full remote control • Full 360° hue selection • 660 uses one (1) module space in 5010 rack frame; 660-4 uses four (4) module spaces in 5010 rack frame

660 RGB Chroma Keyer \$1410.00

660-4 RGB Chroma Keyer (4 inputs) 2080.00

1240, 1240-4 Encoded Chroma Keyer

• Wide range of encoded video sources • Minimum chroma crawl • Uses one (1) module space in 5010 rack frame [two (2) with input selector]

1240 Encoded Chroma Keyer \$2870.00

1240-4 Encoded Chroma Keyer (4 inputs) 3150.00

924 Blanking Processor

• Self-contained unit with fade-to-black • Insert new blanking intervals into program output

924 Blanking Processor with FTB \$1500.00

9026 Autotransition/Event Storage Unit

• Autotransitions on M/E's Mix, FTB and DSK • General Purpose Interface (GPI) • 100 event storage/recall • Chaining of events for longer sequences • Editor interface built-in RS-232 or RS-422 • Stores entire switcher setup • Operated with 9300 or 9400 switchers

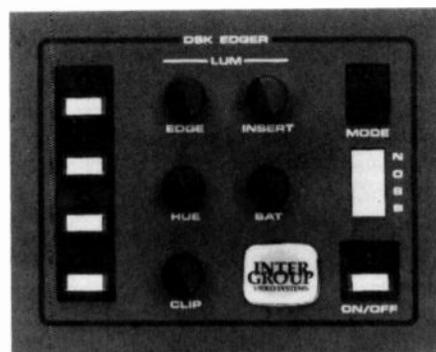
The 9026 offers both autotransitions for the 9300 or 9400 Production Switchers and Event Storage and Recall of 100 different panel "snap shots." The autotransitions may be triggered through the GPI with either a momentary closure or TTL active low to ground. Multiple events may be sequenced to perform complex series of events. A Serial Editor interface allows either RS-232 or RS-422 editor control in concurrent operation.

9026-3 9300 Switcher only. \$2800.00

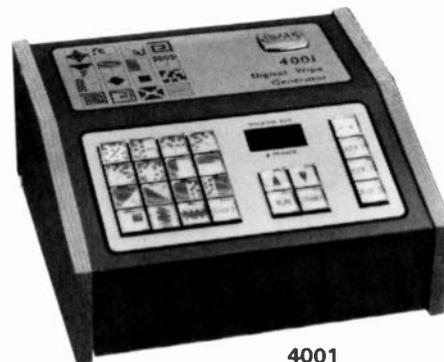
9026-4 9400 Switcher only. 2800.00

908 Stereo Audio Follow Video

• 10 audio follow inputs • 5 audio breakaway inputs • Auto or manual control • Follows M/E1, M/E2, or mixer • VU meter for program out • Level adjust for program out • Linear fader for manual control • Stereo version available



640



4001

The Audio Follow Video package gives you the ability to mix audio sources concurrent with Fader movement on either the 9400 or 9300 Production Switchers. In addition to audio follow the 908 has 5 separate audio inputs for breakaway.

908-4S Stereo Version 9300/9400 Switchers only \$5600.00

Special Function Options:

5010 Rack Frame \$ 250.00

5050 Power Supply 250.00

924 Blanking Processor with Fade-to-Black 1500.00

4001 Digital Pattern Generator 1650.00

NOTE: Certain options require the use of a 5010 rack frame and 5050 power supply. This frame will accommodate up to seven (7) modules of options or audio/video terminal processing equipment.



4406 Studio Monitor

- Frequency Range: (-6dB): 45Hz-27kHz • Frequency Response (± 2 dB): 55Hz-20kHz • Sensitivity: 87dB SPL, 1W (2.83V), 1m
- Power Rating: 75W, pink noise • Transducer complement: 6.5" (165mm) LF, filled polypropylene cone; 1" (25mm) HF, pure titanium dome

The 4406 is the most compact of JBL's studio monitors and is intended for use where space is restricted. Its close driver spacing produces a coherent sound source, making it ideal as a direct-field monitor for console placement.

Optimum enclosure porting and careful network design ensure smooth response, which extends lower in frequency than is usual for an enclosure of such modest size. Response to 27kHz ensures that the upper musical octave (10kHz to 20kHz) will be reproduced with complete accuracy, making the Professional Series Studio monitors ideal for monitoring critical digital and advanced analog recordings.

4406 \$189.00



4406

4408 Studio Monitor

- Frequency Range (-6dB): 40Hz-27kHz • Frequency Response (± 2 dB): 50Hz-20kHz • Sensitivity: 89dB SPL, 1W (2.83V), 1m
- Power Rating: 100W, pink noise • Transducer Complement: 8" (200mm) LF, felted cone; 1" (25mm) HF, pure titanium dome

The 4408 compact monitor is intended for use where space is restricted. Its close driver spacing produces a coherent sound source, making it ideal as a direct-field monitor for close-in broadcast applications.

4408 \$237.00



4408

4410 Studio Monitor

- Frequency Range (-6dB): 35Hz-27kHz • Frequency Response (± 2 dB): 45Hz-20kHz • Sensitivity: 91dB SPL, 1W (2.83V), 1m
- Power Rating: 125W, pink noise • Transducer Complement: 10" (250mm) LF, Aquaplas laminate cone; 5" (125mm) midrange cone; 1" (25mm) HF, pure titanium dome

The 4410 studio monitor consists of a three-way vertical array of transducers. The system is provided in mirror imaged pairs in order to ensure absolute accuracy of stereophonic imaging. The 4410 is the logical choice for critical digital recording applications where wide bandwidth, linear response, and accurate imaging are essential.

4410L,R \$375.00



4410

4412 Studio Monitor

- Frequency Range (-6dB): 35Hz-27kHz • Frequency Response (± 2 dB): 45Hz-20kHz • Sensitivity: 90dB SPL, 1W (2.83V), 1m
- Power Rating: 150W, pink noise • Transducer Complement: 12" (300mm) LF, Aquaplas laminate cone; 5" (125mm) midrange felted paper cone; 1" (25mm) HF, pure titanium dome

The 4412 is a three-way monitor system designed for demanding recording and broadcast applications. It is oriented horizontally so that it can be easily integrated into control room architecture, or mounted on the console itself. It is provided in mirror-imaged pairs for accurate stereophonic imaging. The 4412 is capable of remarkably high acoustical output, attaining in many applications those levels normally associated with compression driver monitor systems.

4412L, R \$579.00



4412



4425 Bi-Radial™ Studio Monitor

• Smooth, accurate response from 40Hz to 16kHz • Sensitivity: 91dB-SPL, 1W/1m • Flat power response Bi-Radial horn • 200W continuous program power capacity • High-frequency transducer: a pure titanium diaphragm compression driver with edge-wound aluminum ribbon voice coil, copper-plated pole piece, and diamond pattern diaphragm suspension • Low-frequency transducer: 12" (300mm) driver with 3" (76mm) edge-wound copper ribbon voice coil

The 4425 maintains a 100°x100° coverage pattern from its crossover frequency (1200Hz) up to 16kHz. Smooth power response is ensured from the lowest frequencies up to 1200Hz, and flat power response is maintained above that frequency. At the same time, axial response is remarkably smooth, and the combination of controlled power and axial response ensures the reflected sound field in the control room will be free of coloration.

4425 L,R\$849.00

4430/4435 Bi-Radial Studio Monitors

• Frequency Response: 4430—(± 3dB) 35Hz-16kHz; 4435—(± 3dB) 30Hz-16kHz • Power Capacity: 4430—300W; 4435—375W • Sensitivity: 4430—93dB SPL; 4435—96dB SPL

Developed to meet the challenge of digital and advanced analog recording technology, the 4430 and 4435 represent a significant approach to two-way studio monitor design. The incorporation of the Bi-Radial horn in a monitor loudspeaker provides constant vertical and horizontal polar coverage, control of the reverberant field, flat power response, image stability, and coherent sound. The two models also feature improvements in compression driver, low frequency transducer, and dividing network technology. Both systems exhibit wide bandwidth, smooth frequency response, high efficiency, wide dynamic range, and exceptional reliability.

The two models differ chiefly in their frequency capabilities. The two 15" (380mm) low frequency drivers of the 4435 provide greater bass output than is provided by the single 15" bass driver of the 4430.

4430L,R\$1347.00

4435L,R1899.00

4312A Control Monitor

• 12" (300mm) long excursion low frequency transducer • 5" (130mm) midrange transducer • 1" (25mm) titanium dome high frequency transducer • Suitable for vertical or horizontal placement • Mirror-imaged for accurate stereo imaging

The 4312A extends the high frequency bandwidth of its predecessors through the use of the O35Ti driver. This high frequency transducer uses a 1" (25mm) pure titanium dome, which maintains flat on-axis response to 27kHz.

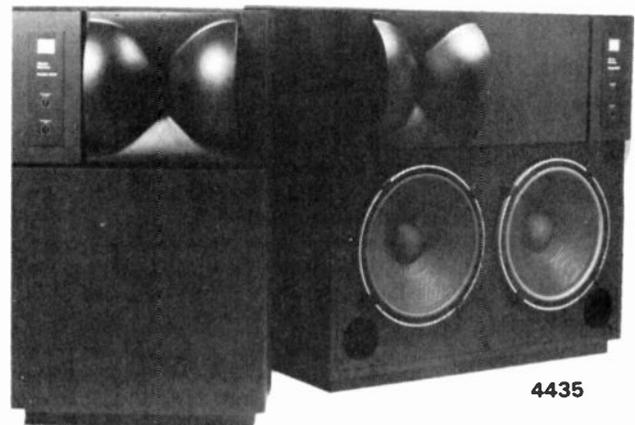
4312AL,R\$450.00

SLT-I Miniature Loudspeaker System

• Frequency Response: (± 3dB) 100Hz to 18kHz • Power Capacity: 50W • Sensitivity: 87dB SPL, 1W/1m • Nominal Impedance: 8 ohms • Crossover Frequency: 4kHz • 5 1/4" low frequency loudspeaker, 1" high frequency dome radiator • Diecast aluminum enclosure • Integral mounting bracket

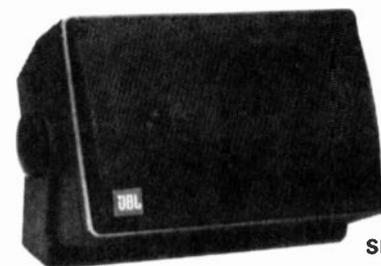
Compact and rugged, the SLT-I mounts easily in restaurants, churches, recording studios and mobile audio video installations. It also makes an extremely high quality personal monitor for professional or home use.

SLT-I\$159.00



4430

4435



SLT-I



Control I

Control I™ Personal Sized Monitor Loudspeaker

• Frequency Response: (± 3dB) 120Hz to 20kHz • Power Capacity: 150W • Sensitivity: 90dB SPL, 2.83V, 3.3' (1m) • Nominal Impedance: 4 ohms • Crossover Frequency: 6kHz • Finish: black • Dimensions: 9 1/4" x 6 1/4" x 5 5/8" D • Net Weight (each): 4 lbs. (1.8 kg) • Vented enclosure is molded from dense, nonresonant polypropylene structural foam • Transducers are magnetically shielded • High power handling with integral protection circuit network • 5 1/4" low frequency loudspeaker, 3/4" polycarbonate dome tweeter • Unique series of mounting adaptors • Compact and durable, it performs equally well in recording studios, mobile audio video control rooms and broadcast studios

Control Iper pair/\$180.00

Control 5™ Compact Control Monitor Loudspeaker

• Same features as Control I except: • Frequency Response: (± 3dB) 75Hz to 20kHz • Power Capacity: 175W • Sensitivity: 92dB SPL, 2.83V, 3.3' (1m) • Crossover Frequency: 3kHz • Finish: Black or gray • Dimensions: 15 1/4" x 9 7/8" x 9" D • Net Weight (each): 10 lbs. (4.5kg) • Sonic advantages afforded by a larger enclosure • 6 1/2" low frequency loudspeaker and a 1" titanium dome tweeter

Control 5per pair/\$297.00

1178 Dual Peak Limiter

• Two independent peak limiters with perfect tracking when used in stereo mode • Attack time front panel adjustable from 20-800ms independent of peak duration or frequency • Release time front panel adjustable from 50ms to 1.1 sec • Pushbutton selection of four compression ratios, to satisfy various program requirements • High impedance, balanced, bridging inputs • Balanced, transformer outputs • Low noise, low distortion • Switchable meter ballistics (VU, peak)

1178	Dual peak limiter	\$996.00
SC2	Security cover for 1178.	36.00
301	XLR/QG adaptor	28.00

1176LN Peak Limiter

• Pushbutton selection of four compression ratios, to satisfy various program requirements • Attack time front panel adjustable from 20-800ms independent of the degree of limiting • High impedance, balanced, bridging input • Balanced, transformer output • Stereo coupling, with accessory 1176SA

1176LN	Peak limiter	\$648.00
SC2	Security cover for 1176LN.	36.00
1176SA	Stereo adaptor.	48.00
301	XLR/QG adaptor	28.00

LA-4 Compressor/Limiter

• Long-life LED optical attenuator • Smooth, natural sounding RMS action • Selectable compression ratios • True standard volume indicator (VU) • Input overload indicator • Simple stereo coupling • 2:1 compression with 20:1 limiting

LA-4	Compressor/limiter	\$548.00
DR-1	Double rackmount for two LA-4s	28.00
SR-1	Single rackmount for one LA-4	28.00
301	XLR/QG adaptor	28.00

7110 Limiter Compressor

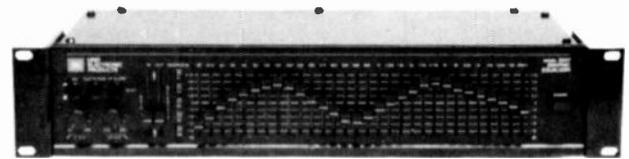
• Smart-Slope compression ratios adjustable from 1.5:1 thru infinity: 1 and permits independent settings for limiting threshold, attack and release times, and output level • Both peak and/or average gain reduction • User control of threshold, peak/average blend, attack and release times and compression ratio • Simple set-up with Automatic Preset pushbutton • Bright, easy to read displays • Space saving single rack space size • Active balanced input with enough threshold range to provide full limiting action with input signals down to -20dBm • Output display's zero reference is adjustable from -10dBm to +8dBm • Unbalanced output is capable of +22dBm into 600 ohms • Automatically bypasses itself, connecting the input directly to the output, when power is off

7110	Limiter Compressor	\$450.00
SC-6	Security cover	POR
16-14550	Output transformer.	POR

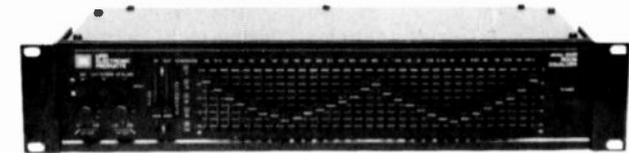
537 1/3-Octave Graphic Equalizer

• 27 adjustable equalizers on ISO 1/3-octave center frequencies • 12dB boost or 12dB attenuation at each center frequency • Stepless, noiseless controls, precision calibrated • State-of-the-art active L-C filter circuitry • Low distortion, lowest noise, minimum phase shift • Zero insertion loss, up to 20dB gain • Standard rackmounting, only 3 1/2" high • Optional front panel security cover • Competitively priced

537	1/3-octave graphic equalizer.	\$1096.00
SC1	Security cover	36.00
301	XLR/QG adaptor	28.00



5547A



5549

535 Dual Graphic Equalizer

• Two channels in one compact package • 10 adjustable equalizers in ISO 1-octave center frequencies for each channel • 12dB boost or 12dB attenuation at each center frequency • Stepless, noiseless, calibrated controls • Gain variable from -10 to +20dB • State-of-the-art synthesized LC filter circuitry • Low distortion, lowest noise, minimum phase shift • Standard rackmounting, only 3 1/2" H

535	Dual graphic equalizer	\$596.00
SC1	Security cover	36.00
301	XLR/QG adaptor	28.00

533 Octave Graphic Equalizer

• Synthesized LC filter circuitry with smooth combining characteristic • Gain variable from -10 to +20dB, wide dynamic range • Low distortion, low noise, minimum phase shift • 10 adjustable equalizers on ISO 1-octave center frequencies • 12dB boost or 12dB attenuation • S/N better than 106dB at maximum output • Input of +20dB • Output +24dBm

533	Octave graphic equalizer (mono)	\$436.00
DR-1	Double rackmount	28.00
SR-1	Single rackmount.	28.00

5547A Graphic Equalizer/5549A Room Equalizer

• 1/3-octave filters on ISO centers 25Hz to 20kHz • ± 12dB range at center frequency (5547A) 0 to -15dB range at center frequency (5549A) • Fully active-custom hybrid amplifiers in filter circuits • Unique gain structure controls optimize headroom and signal-to-noise ratio for different signal level environments • High and low frequency tunable end cut filters • Active and passive bypass modes • XL, phone jack and barrier strip connectors • Rugged, reliable, roadable

Inputs and Outputs

Both input and output may be wired for balanced or unbalanced operation to match the needs of the system. Input and output connections may be made through 3-pin XL-style, 3-conductor 1/4" phone jacks, or to barrier strip with bare wire or lug connection. All standard. Choose the connector type that suits your needs. The connectors are wired in parallel allowing "loopthrough" connections.

Tunable End Cut Filters

Continuously variable filters at each end of the frequency spectrum control the available bandwidth of the system with a 12dB per octave slope. The high frequency slope is switchable to 6dB per octave to aid in contouring, and a bypass switch removes them from the circuit completely.

5547A	. . . . .	\$849.00
5549A	. . . . .	897.00



1620 Music Mixer

- Eleven inputs
- Stereo outputs for house, booth and headphones
- Two stereo tape outputs
- Processor loop
- Mono light controller output
- Flexible switching matrix
- Reliable performance
- Ideal for disco, small club or broadcast production

The 1620 Music Mixer is an extremely flexible multi-input stereo mixer designed for the most critical and demanding applications. The outstanding features and reliability make it the perfect choice for night-clubs, broadcast production, mobile discos and other installations where high quality is essential.

The 1620 has six independent stereo channels, each with its own level and balance controls. The standard configuration has two stereo phono inputs, one transformer isolated mike input with variable gain, and eight stereo line level inputs. Three of the eight line inputs can accept additional phono or mike preamp cards. These optional cards permit combinations such as five phono inputs, one mike input, and five line inputs; two phono inputs, four mike inputs, and five line inputs, or any other combination you may require. The standard mike input and eight line inputs are selected to any of four level and balance controls through a flexible switching matrix.

The output circuits of the 1620 also have extraordinary flexibility. Separate outputs for house and booth amplifiers are provided, each with its own level control. The house output is transformer-isolated so that remote amplifiers may be fed with minimum likelihood of noise pickup in the interconnecting lines.

A separate headphone circuit has its own selector switch, allowing its source to come from any of the six input controls (pre-fader) or from the program output; its level control feeds an internal headphone amplifier



1620

and front panel stereo 1/4" (6.3mm) phone jack. For convenience in attaching lighting controllers, an isolated mono (L + R) output is provided on a rear panel jack; this output is not affected by any of the output level controls, so that lighting intensity will not be affected by overall level adjustments. Separate bass and treble controls for left and right channels affect the house, booth, headphone and mono outputs. The inflection points of these controls have been carefully selected for minimum midrange coloration and maximum flexibility.

Additionally, two separate tape outputs are provided for making recordings, and a processor loop allows connection of equalizers or other signal modification equipment.

1620 \$996.00

Specialty Items

- 950 ANCA (Ambient Noise Controlled Amplifier) \$ 1096.00
- 964 Digital Metronome 876.00
- DR-2 Double Rackmount for two 964's 28.00
- SR-2 Single Rackmount for 964 28.00
- 1621 Mic Preamp Module for 1620 96.00
- 1622 Phono Preamp Module for 1620 96.00

5330 VCA Controlled Mixer (Preliminary)

- All microphone inputs switchable for line level use
- Voltage controlled outputs are standard to facilitate remote control
- Plug-in VCA option available for controlling inputs 1 through 6
- Low cut filters on all microphone inputs
- Preset trims on all controls are accessible through the front panel to limit range of operation and maximum gain
- Built-in output limiter to avoid blasting or overload
- Built-in output level meter
- Electronically balanced inputs for outstanding common mode rejection and RF immunity
- Transformer coupled outputs to break ground loops
- 48V phantom supply built-in
- Effects loop to allow insertion of ancillary equipment

All inputs are voltage controlled through use of an optional card or alternately can be manually controlled in the normal manner.

All units come standard with voltage controlled output amplifiers to facilitate remote control of output levels. Two outputs are provided which may be used for main and monitor or alternately to feed two separate zones. Use of the VCA controls naturally allows ganging of the gain controls of multiple units where desired. Further, priority muting of all channels by channel one is available by remote DC control.

Screwdriver adjustable gain trim controls are available at all mike/line inputs and at both outputs, allowing the presetting of reasonable maximum gains on these controls. The tone controls are also provided with a range trim control which can reduce their effectiveness to zero in applications where their use is not desired.

These trim controls allow the option of limiting control range to levels more suited to unskilled users. (Use of the trim controls allows local or remote gain control to the preset maximum only.)

Fully floating transformer coupled outputs are included to break ground loops and provide power line isolation. These transformers are driven by output stages capable of a full + 24dBm output.



5330

Infrequently used switches are located on the rear panel to preclude inadvertent operation. In addition to the mike/line switches are switches to activate the phantom supply and to defeat the limiter.

Limiting of the output is internally preset to gradually increase above -3 on the output bar graph display and designed to be fully operational at the top of the red part of the display.

Other items are a polycarbonate overlaid front panel with markings on the obverse, which is easily cleanable and virtually indestructible; adjustable rack ears which allow flush mounting the 5330, with or without the optional security cover; and a modular power source, separate from the main chassis, which makes for absolutely no external hum field to interfere with adjacent equipment.

5330 VCA \$897.00

6215 Power Amplifiers

- Space saving single rack space
- Output power 35W per channel into 8 ohms, 45W per channel into 4 ohms, 90W mono bridged into 8 ohms
- Rear panel switch for stereo, dual mono or mono bridge operation
- Fully complementary output
- Low negative feedback—Low T.I.M
- Individual stepped gain controls
- Active balanced input
- Input connectors—XLR, phone jack and barrier strip

The 6215 is a professional power amplifier that has been engineered to meet rigorous demands of musicians, sound reinforcement companies, broadcasters and touring groups. It is equally at home in fixed installations and studios where precise reproduction of complex waveforms must be accomplished.

6215 \$597.00

6230, 6260 Power Amplifiers

- Active balanced bridging input circuitry
- Full complementary driver and output circuitry
- Low transient intermodulation distortion (TIM)
- Rugged, road worthy construction
- Individual stepped gain controls
- XL-type, phone jack, and barrier strip input connectors
- Heavy-duty 5 way output binding posts
- Rear panel switch for bridged, dual mono, or stereo operation
- Front panel/heat sinks are made of heavy aluminum; chassis of heavy gauge steel

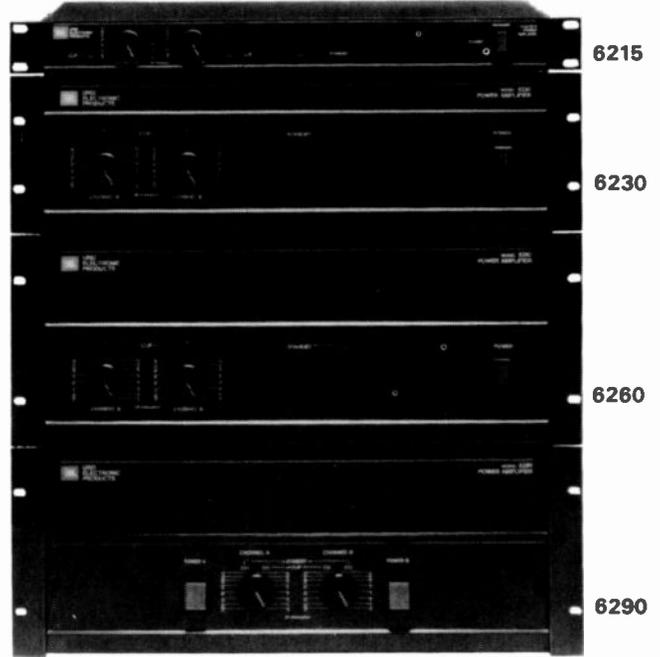
Designed to meet the most critical professional sound requirements. These power amplifiers are rugged and road worthy, conservatively rated, and can handle highly reactive loads with ease.

The engineering design approach stresses the optimization of each stage, allowing high slew rate and relatively low loop gain. Overall feedback has been held to a minimum and is employed only to stabilize the gain and the operating point. This design approach results in amplifiers with excellent performance under the most demanding dynamic input and load conditions.

Specifications

Output Power	6230		6260	
	Rated Power 20Hz - 20kHz	Midband Power 1kHz	Rated Power 20Hz - 20kHz	Midband Power 1kHz
8 ohm stereo (per channel)	75W	110W	150W	190W
4 ohm stereo (per channel)	150W	175W	300W	315W
16 ohm bridge	150W	220W	300W	380W
8 ohm bridge	300W	350W	600W	630W
Dimensions:	5 1/4" x 19" (133 x 483mm)		7" x 19" (178 x 483mm)	
Depth:	10 1/2" (267mm)		10 1/2" (267mm)	
Net Weight:	23 lbs/ (10.4kg)		42 lbs. (19kg)	

6230 \$639.00
6260 \$897.00



6290 Dual Monophonic High Power Amplifier

- High output power — 600W per channel into 4 ohms, 1200W into 8 ohms mono bridge mode
- Fully independent audio channels and power supplies
- Fully complementary output
- Low negative feedback, low TIM
- Active balanced inputs with XLR, phone plug, and barrier strip
- Rugged, proven design

The 6290 is a dual monophonic professional power amplifier that has been engineered to meet the rigorous demands of sound reinforcement companies and touring groups. It is equally at home in fixed installations and studios where precise reproduction of complex waveforms must be accomplished at high power levels.

The 6290 features two independent high power amplifiers in one heavy gauge steel chassis. Both channels, with the exception of the mains power cord, are individually powered and protected. There are several benefits to this type of design. Should a channel failure occur in the stereo or dual mono mode, the other channel will not be affected and will continue to operate in the normal manner at full power capability. If the amplifier is being operated in the mono bridge mode, the loss of one channel will not inhibit the other channel, but allows continued operation with a 3dB power reduction.

Other design aspects of the 6290 include low intermodulation distortion (TIM). TIM is one of the more definitive methods for measuring displeasing (audible) distortion mechanisms, and is kept to a minimum by using local feedback in predriver stages. Only a small amount of negative feedback is used to establish the operating point and set the gain. Another factor that contributes to the sonic integrity of the amplifier is the use of fully complementary devices in all predriver, driver, and output stages.

Input terminations can be made to the 6290 by using any standard 1/4" TRS, XL-type connector, or barrier strip. Output terminations are accomplished with five way binding posts, and AC fuses are accessible from the rear of the unit.

6290 \$1347.00

BY-Series

BY-110U Color Camera

- Compact, lightweight—8.2 lbs. • Low power consumption • f/1.4 prism optical system • 3 1/2" hi-voltage Saticon tubes (H9392) • 600 lines resolution • 54dB S/N • Genlock input (through AC power connector) • Auto-shift registration • Auto white/black balance • Auto beam control (ABC) • Auto black level circuit (ABL) • Servo iris control circuit with auto iris close • Color bar circuit • +6dB/+12dB gain boost for low light • Built-in color temperature filter wheel • "Hot Shoe" viewfinder, lens, and optional microphone • Extended life memory backup battery

Extremely compact, extremely light

Computer aided design and manufacturing techniques have made possible drastic reductions in size and weight without reducing performance and features. Strength and protection are provided by an aluminum diecast body.

Low power consumption

Power consumption is a low 16.0W when the 1.5" viewfinder is used. When a fully-charged DC-C11U battery pack is used, the camera will operate for approximately 60 minutes at normal temperatures (about 77°F). The camera may be powered from a range of 10.5 to 15VDC.

The BY-110U has a quick warm-up time and is stabilized sufficiently for normal use about 40 seconds after switching the power on. (Perfect stabilization will require 10 minutes or more.)

Excellent picture quality

Three 1/2" Saticon (SM) tubes assure accurate color reproduction and 600 lines of horizontal resolution, and 54dB signal to noise ratio. A fast f/1.4 glass prism assures superb resolution and accurate color separation.

Wide range of automatic functions

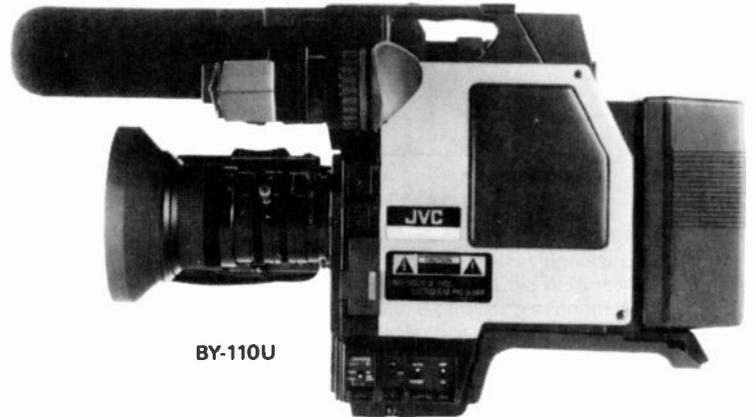
- Auto-shift registration (auto centering) provides automatic adjustment of vertical and horizontal alignment (shift) of blue and red channels. Adjustment is accomplished by simply flipping a switch on the front panel. The circuit is digital, and registration data is stored in the camera's memory (battery back-up provided)
- Auto white balance circuit. White color balance can be adjusted automatically by flipping a switch, or the camera can be operated in the "preset" position (3200K). White balance data is stored in the camera's memory circuit
- Auto black balance circuit. Flipping a switch automatically closes the iris and adjusts pedestal balance of the individual channels
- Auto beam control circuit reduces comet tails in most cases
- Auto black level circuit. The ABL circuit offers sharp black images even when shooting outdoors under bright conditions
- Auto (servo) iris circuit. The iris responds quickly to objects with varied contrast and slowly for those with little contrast for natural automatic iris operation. A weighting detection circuit controls the video signal level of the upper part of the screen to optimize the overall brightness when the sky is very bright, etc.
- To protect the pickup tubes, the iris closes automatically when the Operate switch is off or when the color bar switch is on

Extended life back-up battery

To retain the memory of the digital auto circuits, a back-up battery is employed. This allows the camera to retain its white balance, black balance, and auto-shift settings even when the power is turned off. A long life battery is utilized for this function and has a rated life of approximately 4 years.

Excellent operability

Switches are "touch coded" and some are protected from accidental mis-operation. The auto centering and auto white/black controls are located on the front panel behind a small door. A diopter is provided in the 1.5" electronic viewfinder for people who wear eyeglasses.



BY-110U

"Hot shoe" connection system

To eliminate problems with cables and connectors, the camera head and its portable accessories are designed to connect together without the use of cables. Direct connection is provided for:

- 10:1 zoom lens • 1" electronic viewfinder • M-K50U microphone • DC-C11U NiCad battery pack

- BY-110UL 10B 3-Tube Color Camera with 10:1 Zoom Lens. . \$4280.00
- BY-110UL 16B 3-Tube Color Camera with 16:1 Zoom Lens. . 4999.00

Accessories

- AA-C11U AC Adaptor/Battery Charger \$ 310.00
- DC-C11U 2.2AH Battery Pack 210.00
- ECM-025F 25' Lens Cable (S16x7CMD-D9 to RM-D2) . . . 330.00
- ECM-050F 50' Lens Cable (S16x7CMD-D9 to RM-D2) . . . 385.00
- ECM-100F 100' Lens Cable (S16x7CMD-D9 to RM-D2) . . . 645.00
- HZ-CA11U C-Mount Lens Adaptor 830.00
- HZ-CA12U C-Mount Adaptor for Microscope Applications 575.00
- HZ-FM11U Manual Focus Control for HZ-110U 325.00
- HZ-FM12U Manual Focus Control for 12:1/16:1 Lenses. . . 450.00
- HZ-M110U Microscope Attachment 2830.00
- HZ-NK11U Nikon Adaptor (for 35mm-type Lens) 615.00
- HZ-TCL11U 1.5X Teleconversion Lens 405.00
- HZ-WCL11U Wide Angle Conversion Lens 405.00
- HZ-ZS11U Servo Zoom Control for HZ-110U Lens 345.00
- HZ-ZS12U Servo Zoom Control for 12X/16X Lenses 500.00
- HZ-110MDP 10:1 Motorized Focus Zoom Lens with remote RM-110U and connector 1600.00
- HZ-110U 10:1 (f/1.4, 7-70mm) Servo Zoom Lens 765.00
- HZ-116U 16:1 (f/1.4, 7-112mm) Servo Zoom Lens 1715.00
- KA-D50U Adaptor for DC-C50U 3.5AH Battery 150.00
- KA-M50U Pistol Handgrip for M-K50U. 385.00
- KA-110U Quick Release Tripod Base 115.00
- KA-111U Adjustable Chest Rest. 90.00
- KA-130U Camcorder Adaptor (BR-1600 to BY-Series Cameras). 155.00
- M-K50U "Hot Shoe" Microphone. 395.00
- RM-D2 Remote Control Unit for S16x7CMD-D9 675.00
- RS-110U Camera Remote Control Unit. 780.00
- S16x7CMD-D9 16:1 Teleconferencing Lens 2010.00
- TE-1000U Telecine Attachment for BY-Series Cameras . . 835.00
- TE-3000U Multiplex Telecine Adaptor includes HZ-T08U, HZ-T35U and HZ-T16U Lens . . . 3240.00
- VC-511CU-2 14p-10p VCR Cable (2m) 130.00
- VC-515U 65' Camera Cable to RS-110U 375.00
- VC-516U 65' Extension Cable for VC-515U Cable 440.00
- VF-400U 4" Studio Viewfinder 555.00

KY-210BUPL Color Camera

- 3 tube Saticon, HR-EM type H4101C • 750 lines resolution, 58dB S/N • f/1.4 prism beam splitter • Low light performance: 32 lux (3.0 fc) at 18dB • Compact and lightweight: 7.8 lbs. • Diecast construction • High quality prism optical system • Full RS-170A SSG with color framing output • 2H vertical enhancement with level depend circuit • Split-field color bars (RS-189 standard) • Built-in Genlock circuit • "Hot Shoe" adjustable viewfinder (1.5") with diopter • Numerous auto circuits and functions • Full complement of studio options • Auto shift registration (auto centering) • Auto white/black balance circuit/black level circuit • Auto beam control circuit • Auto (servo) iris circuit/iris close • +9/+ 18dB gain

Excellent picture quality

Picture sharpness is further improved through the use of f/1.4 prism beam splitter and a 2H vertical enhancement circuit. As with any enhancement circuit, a certain amount of noise is also enhanced. To eliminate this under low light conditions, a level depend circuit is incorporated which controls the enhancement, so that the pictures produced are sharp and well defined, yet quiet even under gain boost situations. At + 18dB boost, the minimum illumination required is only 32 lux (3.0 fc) using the standard lens, which makes the KY-210BU one of the most sensitive three tube cameras available today.

To provide the most natural color reproduction possible, a linear matrix masking circuit is employed. Briefly, what it does is adjust the pickup characteristics of the camera to be identical to the human eye, compensating for the negative energy portion of the ideal color characteristics.

RS-170A Color framing

The sync generator uses IC and VC-TCX0 and conforms to the RS-170A broadcast standard. Color framing pulse output and genlock function using composite video or black burst signals are also provided as standard.

Genlock circuit

To genlock, simply plug-in a stable composite video signal to the genlock input on the camera. The camera will then be locked to the external source. To control the phase (color shift) of the camera, an adjustment is provided inside the camera to match it with the external source.

Split field color bars

The KY-210BU has a built-in split field color bar generator, meeting the RS-189A standard. Color bars are useful for checking and making adjustments to color monitors and provide a consistent reference for checking the performance of the videocassette recorder. The advantages of split field bars (as opposed to full field) are as follows:

- Both 75% white and 100% white are displayed, making it easier to check these levels
- The I & Q signals of the encoder are provided and easily displayed on the vectorscope

1.5" Electronic viewfinder

The VF-215BU combines the adjustability of the cable-connect type of viewfinder, with the advantages of the direct connect (Hot Shoe) system. The VF-215BU connects directly to the KY-210BU camera head without cables, thus eliminating cable related problems (such as RF interference, bad connections, etc.). It is also adjustable both horizontally and vertically and has both a flip-up eyepiece and a diopter. The diopter allows the eyepiece to be adjusted for people who wear eye-glasses.

KY-210BUPL Three Tube Color Camera Less Lens

System Components: Camera head, VF-215BU 1.5" Electronic viewfinder, Carrying case.

KY-210BUPL \$6695.00



KY-210BUPL

Accessories (Partial)

A10x10BMD-D9	10:1 Teleconferencing Lens	\$1715.00
A16x9.5BMD-D9	16:1 Teleconferencing Lens	2010.00
AA-C50U	AC Power Adaptor — can be used as an AC power adaptor for the camera as well as a battery charger for the DC-C50U	399.00
DC-C50U	3.5AH NiCad Battery Pack — can be attached to the rear of the camera	340.00
HZ-E512U	12:1 Servo Zoom Lens w/extender (9-108 mm)	2550.00
HZ-516U	16:1 Servo Zoom Lens	1715.00
HZ-CA23U	C-Mount Lens Adaptor for KY Series.	1300.00
HZ-FM12U	Manual Focus control for 12:1, 16:1 Lenses.	450.00
HZ-NK23U	Nikon Lens Adaptor for KY Series Cameras.	990.00
HZ-ZS12U	Servo Zoom unit for HZ-E512/HZ-516 Lenses	500.00
KA-500XU	Tripod Mounting Plate for KY Cameras	185.00
KA-M50	Pistol Handgrip for using M-K50U.	385.00
M-K50U	"Hot Shoe" Microphone for BY/KY Cameras	395.00
RS-500U	Remote Control Unit	2260.00
RM-D2	Remote Control Unit for teleconferencing lenses	675.00
RS-L501U	Remote Operation Panel for RS-500U	840.00
TE-1000U	Telecine Attachment for 3-Tube Cameras	835.00
UC-1003U	Rackmount Adaptor for 2 RS-500U's	145.00
VC-512BU	4m VCR Cable (14p-14p)	160.00
VC-544U	65' Camera Cable (Camera to RS-500U).	530.00
VC-545U	160' Camera Extension Cable for VC-544U	1050.00
VC-586U	16' Extension Cable for AA-C19-U, AA-C50U	160.00
VC-589BU	33' Extension VCR Cable (14p-14p)	295.00
VF-515BU	1.5" Viewfinder for KY-210BU only.	645.00
VF-550U	5.5" Studio Viewfinder.	740.00
UC-P1004U	Rackmount adaptor for RS-L501U	140.00

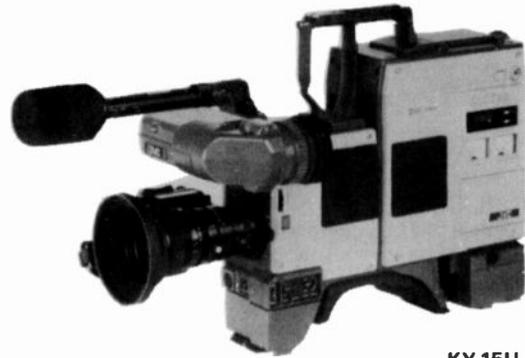


JVC PROFESSIONAL
PRODUCTS COMPANY

COLOR CAMERAS

KY-15U 1/2" 3-CCD Color Video Camera

- Extremely versatile system capability includes: High-mobility S-VHS camcorder combination (without adaptor); MII camcorder configuration with MII VTR and optional adaptor; Studio and Mobile Production Van configuration with large viewfinder and remote control unit; standalone type camera is also available for a separate portable VTR and a computer graphic input camera
- High quality picture with three 330,000 effective pixels
- Horizontal resolution of 500 lines in each of RGB CH high S/N ratio of 58dB
- Multi-format output signals include: RGB analog, MII (Y.R-Y.B-Y component), S-VHS (Y/C 358) and composite video signals
- Microprocessing unit controlled auto-setup
- SSG conforms to RS-170A broadcast standard
- Three speed electronic shutter (1/1000, 1/500, 1/250)
- Self-diagnostic system with character display
- Stereo audio circuit
- Color matrix circuit
- Negative/positive image reversal circuit
- Three white balance adjustment modes
- 2H vertical contour correction circuit
- Flare correction circuit
- Intercom headset terminal with level control
- VTR trigger select switch
- Audio output level select switch (-20dB, -52dB)
- External sync input for genlock
- Hot shoe microphone (M-K 50/MV-P602) and viewfinder (VF P10U)
- Earphone jack



KY-15U

Camera includes camera head, KA-20 camera adaptor, VF-P10 1.5" viewfinder, zoom lens, KA-231 handle, KA-220 shoulder pad, KA-500X tripod base and the CB-P410 carrying case.

KY-15UL10 with HZ-410 10X Zoom Lens \$6995.00
KY-15UL16 with HZ-416 16X Zoom Lens \$8290.00

KY-20U 2/3" CCD Color Camera

- Three CCDs housed in lightweight, diecast aluminum body
- Self-contained, full function component or NTSC camera for ENG or studio
- Large viewfinder and remote control
- IQ encoder
- RS-170A type SSG
- MII docking VCR can be attached with optional MII format adaptor
- 2H vertical contour circuit
- Color matrix circuit
- Genlock circuit
- Component output signal
- Signal-to-noise 56dB
- 530 lines for all channels
- Registration error of less than 0.5% in all zones

The KY-20U is a self-contained, full function component or NTSC camera for ENG or studio applications requiring a large viewfinder and remote camera control. An MII docking VCR can be attached to the KY-20U by replacing the standard camera adaptor with an optional MII format adaptor.

The KY-20U is ideal for VCR recording as well as providing RGB input for image processing systems. The minimum illumination required is 23 lux (2fc) using the standard 13X lens when gain is boosted to + 18dB.

KY-20U



Auto-setup and self-diagnostics make these cameras easy-to-operate and user-friendly. Stereo audio inputs are provided for use with portable VCRs from JVC, including the MII portable recorder.

KY-20UL13 TBA

KY-M280U Multipurpose Three-Tube Color Video Camera

- 650 lines resolution
- Signal-to-noise 55dB
- Three 1/2" Saticon tubes
- f/1.4 RGB prism optical system
- 65 lux at f/1.4
- 2H vertical correction and color matrix make picture clear and accurate
- Color bar generator
- Gain boost circuit
- Auto-iris circuit with level setting control (activated with HZ-110 or HZ-116 lens)
- Master black control
- One-touch operation—auto-shift registration, auto-white balance and auto-iris control
- RGB component signals can be output as well as standard composite video signal. A clearer picture can be obtained by connecting an RGB video monitor

Featuring a very compact camera head (KY-M280CH) using RGB prism optics, this camera was specially designed for use with 1/2" tubes. Applications range from medical, industrial, image processing, as well as in the studio as a caption camera, controlled from a separate control unit (KY-M280CU) up to 203' away.

KY-M280U Includes CCU, CCU cable, camera head, special lens mount adaptor \$9200.00

Accessories

ECM-025F 25' lens cable to RM-D2 \$ 330.00
ECM-050F 50' lens cable to RM-D2 385.00
ECM-100F 100' lens cable to RM-D2 645.00
HZ-110MPD 10:1 motorized focus/zoom lens (with remote RM-110U and connector). 1600.00



KY-M280U

HZ-CA12U C-mount adaptor for BY-110U/ Y-M280U \$ 575.00
HZ-M110U Microscope attachment for BY-110U/KY-M280U 2830.00
HZ-M310U Zeiss surgical microscope adaptor, requires RM-P280U 3360.00
HZ-NK11U Nikon lens adaptor for BY-110U, KY-M280U 615.00
RM-D2 Remote control unit lens 675.00
S16x7CMD-D9 16:1 teleconferencing lens 2010.00
VC-P3011U 65' camera/CCU cable for KY-M280U 445.00
VC-P3012U 130' camera/CCU cable for KY-M280U 730.00
VC-P3013U 203' camera/CCU cable for KY-M280U 1000.00



KY-320BU



KY-950BU

Cameras shown with optional viewfinder and lenses

KY-320BU/KY-950BU
Three-PbO Tube Color Production Cameras
Common Features

- High horizontal resolution and S/N ratio
- Separate horizontal and vertical pin and trapezoidal distortion correction circuits improve registration accuracy
- SSG circuit conforms to RS-170A
- Color matrix circuit for further improved color reproduction
- Low power consumption

Common Specifications

Optical System:	f/1.4 3-tube R/G/B prism system (with quartz filter)
Focusing/Deflection System:	Electromagnetic focusing, electromagnetic deflection
Encoder:	NTSC (IQ encoder)
Synchronizing System	
Internal:	Built-in SSG (conforming to RS-170A)
External:	VBS or BB
Lens Mount:	Bayonet
Sensitivity (Typical):	f/4.5 at 2000 lux, 89.9% reflectance
Min. Illumination (Typical):	f/1.7, 38 lux (3.6fc) (+ 18dB On, 89.9% reflectance)
S/N (Typical):	59dB (contour correction Off, gamma 1, bandwidth 4.2MHz, matrix Off, I/Q Off)
Contour Correction	
Horizontal:	Dual-edged
Vertical:	2H, with comb filter
Color Bar Generator:	Split bar (100% white)/full field (75% white) switchable
Optical Filters:	Closed, 3200°K, 5600°K, 5600°K + 25% ND
Gain Boost:	0dB, + 9dB, + 18dB
Variable Blanking:	10.6μs/10.8μs/10.9μs switchable 18H/19H/20H switchable
Input Signals	
Return Video Signal (VBS):	1.0V p-p, 75 ohm
Genlock Signal:	VBS (1.0V p-p, 75 ohm) or BB (0.43V p-p, 75 ohm)
Microphone Signal:	-52dBm, 600 ohm, balanced
Output Signals	
Composite Video Signal (VBS):	1.0V p-p, x2 (BNC/14-pin connector)
Test Signals (VS or VBS):	R,G,B, -G, ENC
Audio Signal:	-52dBm, 600 ohm balanced/-20dB unbalanced or balanced (switchable)
Audio Monitor Signal:	8 ohm, -20dB
VCR Control Signal:	Contact or 4V supply (switchable)

Power Supply:	+ 12VDC (10.5 to 17V)
Ambient Temp.:	-4° to + 122°F (-20° to + 50°C)
Dimensions:	10 ³ / ₄ " H x 4 ⁹ / ₁₆ " W x 11 ¹³ / ₁₆ " D (271.5 x 115 x 299mm)

Standard Accessories: Tripod base, chest rest, mike holder, registration pattern, shoulder strap, extension board, board extractor, dust cover, bias lamp, 2 fuses (3.15A)

KY-320BU

- ²/₃" S-M Plumbicon* tubes achieves high stability
- VF-550U, RS-500U, RS-T900U and KA-3U(A) etc. for ENG/EFP, mobile production van and studio applications

Specifications

Pickup Tubes:	² / ₃ " S-M Plumbicon (S4803) x 3
Horiz. Resolution:	650 lines (G CH center)
Registration	
Zone 1:	Within 0.1% (circle 80% of picture height)
Zone 2:	Within 0.2% (circle of picture width)
Zone 3:	Within 0.3% (area outside Zone 2)
Power Consumption:	1.45A
Weight:	9 lbs. (4.1kg)

KY-320BU	3-tube color camera head only \$ 9,995.00
KY-320BUP	3-tube color camera less lens. Includes: VF-P915 1.5" ENG viewfinder, AA-C50U AC adaptor and battery charger, DC-C50U NiCad battery, CB-95 shipping case with casters, Q95 Anton Bauer battery bracket 11,630.00

KY-950BU

- ²/₃" LOC Diode Gun Plumbicon tubes
- Innovative preamp circuits
- RS-500U multi-core type remote control unit, RS-T900U triax unit, K-3U(A) component adaptor for ENG/EFP, mobile production van and studio applications

Specifications

Pickup Tubes:	² / ₃ " LOC Diode Gun Plumbicon (XQ3427)x3
Horiz. Resolution:	700 lines (G CH center)
Registration	
Zone 1:	Within 0.05% (circle 80% of picture height)
Zone 2:	Within 0.1% (circle of picture width)
Zone 3:	Within 0.3% (area outside Zone 2)
Power Consumption:	1.95A
Weight:	9.9 lbs. (4.5kg)

KY-950BU	3-tube color camera \$22,000.00
* Diode Gun Plumbicon is a registered trademark of N.V. Philips	

S-VHS RECORDERS/ DUPLICATOR/CAMCORDER

BR-S711U Hi-Fi Stereo S-VHS Recorder/Duplicator

- Heavy-duty mechanism using direct-drive motors and an aluminum chassis
- Separate Hi-Fi and normal audio inputs for recording independent soundtracks
- Automatic video head cleaning mechanism
- Independent meters for channel 1/channel 2 audio levels and video level/tracking
- Centralized indications for tape running, recording mode and warning
- Erasure prevention tab override
- Large tape guides
- Dolby[®] noise reduction for two-channel linear audio track
- Cleaning window provided in top panel for easy servicing
- Installation in a 19" EIA rack is possible
- Horizontal resolution: More than 400 lines (S-VHS) More than 240 lines (VHS)
- Separate Y/C input/output system which reduces luminance and chrominance signal interference and improves color reproduction
- Record and playback of regular VHS signals in the SP (standard play) mode
- S-VHS recording and playback in the SP and EP (extended play) modes
- Pair of rotary heads is provided exclusively for the recording and playback of Hi-Fi audio signals with an extended frequency response and dynamic range as well as minimal wow and flutter
- Optional Dual Remote Control



BR-S711U



Systems. Parallel and serial remote controls can be used

- Front panel test points and hour meter, showing the total running time up to 2000 hours
- Signal-to-Noise Ratio: Video > 45dB (SP) Audio > 44dB (NR-off) (Normal) (with 3% distortion)
- Dynamic Range: > 90dB (Hi-Fi SP)
- Frequency Response: 40 to 12,000Hz (Normal) 20 to 20,000Hz (Hi-Fi)
- Wow and Flutter: < 0.25% WRMS (Normal) < 0.005% WRMS (Hi-Fi)

BR-S711U \$3190.00

BR-S410U S-VHS Portable Recorder

- High Quality (HQ) circuit incorporated for operation in the VHS mode
- Rugged construction using aluminum die-cast body
- Automatic Editing Function (AEF) for clean assemble edits
- Audio level meters and LCD electronic counter
- Independent inputs for Hi-Fi and normal audio
- Hi-Fi audio recording can be defeated
- Input switching between Camera/Line/YC
- Four audio recording level controls, allowing control of both Hi-Fi and normal audio for each channel
- Two standard 6mm microphone jacks
- Dolby[®] noise reduction system for normal audio
- Switchable between VHS and S-VHS modes (SP mode only)
- Long pause/still mechanism
- Comprehensive warning system
- Input/output connectors for both the composite and separated Y/C signals
- BR-S410U forms a compact camcorder in combination with a specific camera, or can be used as a separate portable recorder together with an existing camera
- High quality software programs can be produced using the BR-S410U as the master player and a current VHS or 3/4" U-VCR editing recorder (with or without Y/C 358 connectors), together with an optionally available editing controller
- Horizontal Resolution: > 240 lines (VHS color) > 400 lines (S-VHS color)
- Signal-to-Noise Ratio: Video 45dB; Audio > 44dB (with NR off)
- Frequency Response: 20Hz-20,000Hz (Hi-Fi audio) 40Hz-12,000Hz (normal audio)
- Dynamic range: > 80dB



BR-S410U



BR-S410U \$3300.00

BR-S200U S-VHS Camcorder with CCD Image Sensor

- 2/3" field-storage CCD image sensor
- 450 line horizontal resolution from 380,000 total pixels
- Video signal-to-noise ratio of 45dB and 8 lux low-light sensitivity
- Compact camcorder utilizes the Depth-Multiplex sound recording system for high-quality audio reproduction
- Capable of more than 80dB dynamic range
- Frequency response of 20 to 20,000Hz
- Provided with a stereo microphone
- Flying erase head
- Y/C separated input/output terminals
- Audio and video input/output terminals
- Auto pre-roll system
- 6:1 dual-speed power zoom lens with macro position
- Auto-tracking white balance adjustment with manual override
- Shutter speeds can be varied (1/60, 1/250, 1/500, and 1/1000 sec.)
- Automatically switches to S-VHS or regular VHS recording mode
- Manual override feature permits regular VHS recording on S-VHS tape
- In playback, the BR-S200U automatically detects the mode in which the recording was made, and switches the playback circuitry accordingly

BR-S200U TBA

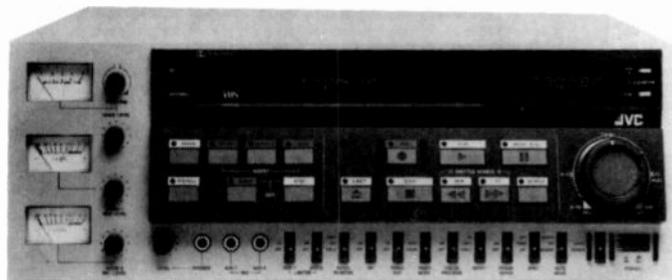
* Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation. Dolby and the Double-D symbol are the trademarks of Dolby Laboratories Licensing Corporation.

* *A Y/C filtering technique incorporated under license from Faroudja Laboratories, Inc.



BR-S200U





BR-8600U

BR-8600U VHS Videocassette Editing Recorder

• Professional-quality editing functions • Preroll function for automatic editing • Heavy-duty mechanism with direct-drive motors • Variable-speed dial search • Video processing circuit • Video recording adjustment — video level/tracking meter • Two-channel audio for stereo recording and playback • Dolby[®] B noise reduction incorporated • Improved color dubbing quality • Three video inputs selectable • Field-still and slow-motion playback • External sync capability • Total front operation • Electronic tape counter/lamp timer with fluorescent display • Tape end warning • Shuttle search at about 10 times normal speed • Automatic search and repeat • External hour meter to show the running total of operating hours • Audio monitor output selectable (CH 1, CH 2, Mix) • Automatic rewind at tape end • Electronic tape tension control • Condensation detector and built-in moisture condensation prevention heater • Warning indicator for any malfunction related to tape transport or moisture condensation • BNC video and RCA audio connectors • Front panel connectors for two microphones and a set of stereo headphones • 8-pin connector for TV monitor • 45-pin connector for editing or remote control unit

The BR-8600U is a VHS editor based on advanced heavy-duty technology. It incorporates 6 video heads. One pair is used for standard 2-hour recording and playback. Another pair is for still and search functions. And two rotary erase heads provide perfect insert edit capability. System configurations are flexible: a choice of professional VHS and 3/4" recorders and players are available as a playback source. For a complete automatic editing system, a choice of editing controllers is also available.

*Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

GENERAL

Format: VHS 1/2" (12.7mm) NTSC standard
Power requirement: 120VAC, 50/60Hz
Power consumption: 80 watts (with the Automatic Editing Control Unit, 12VDC, 550 mA) 68 watts
Dimensions: 17-11/32" x 6-5/16" x 17-21/32"
 44.0(W) x 16.0(H) x 44.8(D)cm
Weight: 41.0 lbs. (18.5kg)
Operating temperature: 41°F to 104°F (5°C to 40°C)
Storage temperature: -4°F to 140°F (-20°C to 60°C)
Operating position: Horizontal only
Tape speed: 1.31 inches/sec (33.35mm/sec)
Recording & Playback time: Max. 120 min. with JVC T-120
Fast forward/Rewind time: Less than 5 min. for 120 min. tape
Wow and flutter: Less than 0.25% RMS
Search speed: Shuttle FWD/REV ± 10X Variable 0 — ± 5X, ± 10X

VIDEO

Recording & Playback system: Rotary two-head, helical scanning system
Luminance: FM recording
Color signal: Phase shift, converted subcarrier direct recording
Video signal system: NTSC-type color signal (EIA standard)
Input: Line/TV — 0.5 to 2.0Vp-p, 75 ohms, unbalanced
Output: Line/TV — 1.0Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio: 45dB (Rohde and Schwartz noise meter)
Horizontal resolution: Monochrome: 300 lines, Color: 240 lines
Sync input: 4 +0/-3Vp-p, 75 ohms, unbalanced
Input select: TV/LINE 1/LINE 2
Sync select: INT/EXT

AUDIO

Input: Line: -6/-20 dBs (selectable), 10K ohms, unbalanced (CH-1/CH-2)
 Mic: -70 to -60dBm, 600 ohms, unbalanced
 TV: -20dBs, 10K ohms, unbalanced
Output: Line: -60dBs, low impedance, unbalanced
 Monitor: 0dBs, low impedance, unbalanced
 Headphone: HIGH/MED/LOW, 8 to 300 unbalanced
 TV: 0dBs, low impedance, unbalanced
Signal-to-noise ratio: 48dB (NR-on), 44dB (NR-off) (at 3% distortion level)
Frequency response: 20 to 12,000Hz
Input select: TV/LINE
Monitor output select: CH-1/MIX/CH-2

CONNECTORS

Video
Line input/output: BNC-type connectors
Sync input: BNC-type connector
TV input/output: EIAJ 8-pin TV connector
Audio
Line input/output: RCA-type pin jacks
Mic: 6mm jacks
Monitor out: RCA-type pin jack
Headphone: 6mm jack
Remote control: 45-pin connector
AC in: 3-lead AC connector
Accessories: Power cord, monitor cable, dust cover

BR-8600U \$3440.00

VHS Editing System Packages

(Monitors, Racks, and Rack Kits not included)

VEP-1 Edit System (BP-5300U, RM-86U, BR-8600U) . . . \$5995.00
 VEP-2 Edit System (BR-6400U, RM-86U, BR-8600U) . . . 6530.00
 VEP-3 Edit System (BR-8600U, RM-86U, BR-8600U) . . . 7740.00
 VEP-4 Edit System (BR-6200U, RM-G68J, BR-8600U) . . . 4700.00
 VEP-5 Edit System (BR-7700U, BR-8600U, RM-86U) . . . 7010.00

WARNING TO PURCHASERS: The unauthorized recording of copyrighted broadcast programs for commercial purposes is copyright infringement.

BR-7700U

VHS Hi-Fi Stereo Videocassette Recorder/Player

• Front loading • 2-channel Dolby B noise reduction • Variable speed dial search, 10X • Video recording level adjustment—video level/tracking meter • External sync capability • Repeat playback • Timer recording with external timer • Audio dubbing facility • Test points on rear panel • Audio limiter search • Video AGC/Frame servo on/off switch • 240 lines color, 300 lines monochrome • Direct drive motors • 2 hour recorder/player • R/L channel Hi-Fi/normal audio level meters • Vertical-interval switching • Can be used as a Hi-Fi feeder in editing systems

- BR-7700U \$2560.00
- RM-P53U Wired remote control 115.00
- RM-86U Video editing controller. 1620.00



BR-7700U

BR-6400U VHS Videocassette Recorder/Player

• Direct drive motors • Rugged diecast aluminum chassis • Motorized front cassette loading • 4 head system • Micro-processor full logic control • Shuttle search at up to 10 times normal speed in either direction • Playback at any speed from still to 5 times normal speed in either direction • Capstan servo and external sync capability • Two channel audio • Remote control and random access options • Electronic tape counter/lap timer with fluorescent display • Audio level control with meters • Two channel selectable audio dubbing • Editing control interfacing • Easy serviceability • Built-in RF output channel 3-4

- BR-6400U 2 hour VHS recorder/player \$1985.00
- BR-6400TR Multi-standard VHS recorder/player . . . 2450.00



BR-6400U

Accessories

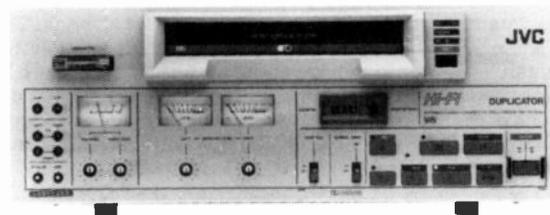
- RM-P53U Wired remote control \$115.00
- RM-P54U Wireless remote control 130.00
- RM-P500U Random access control. 230.00

BR-7000UR

VHS Hi-Fi Duplicating Recorder

• It is the only VHS machine ever offered with test points for drum pulse, video RF, Hi-Fi audio RF, etc. on the front panel, where technicians can make quick measurements of the deck's performance • It has a front panel serial number and hour meter (5000 hours) • A trapdoor is provided to prevent accidental misoperation of front panel controls • Video AGC on/off switch and manual video level control are provided • Heavy-duty construction utilizing a diecast chassis and a direct-drive reel servo system • Incorporation of the VHS Hi-Fi system with 58 micron rotary audio heads • Professional Hi-Fi dubbing system • Oversize cassette mounting guide • Big, one-glance audio/video level meters • Accidental erasure override • High quality sound in normal audio mode • Two audio inputs for recording flexibility • Easy tape path maintenance • Serial parallel remote control flexibility

- BR-7000UR \$1760.00



BR-7000UR



BR-3500U

BR-3500U HQ

VHS Videocassette Recorder/Player with Tuner

- 4-head, 8-hour recording/playback • HQ circuitry • Infrared remote control • 8-pin TV connector • Mike mixing facility for voice overs
- Full-repeat and counter-repeat playback • 14-day, 4-program timer, with interlocked rear panel AC outlet • 111 channel frequency synthesizer tuner • Function lock switch • 240 lines • Auto power on when cassette is inserted • Auto play system: when the operator inserts a cassette with its safety tag removed, the tape will be played back automatically • Auto-release mechanism protects tape by releasing the pause mode if it is engaged for more than 5 minutes • Auto rewind at the end of tape • Automatic backspace editing synchronizes the new material following edit points for seam free recordings • Instant recording can be set in 30 minutes up to 8 hours 59 minutes; after the set time has elapsed, the system's power supply is switched off • Shuttle search in forward or rewind at high speed with the speeded up picture visible on the screen • 3-pin AC power supply and outlet sockets

BR-3500U\$710.00



BR-3100U

BR-3100U HQ

VHS Videocassette Recorder/Player with Tuner

- HQ delivers more information to the screen • Luminance signal comb filter • Standard BNC input/output connectors • 4-head system • 14-day/4-event programmable timer • Auto rewind • Backspace editing
- Counter search • Channel store/skip function • Full-function infrared remote control • 2-6 hour recording/playback

BR-3100U\$675.00

BR-1600U

Portable VHS Videocassette Recorder/Player

- VHS format—extremely compact and lightweight (5.3 lbs.) • 2-6 hour recording/playback • 4-head performance in both SP and EP modes • 3 source power operable—AC pack, battery pack or car battery • 9-function wired remote control • Shuttle search/memory counter/insert editing • 3-function LED counter panel • S/N ratio more than 40dB audio, 45dB video • Horizontal resolution of more than 240 lines • 3³/₁₆" H x 8¹/₁₆" W x 8⁷/₈" D

BR-1600U\$885.00
 AP-P3U Car battery cord18.00
 AC-P3U AC adaptor50.00
 NB-P3U .7AH battery pack30.00
 NB-P4U 1.2AH battery pack46.00
 CB-P10U System carrying case126.00



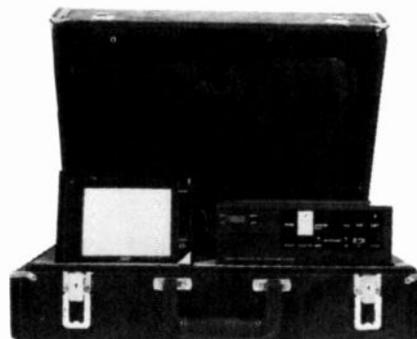
BR-6200U

BR-6200U

Portable VHS Videocassette Recorder/Player

- 2-channel audio track for stereo or bilingual recordings • 2-6 hour recording/playback • BNC video connectors: simple direct connection to other professional equipment • Shuttle search high speed visual scanning in both directions • Full-function wireless remote control with an option for wire connection for special applications • Automatic backspace editing for smooth assembled recordings • Extended time recording capability for special situations • Built-in RF converter for connection to the antenna terminal of any TV receiver • Liquid crystal display (LCD) 4-digit tape counter with memory function • LED tape running, insert editing and audio dubbing indicators • Battery depletion and moisture condensation warning indicators • Automatic quick review function

BR-6200U\$1245.00
 RM-G68J Editing control unit350.00
 BR-8600U Editing recorder3440.00
 CB-P62U Soft filled carrying case110.00
 AA-P26U AC adaptor/charger245.00
 AC-P2U AC playback adaptor110.00
 NB-P1U NiCad battery95.00

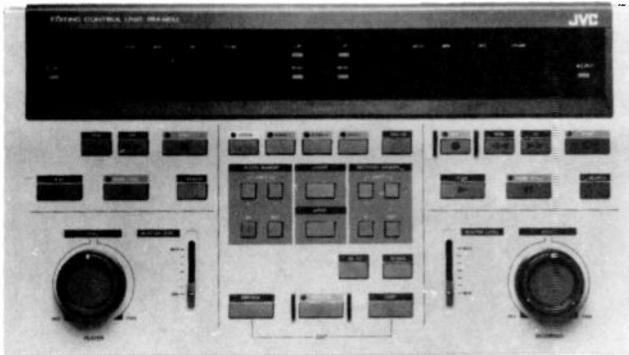


TBR-160U

TBR-160U 5" Portable VHS Briefcase System

- Custom attache case housing—18¹/₄" H x 14" W x 6¹/₂" D • Built-in compartment for literature, notes, pens, etc. • BR-1600U VHS videocassette recorder/player • TM-63U 5" color monitor • Self-contained battery power • A compelling alternative to paper presentations

TBR-160U\$1620.00
 TBR-160AC Portable briefcase system—AC powered1425.00



RM-86U Editing Control Unit

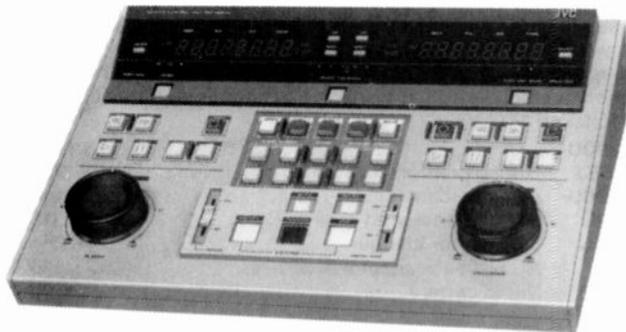
- Insert, assemble edit capability
- Independent dial search controls for source and record decks
- Independent machine controls: (play, pause, FF, rewind, search, stop, eject)
- Independent LED indicators providing Hr-Min-Sec-Fr
- Preview/Perform/Review functions
- Independent entry of edit-in and edit-out points for the player and recorder enabling automatic edit start/stop control
- Automatic computation of edit duration and fourth edit point
- Frame by frame edit trim feature

- Auto Tag (to last edit-out point)
- "Go To" button for quick location of an entered edit point
- Split-insert capability (independent audio and video controls)
- Edit lap time indication capability
- "Cancel" function to allow clearing of unwanted edit points
- Record monitor control (Rec-EE) which permits use of a single monitor for both machines
- Independent volume controls for Source and Record audio monitors
- Eject function
- Audible (beep) indication when various functions are activated from the control panel and at edit start/stop points
- Interface cables for all JVC 3/4" and VHS TapeHandlers provided

RM-86U \$1620.00

VHS Editing System Packages Using RM-86U

VEP-1	Edit System (BP-5300U, RM-86U, BR-8600U)	.. \$5995.00
VEP-2	Edit System (BR-6400U, RM-86U, BR-8600U)	.. 6530.00
VEP-3	Edit System (BR-8600U, RM-86U, BR-8600U)	.. 7740.00
VEP-5	Edit System (BR-7700U, BR-8600U, RM-86U)	.. 7010.00



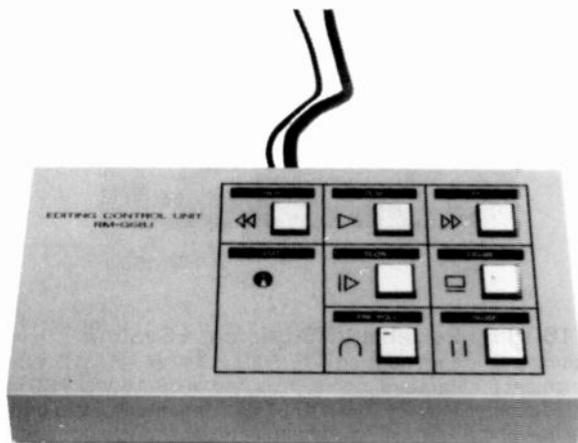
RM-G850U Automatic Edit Controller

- Built-in microprocessor to automatically produce edits from any three In/Out points entered—especially convenient for fixed-length and back-times edits

- Audible alarm warning of key functions
- Dial search with jog mode—twin dials for speeds between 1/30 and 15 times normal playback
- Automatic edit control
- Switchable total time/lap time counter
- Go-to-edit-point location
- Preview/review functions
- Auto-tag operation
- Frame-by-frame correction
- Variable pre-roll time—3, 5, 7, 10 or 15 seconds
- 9-pin remote control terminal (RS-422)
- Audio monitor level adjustment—permits audio level reduction in high-speed search modes
- 25-frame and 30-frame capability

RM-G850U \$3320.00

SA-W700U Audio-video routing switcher for RM-G-850U 1830.00



RM-G68J Editing Control Unit

- The RM-G68J is designed to form an electronic editing system with the BR-6200U portable VHS recorder as a source player and the BR-8600U VHS editing recorder as a recording deck
- BR-8600U of this system includes an electronic editing mechanism, making it possible to do insert or assemble editing
- By using the memory function of the BR-8600U, it is possible to specify both edit-in and edit-out points while insert editing

RM-G68J \$ 350.00

BR-6200U Portable VHS Recorder 1245.00

BR-8600U VHS Editing Recorder 3440.00

VHS Editing System Package Using RM-G68J

VEP-4	Edit System (BR-6200U, RM-G68J, BR-8600U, AA P26U)	.. \$4700.00
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JVC PROFESSIONAL
PRODUCTS COMPANY

3/4" RECORDERS/PLAYERS

CR-8250U 3/4" Videocassette Editing Recorder

- SMPTE address channel
- Balanced line audio
- Vertical interval head switching
- Full metering (CR-6650/CR-8250)
- H-Phase control
- Full capstan control with standby mode
- Real time electronic tape counter
- Professional quality editing functions (CR-8250 only)
- FM-FM dubbing system for high quality copies
- Color dubbing switch
- Automatic pre-roll (CR-6650, CR-8250)
- Capstan servo system with external lock function
- Automatic search mechanism
- Automatic repeat mechanism
- Aluminum diecast chassis
- Two motor gear-driven tape loading mechanism
- Powered cassette eject mechanism
- Skeletal construction for ease of maintenance
- Horizontal resolution: Monochrome 340 lines, Color 260 lines
- Signal-to-noise ratio: Video: more than 46dB (color); more than 49dB (B/W) Audio: more than 48dB (at 3% distortion level)
- Frequency response: 50 to 15,000Hz

The CR-8250U is a 3/4" editor with flying erase heads. The CR-6650U is a recorder-player version of the same machine without flying erase heads, and without insert editing capability. The CP-5550U is a player-only model.

For maximum flexibility, CR-8250U editors can be used as both source and record decks. All three models have 45-pin connectors for editing controllers, compatible with other JVC VCRs.



CR-8250U

Editing flagging is minimized by use of a framing servo and extremely stable horizontal phase lock. Using separate direct-drive motors for supply and take-up reels, these decks are capable of variable picture search speeds of up to 15 times in both directions. In addition, the rotary head drum and capstan are directly driven. There are no belts, pulleys, or idlers to require maintenance.

CR-8250U	.....	\$6140.00
CR-6650U	Recorder/player version with assemble edit	.....4135.00
CP-5550U	Player only version	.....3360.00
Accessory		
RM-70U	Remote control	.....\$440.00

CR-4900U

3/4" Portable Videocassette Recorder/Player

- Video confidence heads
- SMPTE time code capability makes possible edits with single-frame accuracy
- Automatic backspace editing for assemble edits in the field
- Real time tape counter; for convenience, shows tape running time in minutes and seconds
- Microprocessor-based logic controls all tape operations for precise control
- Full function remote control (optional); useful when the recorder is operated by the cameraperson
- Shuttle search at about 10 times normal speed in either direction
- Lightweight — 19.6 lbs.
- Complete with its rechargeable NB-P2U battery pack and a KCS-20 videocassette
- Frame servo mechanism allows accurate frame-to-frame editing
- Low power consumption, only 12W



CR-4900U

CR-4900U is the first 3/4" U-format recorder to be equipped for real-time monitoring of the signal immediately after it has been recorded while recording is taking place

CR-4900U	.....	\$4100.00
Accessories		
AA-P47U	AC adaptor/charger	.....\$ 485.00
BA-P47U	Battery case	.....225.00
CB-P47U	Fitted soft carrying case	.....170.00
NB-P2U	Rechargeable NiCad battery	.....130.00
RM-P47U	Remote control	.....299.00
TG-P49U	Time code generator	.....1995.00

3/4" EDITING RECORDER/ RECORDER/PLAYER

CR-850U 3/4" Videocassette Editing Recorder

• 4 Heads • 340 lines B/W, 260 lines color • Front loading • Direct Drive Reel Servo • SMPTE Time Code Track (3rd audio) • Diagnostic warning system • Front panel test points • S/N 47dB Video • Vertical interval head switching • Improved drop-out compensation • Diecast chassis • LED Indication for fuse condition status • Record, Playback and Editing capabilities

The CR-850U is a very high quality 3/4" editing VCR with characteristics that make it suitable for a wide variety of applications.

Signal Quality, Performance. The most important attribute of a 3/4" editor is its picture quality.

Through the use of a variety of circuits, the CR-850U has exceptionally low noise -47dB signal-to-noise ratio in the color mode. This is especially important in the editing process, since noise is usually compounded as multi-generation dubs are being made.

Y-688 Dubbing System. Normal tape-to-tape transfers result in deterioration of the video signal. To minimize this, the CR-850U employs a Y-688 dubbing system, utilizing a standard 7-pin cable (provided).

Convenience. Line Input Switcher. On the CR-850U there are two video inputs labeled "Line A" and "Line B". These inputs are selectable by pressing a pushbutton on the front panel. An LED lights to indicate which input is active.

When switching from Line A to Line B, the CR-850U performs the switching in the vertical interval. If the signals are genlocked together, then the transition is glitch-free, even when it is recorded. To further this benefit, a connector is provided on the rear panel for remote operation of this function. Contact closure of this connector causes the VCR to switch from Line A to Line B. The VCR can actually be used as a "mini-switcher".

Built-in Editing Control Functions. In many instances, a separate editing controller is not necessary to perform editing functions. The CR-850U has a built-in Z-80 microprocessor which controls these functions. A close look at the control panel on the CR-850U shows many of the same functions found on popular editing controllers: Preroll, Preview, Entry In, Entry Out, Assemble, Insert, Edit Start, Edit Stop.

Digital Tape Counter. The LED digital tape counter on the CR-850U displays Hours, Minutes, Seconds, and Frames. Its count is based on the FG pulse from the capstan circuit, and will continue to read even if control track is lost. If the control track reference is desired, a DIP switch can be flipped internally to make this selection. In addition to displaying tape travel, the counter in the CR-850U has another function unique to a VCR: it has a built-in Lap Timer. This is like having a separate tape timer working independently of the normal counter. It can be used to measure tape travel distance from a given point. It is especially useful when doing fixed length edits.

Visible Picture Search. The front panel search dial on the CR-850U provides a convenient way to shuttle the tape with a viewable picture at speeds from 1/30th to 15 times normal in forward and reverse.

Jog Mode. In addition to visible picture search, another function is provided, which can be accessed when using a serial editing controller. "Jog" is a feature which allows the picture to accurately follow the movement of the search dial on the controller, as it is turned to the right or left.

Full Capstan Control In All Modes. When the cassette is inserted into the CR-850U, mechanism fully loads the tape around the head drum. The tape remains threaded in this fashion until the eject button is pressed. This permits much faster cueing times, as well as more positive control over the tape. A special "standby" mode is provided which



CR-850U

stops the head drum and disengages the pinch roller after 10 minutes in still. This permits rapid drum-up to full picture while protecting the tape and vital components.

Independent Audio Limiters. Besides adjusting the audio levels manually, the CR-850U can adjust levels automatically with its built-in limiter circuit. Separate on/off switches are provided for each channel, a JVC exclusive feature.

Serial (RS-422) Control. A 9-pin "D" type connector is located on the rear panel for connection to editing controllers and other components. Using the serial port permits connection to a wide variety of sophisticated controllers. The serial connector is also used for the JVC RM-G850U controller.

Parallel Control. A 45-pin connector is located on the rear panel for connection to existing JVC editing controllers. Direct connection can be made to the RM-86U or VE-90AT/VE-93 controllers.

Balanced XLR Audio. The audio inputs and outputs on the CR-850U are balanced and utilize standard 3-pin XLR connectors. The inputs can be switched for three levels, depending on the audio source.

The CR-850U is equipped with a 3rd audio track (address track) for SMPTE code. A front panel LED illuminates when a signal is present on this track.

CR-850U \$9940.00



CR-600U

CR-600U 3/4" Recorder/Player

• Shares basic features of the CR-850U with the exception of editing capabilities • High performance VCR, ideal for use as a source in editing systems and quality record/playback applications

CR-600U \$6910.00



JVC PROFESSIONAL PRODUCTS COMPANY

SPECIAL EFFECTS GENERATORS

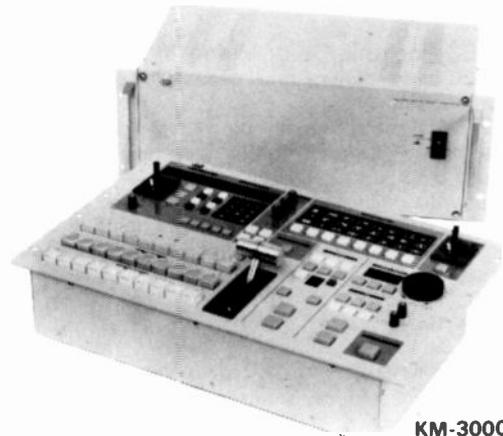
KM-3000U Post Production Switcher

- Eight component video inputs
- 23 wipe patterns
- Hard/soft edges and borders
- Chroma keyer
- Luminance keyer
- Color matte generator
- Color bar generator
- RS-422 serial interface

The KM-3000U has eight Y/R-Y/B-Y component video inputs. Three of these can be switched to accept RGB signals for the DSK (Downstream Keyer) input. There are 23 wipe patterns, hard/soft edges and borders. Manual or auto dissolve is possible, and four of the wipe patterns can be positioned as required.

A chroma keyer, luminance keyer, color matte generator (background color, border color, DSK color) and color bar generator are standard. The built-in sync generator conforms to the RS-170A standard. In auto-transition, the Mix/Wipe, DSK and Fade timing can be set between 0 and 255 frames, using either a rotary dial or numeric keypad.

The program buses and preset/preview buses are flip-flop buses making possible smooth scene transitions. For greater efficiency in editing, up to 16 panel setups can be stored in memory using the numeric keypad. The hue, saturation, luminance, duration and border width can also be input using the numeric keypad, the joysticks, or the switches. Connection to the editor can be made through the GPI interface as well as the RS-422 serial interfaceTBA



KM-3000U

KM-2000U Color Special Effects Generator

- Eight inputs (VBS), three buses
- Two fader levers
- AUX input terminal for non-synchronous input
- Built-in chroma keyer with selectable chroma key color
- 13 wipe patterns with soft edge wipe control
- Built-in color background generator; adjustable background color
- Color downstream keyer with key edger and polarity select switch; adjustable insertion color
- B/W superimpose circuit with cut and fade switch
- External key input provided; switchable between chroma key and external key
- Vertical interval switching
- Built-in SSG; external black burst signal, HD, VD and SYNC pulses provided. This makes possible genlocking with an external video signal or black burst signal in external genlock applications. External SSG; the external SSG makes possible pulse drive
- Intercom and tally circuits provided
- Program fade switch permits fades to black
- Auto take is possible from Preview Line to Input-C Line

The KM-2000U color special effects generator is designed to meet the needs of users of professional and industrial video systems for a variety of special effects to enhance their video productions.

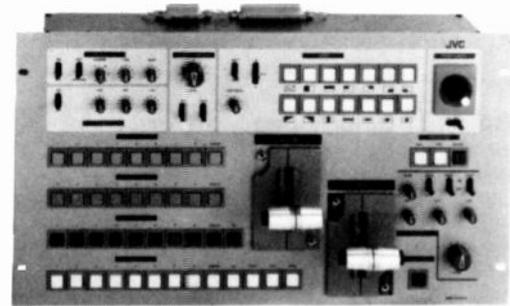
The KM-2000U uses a three-bus system with eight inputs (VBS) and a one-color internally generated color background. 13 wipe patterns are provided together with joystick positioning of several effects, soft edge wipe, a color downstream keyer with edge effect and B/W superimpose.

The internal chroma keyer (RGB type) makes possible a variety of chroma key effects. The KM-2000U consists of two compact units which are designed for mounting in most video control consoles.

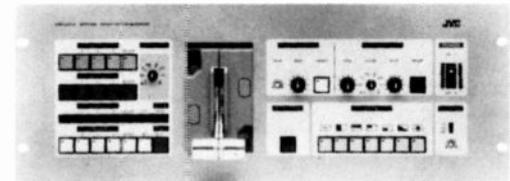
KM-2000U \$5230.00
AR-2000 Auto Ramp Generator (Interface KM-2000 SEG to GPI Pulse Controller) 1200.00

KM-1200U Color Portable Special Effects Generator

- RGB chroma-keyer
- Low-cost, economical
- 8-color generation
- 6 wipe patterns
- Smoother fades and dissolves



KM-2000U



KM-1200U

The KM-1200U is designed for mounting in a standard EIA rack and has 4 video inputs, a chroma key input, a background color generator and a DSK input. It incorporates an SSG and genlock operation is possible using composite video or blackburst signals. With its Auto-Take switch, the signal selected to be previewed can be supplied to the program line with a single operation. Both AC and DC power supplies can be used so that use on location is possible.

RGB Chroma Keyer/External Keyer

By the use of 3 discrete signals the RGB Chroma Keyer allows for an extremely sharp key. These individual signals allow the decoder circuit to more easily distinguish subtle color differences, thus producing a more accurate and clean key.

An external keyer is also supplied for Black and White key sources, usually a CCTV type camera. This mode is selected by a back panel control, which switches between Background Color and external key. The external key circuit can also be used with a color character generator. The character generator supplies a B/W signal to cut the key hole and a color video signal to 1 of the 4 video inputs, which is in sync with the key hole.

DSK - Downstream Keyer

The DSK circuit is identical to the External Key circuit except for its electronic position in the flow of the video signal path.

The DSK circuit has the capability of colorizing itself. This internal generator has the ability to make the following 8 colors: Black, Blue, Red, Magenta, Green, Cyan, Yellow and White.

KM-1200U \$2150.00



JVC PROFESSIONAL
PRODUCTS COMPANY

COLOR MONITORS

TM-22U 5" Portable Color Video Monitor

- In-line black stripe picture tube capable of accurate, well-defined color reproduction
- Flexible AC/DC power supply—household AC or built-in exclusive rechargeable NB-P1 NiCad battery pack—enabling both indoor or outdoor use
- Built-in speaker enabling simultaneous audio and video monitoring
- Dual circuits provided for audio and video signals
- 5" diagonal AC battery powered color monitor includes hood, power cord, earphone

TM-22U \$510.00
NB-P1U NiCad Battery 95.00

TM-63U 5" Portable Color Video Monitor

- Compact size—ideal for sales presentations, promotions, etc.
- Hidden control panel
- Loop-through video/audio input
- Built-in audio with speaker
- 12VDC power requirement

TM-63U \$465.00
AA-63B AC Adaptor 62.00

TM-2084U 19" Color Video Monitor

- A high-performance 19" video monitor
- BNC and 8-pin EIAJ connectors
- Comb filter
- High resolution (350 lines)
- Two video inputs (loop-through)
- 4" sound speaker

TM-2084U \$799.00

TM-R9U 9" Color Video Monitor

- A compact, high quality monitor
- More than 310 lines of horizontal resolution
- Comb filter
- 2 selectable video inputs
- Internal/external sync
- Tally lamp
- AC or 12/24VDC power supply
- Remote controllable
- Carrying handle

TM-R9U \$695.00

TM-9U Color Video Monitor

- 9" diagonal screen
- 76° deflection angle
- Rackmountable
- "Utility Usage" in small editing systems and to monitor multi-camera shoots
- Front panel controls
- Pushbutton on/off switch with LED indicator
- Durable black metal casing

TM-9U \$495.00

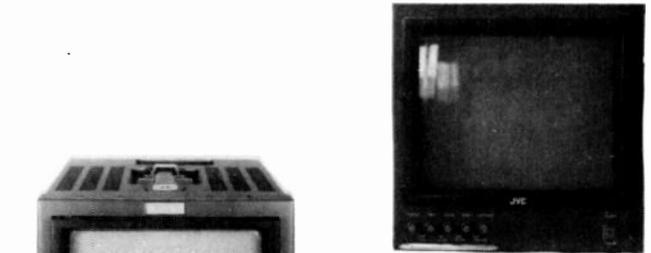
TM-13U Color Monitor

- 13" diagonal screen
- 90° deflection angle
- Audio input
- Ideal for video networking and internal communications systems
- Attractive tan metal housing
- Concealed front panel controls—pushbutton on/off switch
- Rackmountable

TM-13U \$425.00

TM-R14U Professional Studio Monitor

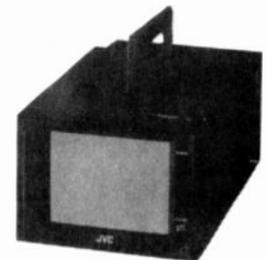
- 14" diagonal screen
- 2 composite video inputs
- Separate RGB analog inputs
- Internal/external sync signal
- Built-in comb filter separates luminance and chrominance for 400 lines resolution



TM-9U



TM-R9U



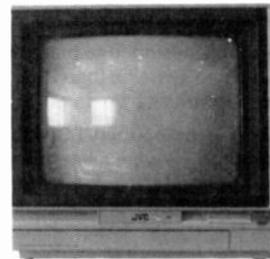
TM-63U



TM-2084U



TM-22U



TM-13U

- Underscan switch for total-image viewing
 - Tally lamp for "live" camera indication
 - Degaussing switch
 - Color/B & W changing capability
 - White balance
 - Remote controllable operation of many functions
 - Metal cabinet housing
 - 60W power consumption rating
 - Rackmountable—weighs 40 lbs.
- TM-R14U \$995.00

Battery/Battery Belt Accessories for KY/BY Series Camera and VCRs

B20	Anton-Bauer 12V, premium grade NiCad 4AH battery. Universal snap-on design . . .	\$500.00
B95	Anton-Bauer 14V. Premium grade NiCad 4AH for battery for ProCam/KY series cameras. Universal snap-on design.	525.00
TP-12	Anton-Bauer 12V 2AH NiCad battery for KY/1900U camera. Requires Q19 battery bracket for mounting to camera	250.00
CA-30 Cable	Fast charge cable connects 30/13 or powerstrap to FC20 charger	65.00
CC-88 Cable	4-pin XLR female video cable	90.00
DBH Holder	Dual battery holder-allows use of 2 B95 or any 13.2 or 14.4V battery and provides 8AH of power. When the first battery is depleted, the second battery is automatically switched on. Meanwhile, the first B95 may be replaced for interrupted power. CC-88 or comparable cable is required	295.00
Power Strap	12V, 4AH mounts onto CR4900U shoulder strap. Complete with microcharger. Can be fast charged with CA-30 cable and FC20 charger. CC-88 cable or comparable is required	495.00
PPSA-D Belt	Perpetual power belt-allows use of 2 B95 or any two 13.2 or 14.4V snap-on batteries. When the first battery is depleted, the belt automatically draws from the second. Meanwhile, the first B95 may be replaced for uninterrupted power. CC-88 cable or comparable is required	335.00
30/13 Battery Belt	30V, 4AH or 13.2V 8AH. Built-in micro-charger. May be fast charged with CA-30 cable and FC20 charger. Must use CC-88 cable for KY cameras and CR-4900 Decks	895.00

Chargers for Battery and Battery Belt

C20	Microcharger for B20 battery. Trickle charges B20 in 14-16 hours. Good for travel. FC20 is recommended as primary charger	\$90.00
C95	Microcharger for B95 battery. Trickle charges in 14-16 hours. Good for travel. FC20 is recommended as primary charger.	90.00
CB16	Microcharger for TP-12 battery. Trickle charges in 14-16 hrs.	80.00
FC20 (LSFC)	Anton-Bauer fast charger for B20/B95 or any Anton-Bauer 4AH snap on battery. Charges in one hour	595.00
LSQC	8 hour single position 4AH quick charger	395.00
LSQ4	8 hour 4 position 4AH battery quick charger	995.00
MFC	Mobile fast charger-1hr. fast charger. Operates from most vehicles with or without engine running. Accepts all universal snap-on NiCad batteries	595.00

Misc. Accessories for KY/BY Series Cameras

ADM	Coupled with Data-Tap, provides a diagnostic system that automatically discharges 12-14V NiCad batteries, while providing an accurate calibration of AH capacity	\$295.00
DATA-TAP	Accurately measures and displays NiCad battery remaining run-time. Calibrates battery capacity while on camera or, if used with ADM, can test for shorted or low capacity cells	375.00

Brackets for KY/BY Series Cameras to

Anton-Bauer Snap-On Batteries		
Q19	BB16/B20 battery bracket for KY-1900	\$115.00
Q21	B95/B20 battery bracket for KY-210	100.00
Q27	B20 battery bracket for KY-2000/KY-2700	115.00
Q95	B95/B20 battery bracket for KY-320/KY-950/KY-900/KY-310 cameras.	110.00

RGB Adaptors for JVC Cameras

BY-RGB	RGB adaptor for BY-110U camera includes AC adaptor.RS100U and AAC11U no longer required. Includes breakout cable w/ 14P female camera connector, 9PD male output connector and 5P DIN male power-connector	\$400.00
BY-RGB1122	110/220V version of BY-RGB	490.00
KY-RGB	Snap-on unit for RGB from KY-210B/KY-320B/KY-950B Series cameras without requiring the RS-500U CCU. Power supply not included RGB and sync BNC connectors out	870.00

Serial Remote Controls for BR7000UR/BRS-7116

Duplicator Decks		
SRC-100	Serial remote control for up to 100 BR-7000URs.-2 outputs (50/output). Controls eject, stop, play, rec start, rec pause, rewind, FF, Hi-Fi on/off	\$895.00
SRC-400	Serial remote control for up to 400 BR-7000URs.-8outputs (50/output). Controls eject, stop, play, rec start, rec pause, rewind, FF, Hi-Fi on/off	1250.00
SRC-RS10	Controls up to 100-BRS-711/BRS-710 decks. Allows control of source and record decks	1000.00
P-SRC	12' cable for source desk. For parallel source.	75.00
Cable	VCRs only. Specify model	75.00

Accessory for BR-6200U/HR-2650U Portable VCRs and TM22U Monitor

CAR6200U	Card cord for BR-6200U/HR-2650U.	\$45.00
RB11-F	NiCad battery for BR-6200/HR-2650/TM22	90.00

Angenieux Lens and Accessories

14 x 9 Ang	Broadcast quality 14X lens with 2X extender, focal length 9-126mm. Aperture f/1.6	\$6350.00
Studio Ang	Rear controls for studio application-servo zoom, manual focus	1550.00
Retro Ang	.8X retro zoom for wider angle (63°) closer focusing distance (0.50M-18.5") without aperture reduction	420.00
Tele Ang	1.66X tele attachment for longer focal length and noaperture loss with 2X extender on. F30-420mm f/3.2-f/4	2420.00

AC Power Supplies for KY/BY Series Cameras

AC-KY	Regulated AC power supply only. For KY210/ProCam cameras. Inexpensive alternative to AAC50U. AC power supply/charger system	POR
AC-BY	Regulated AC power supply only. For BY1106 camera. Inexpensive alternative to AAC116U AC power supply/charger system.	POR

Schneider Lens and Accessories

TV-44, 16	Broadcast quality 14X lens with 2X extender focal length 9-126mm. Aperture f/1.7	\$5480.00
Studio Sch-E	Rear controls for studio application. Servo zoom, manual focus. Includes pistol grip.	1680.00
Studio Sch-G	Rear controls for studio application. Servo zoom and manual positional servo focus. Includes pistol grip	3060.00
Super Wide Lens	52°-70° horizontal angle of view	595.00

Duplication Remotes for Parallel and Infrared VCRs

DubMaster (DM-1)	Full function remote control of master playback deck and as many VCRs as desired. (With optional rack boxes and control cable)	\$1195.00
RB-6 P	Allows Dubmaster control of 6 BR-6400U, BR-7700U, CR-6650U, CR-8250U or CR-600U. Control cables are required for each VCR, including the source deck	395.00
RB-12 P	Allows Dubmaster control of 12 BR-6400U, BR-7700U, CR-6650U, CR-850U, or CR-600U. Control cables are required for each VCR, including the source deck	495.00
P-DM	12' cable connecting RB-6/RB-12 to BR-6400U, BR-Cable 7700U, CR-6650U, CR-850U or CR-600U. Specify model	75.00
RB-121R	Allows Dubmaster control of 12 BR-3100U or BR-3500U. Only 1 RB-121R is required per installation. Additional VCRs may be added with the SB-121R. IR control cables are required for each VCR, including the source deck	315.00
SB-121R	Sub-Box takes signal from RB-121R and controls up to 12 additional BR-3100U or BR-3500U	200.00
IR Control	Connects the BR-3100U or BR-3500U to the RB-121R/SB-121R. Specify model	12.00
SRS-1	Source and recorder selector. Allows for selection of up to four different source decks and six groups of copy decks. Contains six serial and six parallel ports	495.00

Rack Kits for Monitors

WF1730	Waveform adaptor for RK9U(A)—For newer Tektronix 1730 Series Waveform, 1720 Vectorscope and similar product	\$100.00
BP9U(A)	Custom blank panel for RK9U(A)	28.00
ADP9U	Waveform adaptor for RK9U(A)—For earlier Tektronix 528 Waveform, 142e Vectorscope and similar products	100.00
RK9U(A)	Rack kit for up to two TM-R9U 9" color monitors. (6 rack spaces)	120.00
RK9UM9	Rack kit for up to two TM-9U 9" color monitors or 2 TM-91SU color monitors (6 rack spaces)	120.00
RK13U	Rack kit for TM-13U color monitor (9 rack spaces)	70.00
RK14U	Rack kit for TM-R14U or VMR-140SU 14" color monitor (7 rack spaces)	90.00
RK200U	Rack kit for TM-200SU or VMR-1900U monitors	TBA

Rack Kits for VCRs

RK850U	Rack slide kit for CR-850U/CR-600U (6 rack spaces)	\$200.00
RK3500U	Rack kit for BR-3500U/BR-3100U (3 rack spaces)	65.00
RK6400U	Rack shelf for BR-6400U/BP-5300U (5 rack spaces)	98.00

Rack Kits (Cont'd)

RKB600U	Rack shelf for BR-8600U/BR-7000UR/BR-9000U/BR-7700U (5 rack spaces)	\$ 98.00
RKSL64	Sliding rack shelf for BR-6400U/BP-5300U (6 rack spaces)	125.00
RKSL86	Sliding rack shelf for BR-8600U/BR-7000UR/BR-7700U/BR9000U (6 rack spaces)	125.00
RKS-711	Rack slide kit for BRS-711/BRS-710 (4 rack spaces)	200.00
RK-711SHF	Rack shelf for BRS-711/BRS-710	100.00
RKS-MII	Rack slide kit for MII VCRs	TBA

Copy Stand

CSL-1	Lightweight copy stand for use with TK-870 RGB camera	\$195.00
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Accessories for TBR-160U and THR-63U Presentation Kits

AAP1663U	AC adaptor for TBR-160U/THR-63U. Powers TM-63U with BR-1600U or HR-C3U	\$135.00
ATTAC-10	Brief case for TBR-160U	130.00
BB16	Battery for TBR-160U (2AH). Powers for approximately 1 hr.	210.00
BBTR160U	2AH battery kit for TBR-160U consists of BB16, CB16, SBB16. Approx. 1 hr. playback capability	310.00
CAR1663U	Car battery cord for TBR-160U/THR-63U	65.00
CB16	Charger for BB16. Fully charges battery in 14-16 hrs.	80.00
DC12	Charger for SD12R. Fully charges battery in 14-16 hrs.	90.00
SBB16	Shoe cable adaptor for TBR-160U system	50.00

Time Code Readers for CR850U/CR600U

TC-85(A)	Custom designed time code reader for CR850U/CR600U VCRs. Internally mounted within the CR850U/CR600U. Reads time code from the address track and inserts it into the RS-422 stream for use by the edit controller. Included in the time code word is drop frame or non-drop frame and forward/reverse status. Automatically switches from address track to control track mode for continued operation when code is lost. For Ampex, CMX, Videomedia edit controllers and others requiring time code on the RS-422 port	\$1590.00
SCAB50/800	Time code reader for CR850U/BVE800	1590.00

Wall Mounts for Monitors

SLUM	Single action straight arm wall mount. Maximum weight 175 lbs. 18" arm adjustable for monitor widths of 11"-17 ³ / ₄ ". Matte black finish. Can be tilted with optional UL(B)	\$ 85.00
SLUS	Same as SLUM—For monitor widths of 17 ³ / ₄ " -30"	85.00
SLUL	Same as SLUM—For monitor widths of 27"-47"	85.00
DLUM	Double action wall mount. Has 2-12" flex-arms (24" ttl). Maximum weight 175 lbs. Adjustable for monitor widths of 11"-17 ³ / ₄ ". Matte black finish. Can be tilted with optional UL(B)	155.00
DLUS	Same as DLUM—For monitor widths of 17 ³ / ₄ "-30"	155.00
DLUL	Same as DLUM—For monitor widths of 27"-47"	155.00
ULB	Universal joint for use with single and double action series for tilting the monitor approx. 15°, not for continuous or frequent adjustment	40.00



KVP-25

Kangaroo Video Pack™ Recorder Packs

The Kangaroo Video Pack provides efficient organization and convenient access for all the gear you need to carry. Designed by a news photographer to meet the rugged demands of ENG field use, the original Kangaroo Video Pack was the first recorder bag to provide straps and pockets to hold tapes, batteries, cables, microphones — everything you need to get the job done. Even white-balancing is easy with built-in white balance panels.

Compact enough for one-man operation, versatile enough for two-man crews, with the Kangaroo Video Pack you can pick up and go, knowing that you have everything you need for a simple interview or an all-day SWAT operation.

Recorder Packs

All packs come complete with pockets, hand and standard shoulder strap.)

KVP-1A	Sony BVV-1, Thompson VR-611, Bosch BCB-1, Ampex CVR-1 (with VA-1 or Ikegami VBA-1A adaptor)	\$220.00
KVP-1B	Sony BVV-1, Thompson VR-611, Bosch BCB-1, Ampex CVR-1 (with VA-1V adaptor)	220.00
KVP-20	Sony BVW-20, Thompson VT-625, Bosch BCB-20, Ampex CVR-20	189.00
KVP-21	Bosch BCN-21	210.00
KVP-25	Sony BVW-25, BVW-21, Thompson VT-626, VT-624, Bosch BCB-25, BCB-21, Ampex CVR-25, CVR-21	220.00
KVP-35	Sony BVW-35	220.00
KVP-50	Sony BVU-50	210.00
KVP-100	Sony BVU-100, VO-3800, blue only	210.00
KVP-110	Sony BVU-110	210.00
KVP-150	Sony BVU-150	220.00
KVP-220	Panasonic AU-220	210.00
KVP-500	Panasonic AU-500	220.00
KVP-2000	Sony Digital	120.00
KVP-4400	JVC CR-4400U, Panasonic NV-9400, Hitachi SV-340, blue only	210.00
KVP-4400LU	JVC CR-4400LU, RCA HE-1020, Ampex VPR-4400, blue only	210.00
KVP-4700	JVC CR-4700U, PR-4800U, CR-4900U, Panasonic NV-9450	169.00
KVP-4800	Sony VO-4800	162.00
KVP-5000	Panasonic NV-8420	120.00
KVP-6200	JVC BR-6200	140.00
KVP-6400	Panasonic AG-6400	140.00
KVP-6800	Sony VO-6800	179.00



Semi-Tough

Kangaroo Semi-Tough™ Camera Cases

The original side-loading camera case, the Kangaroo Semi-Tough is ideal for airline travel, or those limited space situations where having your camera with you is a must. The Semi-Tough has a rigid frame of tough aircraft aluminum completely surrounding the camera, while a convenient detachable pocket holds batteries, tapes, and cables. The Semi-Tough comes complete with hand strap and heavy-duty padded shoulder strap for over-the-shoulder carrying.

KCC-SEMTGH	Ikegami HL-79A, HL-79D, HL-79E, ITC-730A, Sony BVP-250, BVP-300, BVP-330, DXC-M3A, Thompson 501, 601, 701, Hitachi FP-10, FP-21, FP-22, SK-81, SK-91	\$265.00
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Super Tough

Kangaroo Super-Tough™ Camcorder Cases

The Kangaroo Super-Tough meets a variety of carrying needs for users of the following camcorder combinations: Sony BVP-3, BVP-30, BVW-3, BVW-30 and the BVW-3 and BVW-30 with DC-100 battery.

This smart-looking, top-loading case has a triple-hemmed, U-shaped aluminum frame to maximize equipment protection while dense Eva-zote foam helps insulate the camera's most sensitive components from the bumps of daily use. Inner pockets on both sides hold extra batteries, tapes, headset and tripod plate. A three-way zipper system makes top-loading easy and ideal for access from the back of car or remote van.

KCC-STGH3	Sony BVP-3 or BVP-30	\$280.00
KCC-STGHB3	Sony BVW-3 or BVW-30	280.00
KCC-STGHLT3	Sony BVW-3 or BVW-30 with DC-100 battery	280.00
KCC-SUPTGH	Custom designed to fit any camera height, length, width	280.00



Raincover

Kangaroo Raincover

The Kangaroo Raincover means technically designed protection for expensive portable television cameras and camcorder combinations which are sensitive to virtually any environmental hazard. Rain, sleet, snow, wind and dust are sealed out while the user has freedom of access to all equipment controls.

Also available is a special design to block RF interference in congested urban areas or near radar and transmitter sites.

KRC-B1	Sony BVW-1 Betacam	\$124.00
KRC-B105	Sony BVW-105	124.00
KRC-B3	Sony BVW-3, BVW-30 Betacam.	124.00
KRC-B3BVF	Sony BVW-30 with BVF-50 viewfinder	159.00
KRC-M2	Sony DXC-M2	114.00
KRC-M3	Sony DXC-M3	114.00
KRC-M3A	Sony DXC-M3A	114.00
KRC-3	Sony BVP-3, BVP-30.	114.00
KRC-3BVF	Sony BVP-3 with BVF-50 viewfinder.	149.00
KRC-5	Sony BVP-5	114.00
KRC-300	Sony BVP-250, BVP-300, BVP-330	114.00
KRC-3000	Sony DXC-3000.	114.00
KRC-730	Ikegami ITC-730A, ITC-730AP	114.00
KRC-79D	Ikegami HL-79A, HL-79D.	114.00
KRC-79E	Ikegami HL-79E	114.00
KRC-83	Ikegami HL-83	114.00
KRC-95	Ikegami HL-95	114.00
KRC-B95	Ikegami HL-95 with Beta recorder.	124.00
KRC-HK357	Ikegami 357.	195.00
KRC-320	JVC KY-210, KY-320, KY-950.	114.00
KRC-CCD	RCA CCD.	114.00
KRC-A1	Sharp A1	114.00
KRC-Z31	Hitachi Z31	114.00



Nagra Pack

Kangaroo Nagra Pack

The Kangaroo Nagra Pack, designed for Nagra recorders with 5" or 7" tops, provides the same basic convenience and protection that has gone into all of our video packs. The Nagra Pack has detachable pockets to hold tapes, batteries, wireless microphone and cables, while the front pocket holds four 7-inch tapes or eight 5-inch tapes. A convenient back flap provides quick access to batteries, while the clear rain flap allows use of controls while still providing protection from inclement weather. There's even a front sleeve to hold a clapboard.

The Kangaroo Nagra Pack gives Nagra users the secure, lightweight convenience needed for field recording.

Audio Packs		
KAP-Nagra	Nagra IV-S (Time Code), IV-SJ, 4.2, E	\$225.00
KAP-SQN3	SNQ3	41.00
KAP-SQN4	SNQ4	54.00
KAP-FP31	Shure FP-31	35.00
KAP-FP32	Shure FP-32	39.00
KAP-TCD5	Sony TCD5M	89.00
KAP-160	Audio Developments 160.	41.00
KAP-FT3	FilmTech 3	41.00
KAP-FT4	FilmTech 4	54.00



Emikote Products

Emikote™ Products

Emikote Products—an advanced line of products and custom design services for the protection of sensitive electronic equipment and recording media from the effects of electro-magnetic radiation.

Designs to cover cameras, recorders and camcorders are now available from Kangaroo as well as custom product design services.

Kangaroo's Emikote material shields out the electro-magnetic interference commonly found at or near transmitter sites, radar installations, congested urban areas and military bases.

KEP-CC	Emikote Camera Cover (specify camera)	\$750.00
KEP-RC	Emikote Recorder Cover accommodates most broadcast and industrial portable recorders (specify recorder)	650.00

Kangaroo Gripper™ Strap

The Kangaroo Gripper Strap is a heavy-duty shoulder strap that won't slide off nylon parkas, ski jackets, or other slippery material. Padded with our durable Evazote closed-cell foam, the Gripper Strap's three-way action gives you important shock-absorbing capability to carry even the heaviest equipment more safely and comfortably than ordinary shoulder straps.

The Gripper Strap comes with two sliders for easy attachment and adjustable length. It's available in brown, blue, green, rust and gray. It fits all Kangaroo Video Products carrying cases, and many other bags and cases.

KAC-Gripper \$30.00



Gripper Strap



CHARACTER GENERATOR/ TITLER

K40 Microfont™ Character Generator

- Self-contained single 58-key keyboard unit with small external power unit
- 16-page internal memory, expandable to 64 pages
- 2 complete upper and lower case fonts: 20 and 32 line Helvetica
- 256 characters
- Complete foreign language set in large size
- Double size font expander key
- NTSC or PAL operation (specify)
- Internal sync generator
- Separate black and white preview output with status line
- Striping on each display line, plus one at top of page
- 32-color palette
- Roll, crawl and title modes
- Italics by line
- Computer interface
- Non-volatile memory

The K40 Microfont offers an array of features in a low cost color character generator: finely resolved fonts, wide choice of colors, broad capture genlocking and mixing, full range rolls and crawls, and automated display sequences.

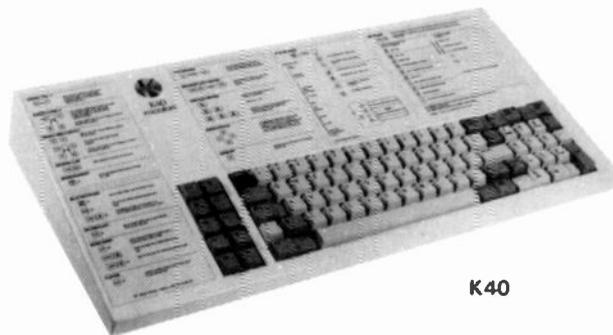
Easy to use, the K40 is ready to title from the moment you turn it on. Its entire instruction set is printed on the keyboard.

Each line may be individually colored in background and striping, and character colors may be completely intermixed on every line.

The Microfont is housed in a single 58-key unit complete with an internal sync generator. A standard NTSC video input is also provided for synchronizing the K40 to an external video source. An internal mixer adds the K40's output to the incoming video signal, a separate preview output carries the character generator output together with an additional line of characters showing the current system status.

All control functions are generated by the keyboard; an optional parallel interface is provided for operation by computer or remote keyboard.

K40	\$2495.00
64-page memory upgrade	275.00
Optional four-font upgrade	275.00



K40



K20 Titler

- Self-contained single 58-key keyboard unit
- 16-page internal memory, expandable to 64 pages
- Line-by-line character color
- Transparent or solid color backgrounds
- Built-in genlocking keyer
- One complete upper and lower case font — Helvetica
- Second upper case font — Eurobold
- NTSC or PAL operation (specify)
- Internal sync generator
- Separate preview output with cursor
- 8-color palette
- Title and 4-speed roll modes
- Computer interface
- Non-volatile memory

K20	\$1395.00
K12 Monochrome version of K20	1095.00



K20



CHARACTER GENERATORS

K200 Chromafont II™ Color Character Generator

- Eight included fonts, each in two sizes
- 128 color groups organized into eight palettes
- 512 color selection
- 10-speed roll and crawl modes
- Underlining and pinstriping
- Italics, superscript, and subscript
- 8000 character memory

The Chromafont II offers the small studio another step forward in quality production capability. Fully resolved, proportionally spaced fonts and rich variation in color and style of display make this character generator a standout in its price range.

Combining very low power digital technology with pipeline architecture, the Chromafont II puts a fine finish on your productions without the usual price-to-performance tradeoff. It genlocks to almost any signal, keys automatically, and can fade to title, fade to picture, and fade to black.

Incredibly easy to use for a machine with such a variety of fonts, colors, and positioning abilities, the Chromofont II has all the important operational essentials printed on the cover of its keyboard. A complete technical manual is included for those wishing to explore the finer points of display making.

The Chromafont II is equally at home as a stand alone unit, downstream in a simple editing suite, or upstream through a sophisticated production switcher. A unique execute mode allows a long sequence of display operations to be programmed ahead of time and then executed hands-off after a single keystroke.

- K200 \$4550.00
- K200 Complete system with disk upgrade, 500 page storage . . . 6090.00
- K200 Disk upgrade, 500 pages. 1540.00



K200

K100 Chromafont Option B Color Character Generator

- Four fonts: two upper and lower case, two upper case only—all in two sizes (eight 32-character font blocks)
- Full range color control (512 color palette) of background and character, organized as 16 selectable combinations. Color palette includes transparency
- Second 512 color palette for fade/cut/dissolve effects
- Character-by-character color control
- Individual character background color control
- Character-by-character underlining and pinstriping
- Horizontally and vertically adjustable shadow edging
- Flexible non-volatile 8000-character memory. Can be organized as up to 256 lines or up to 64 pages
- Multi-speed roll and crawl
- Fade Control: allows fade to and from black, dissolves from color to color
- Italics: two forward and two backward slants
- Variable line height
- Superscript and subscript
- Serial interface for computer control or extra keyboards
- NTSC or PAL-B compatibility
- Portable, detachable keyboard

The full color character generator of choice when the budget is limited, the K100 Chromafont represents a unique approach to character generator design.

Advanced high speed pipeline architecture puts sophisticated display capability in your hands at minimal expense.

Compact and versatile, the K100 is equally at home in the EJ van or in the studio. Its superior display adds elegance to routine titling such as schedule changes or weather alerts.

The K100 also offers the small studio or production house a true alternative to costly and inconvenient outside titling services.

- K100 \$3990.00



K100 Option C



Screen Display Composed on a Chromafont Option B, Including One Extra Font

Chromafont Option C Upgrade

Option C adds to the capabilities of the K100 Chromafont:

- Four new type fonts: one upper and lower case and numerals, two upper case and numerals, one upper case only—all in two sizes
- Unlimited floppy disk storage: frees K100 internal memory space
- Automated timed display sequences
- Pre-cued displays with built-in pauses

- Option C Upgrade \$5880.00
- Upgrade Only 1890.00

1500 Character Generator

SYSTEM FEATURES:

Resident Memory

- Internal text memory and font memory are size interactive • Variable page length

Fonts

- 35ns resolution • Multiple resident font capability • 96 characters per font • Multifont library (70 fonts included) • Proportional spacing • Character cell adjustment • 12-56 scan-line character sizes

Display Editor

- Instant italics (forward or backward with choice of multiple angles) • Auto centering (line and page) • Underline • Insert and delete character • Insert and delete row • Seven edge modes: no edge, outline, full border, and 4 quadrants of drop shadow • 8 edge intensity levels

Color

- 65,536 colors resident, 946 displayable per page

Dual 3 1/2 Disk Memory

- Loadable operating system software • System initialization user defined by auto-sequence • Page, font, and auto-sequence loadable from disk

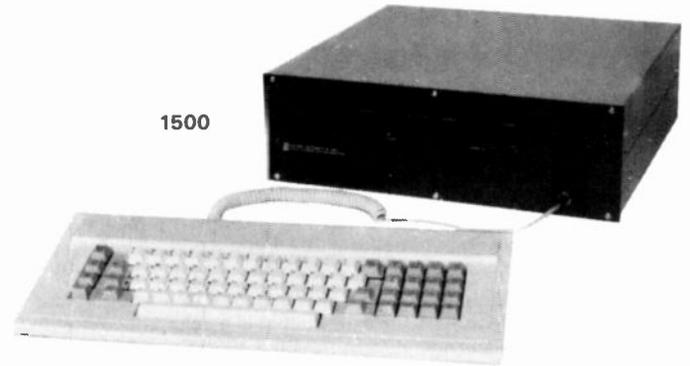
Operates on NTSC composite format with optional 1032 Color Encoder, or NTSC Y/C format with optional 1032 Y/C Encoder

The 1500 is a high quality television broadcast character generator system with some graphics capability. It is capable of displaying multiple font styles and sizes in a single message. Custom logos and symbols can be included in the font styles. Each character style and size is created from an entirely different high-resolution font file. None of the fonts is stretched, squashed, or otherwise distorted to achieve multiple effects, which assures consistent quality and legibility in each display.

The 1500 is essentially a two channel system. One channel is the Preview/Status Channel and the other is the Program Channel. All message information is entered into the Preview/Status Channel and then transferred to the Program Channel, allowing editing while on-air.

The 3 1/2" dual disk drive system and the logic system are both in one chassis. The single chassis unit can be used as rackmount or an attractive desktop unit.

1500	Character generator—includes 1500 chassis with two 3 1/2" disk drives, keyboard and 70 standard fonts. Requires color encoder.	\$ 7,695.00
1500-PROM	Character generator—includes 1500 and 6 standard fonts. 1530 option required for camera entry and font compose options. Requires color encoder.	4,500.00
1500-EX	Character generator—includes 1500 chassis, 1511 expanded keyboard and 70 standard fonts. Requires color encoder	8,495.00
1500-TURBO	Character generator—includes 1500 chassis with 3 1/2" disk drive, 1511 expanded keyboard, 1534 hard disk and 70 standard fonts. Requires color encoder	9,900.00
1500-LX	Character generator—includes main chassis with 3 1/2" disk drive, 1511 keyboard, 1524 data tablet, 1526 camera entry, 1528 font compose, 1534 hard disk, 1540 expanded graphics and 70 standard fonts. Requires color encoder.	16,500.00
Options		
1401	Optional font set for 1500-PROM.	\$395.00
1402	Optional international font set for 1500-PROM.	395.00
1403	6 font set, custom, select any 6 from library for 1500-PROM	650.00
1422	Computer interface kit for 1450 and 1500 series.	200.00
1505	Memory upgrade, expand from 262 to 512K for older 1500 CGs.	160.00



1510	Keyboard for second location. For remote use—requires 1516 power supply.	\$ 349.00
1511	Direct access keyboard—an expanded keyboard making the most of the commonly used menus, functions, and the entire character set, directly accessible with a single key-stroke. Increases user operating speed. For remote use—requires 1516 power supply	995.00
1516	Power supply required for a remote/second keyboard or a 1524 Data Tablet, rackmountable, with 15' cable	695.00
	Longer cable for 1516—add per foot	1.00
1520	Rackmount kit—for 1500 and 1500-EX	112.00
1520-PROM	Rackmount with slide for 1500-PROM	112.00
1524	Data tablet with 1516 option, requires 1528, for 1500 and 1500-EX	1,495.00
1525	Data tablet—logos, drawings and fonts can be traced into the 1500 with an electronic stylus. Speeds the editing process when used in conjunction with font compose. Requires 1528 font compose for operation for 1500 and 1500-EX	995.00
1526	Camera Entry—Requires separate B & W video camera, copy stand and 1528 font compose for operation	1,995.00
1528	Font Compose—Requires 1524 for 1500 and 1500-EX	495.00
1530	1500-PROM upgrade. Two 3 1/2" disk drives, 70 disk loadable fonts. Required for camera entry and font compose options	3,695.00
1534	Hard disk memory-20M byte	1,495.00
1540	Expanded graphics option for 1500, must have 1524, should have 1526, 1528 and 1534.	3,995.00
ITC-510	Ikegami B/W camera, for 1526 camera entry.	995.00
330-02	Bencher Copymate, copy stand for ITC-510	400.00
1550	Font base, development aid for 1528 font developer, specify type style.	70.00
1032	Color encoder, RGB to NTSC, required for 1500-PROM, 1500 and 1500-EX, (rack-mount)	1,325.00
1032-Y/C	Same as above with full Y/C compatibility	1,895.00
BC-200	Tripp Lite uninterruptible power supply, 200W for 1450	400.00
BC-325	Tripp Lite uninterruptible power supply, 325W for 1500, 1500-EX, 1500 PROM	500.00
	Additional fonts for 1450 and 1500-PROM, choose six only, requires factory installation, six additional fonts are maximum.	675.00

1450 Color Character Generator

- 35ns resolution • Capable of producing 65,000 different colors • Six resident fonts • 100 pages of memory and a keyboard • Built-in color encoder • Features enhancements such as italics, edging, outline, four quadrants of drop shadow, and eight intensity levels • Vertical and horizontal flip • Inverted video • Flash and underline • Capable of roll up or down at any of nine speeds • Crawl left or right at any of six speeds • Can be used either downstream or as a stand-alone system • Encoder modulates RGB signals into composite NTSC • Rackmountable

The standard configuration of the 1450 includes six resident fonts, 100 pages of memory, and a keyboard. Built-in is a color encoder with the same high quality and specifications as the 1032 Color Encoder.

The 1450 features: Italics (at one of seven angles from 12° to 56°), Edging (with full edge, Outline, four quadrants of Drop Shadow, and eight intensity levels), vertical and horizontal flip, inverted video, flash and underline. The 1450 also has the ability to roll up or down at any of nine speeds and crawl left or right at any of six speeds.

The 1450 can be used "upstream", "downstream", or as a "stand-alone" system. The video signal can be "phased" or timed, both vertically or horizontally, with the primary video source.

An optional 1422 Computer Interface Kit allows the 1450 to communicate with IBM® compatible computers. This feature permits unlimited, permanent storage of text on the computer's floppy disc.



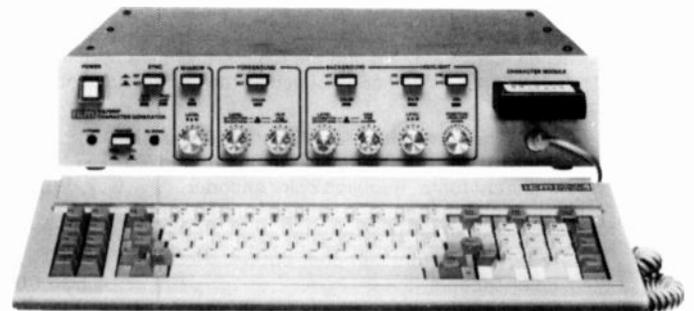
1450

- 1450 Includes six fonts and encoder, should have optional BC-200 Power Supply \$3995.00
- BC-200 Tripp Lite uninterruptable power supply, 200W 400.00
- 1401 Optional font set. 395.00
- 1402 Optional international font set 395.00
- 1403 6 font set, custom, select any 6 from library 650.00
- 1420 Rackmount, with slide 112.00
- 1422 Computer Interface Kit 200.00

CG-7000/ES and CG-7000Y/C Color Character Generators

- Vertical scroll in four speeds • Full editing capability • Simplified line and page centering • Optional remote control gives random access to first 15 pages or manual sequencing through all pages • Flashing effect available on any character, word, line or page • Drop shadow, lower right, with 0-100 IRE level control shadow • Characters can be filled in or colorized by any external video signal. Allows multicolored or special texturing effects • Key output permits interface to any SEG • Text will only appear within SMPTE safe title area • Special highlight window can surround any line; can be colorized • Main unit will auto start and run without keyboard. Permits text to be programmed in advance and run later at trade shows, meetings, point-of-purchase displays, etc. • Internal battery protects memory up to three years • Automatic bypass of video during power loss • Will automatically switch to internal sync if genlock source is lost • Crystal controlled sync generator • 80 pages or 12,160 characters of memory space • Proportional spacing • Character special effects • Optional rackmount with slide for main unit • Optional fonts • Auto page sequence in four speeds • Auto sequence of all lines on all pages at any screen position in four speeds, replaces horizontal crawl • Automatic line centering • Insert and delete a line • Automatic page centering • Copy a line • Copy a page • Move a page • Program pages to display in any desired order prior to scrolling, auto paging or auto lining • Pause or freeze text in place when scrolling, auto paging or auto lining • Go to page number command

The CG-7000Y/C is the same as the CG-7000/ES except that it is fully Y/C compatible. The CG-7000Y/C has a Y-3.58 dual input, built-in Y/C channel keys, and Y-3.58 dual outputs.



CG-7000/ES

- CG-7000/ES \$2195.00
- CG-7000Y/C 2995.00
- Accessories**
- RM-5 Rackmount for CG-7000. \$ 80.00
- RC-30 Remote Control, for CG-7000 120.00
- FM-15—Series Font Module, additional font styles for CG-7000 100.00
- FM-16—Series Font Module, deluxe font styles for CG-7000 150.00
- MM-1400 Memory Module, for CG-7000 120.00

DA-5030 and DA-5040

Audio and Video Distribution Amplifiers

• Each DA has 6 outputs • Broadcast quality video specs • VHS and Beta Hi-Fi quality audio specs • DA-5030 will distribute SMPTE time codes • DA-5040 also functions as video equalizing amp • External power supply • Rackmountable, 4 per space • Front panel level and compensation controls • Front panel test points • Signal-to-noise ratio: DA-5030: 90dB, 0dBm in/out, 600 ohm load; DA-5040: 75dB peak video to RMS noise, weighted • Connectors used: DA-5030: RCA; DA-5040: BNC

DA-5030 Audio DA

This product is equally useful for distributing audio signals or SMPTE time code. The DA-5030 has one looping audio input and six outputs. This DA is mono only, but its input can be looped to additional DA inputs to increase the total number of outputs. The compensation adjustment can be used to offset the poor frequency response of 1/2" and 3/4" VCR audio tracks.

Accessories included: Service info, power loop cable
Options: PS-20 power supply, RM-4 rackmount

DA-5040 Video DA

This product is equally useful as either a distribution amplifier or a video equalizing amplifier. The DA-5040 has one looping input and six outputs. The input can be looped to additional DA inputs to increase the total number of outputs. The compensation adjustment can be used to equalize or compensate for high frequency loss on long cable runs. Up to 1500 feet of RG-59/U can be compensated.

Accessories Included: Service info, power loop cable
Options: PS-20 power supply, RM-4 rackmount

DA-5030/5040 Power Supply

Both DAs are powered from an external power supply. Power can come from the optional PS-20 Power Supply which furnishes 18VDC, 9W. As an alternate, any regulated 12VDC power supply can be used. (Any hum or noise present on a 12VDC power supply may not be fully filtered by the DA. Therefore, use special care in selecting a 12VDC supply.) The DAs have looping DC power connectors which allow multiple DAs to be powered from a single power supply. Each PS-20 Power Supply will operate two DA-5040 or four DA-5030.

DA-5030	\$220.00
DA-5040	220.00
RM-4 Rackmount adaptor	25.00
RM-6 Rackmount for DA-5030, DA-5040, RS-410, and RS-420	60.00
PS-20 Power supply, AC adaptor for DA5030/5040	24.00
PS-40 Power supply, deluxe version for DA-5030/5040	120.00

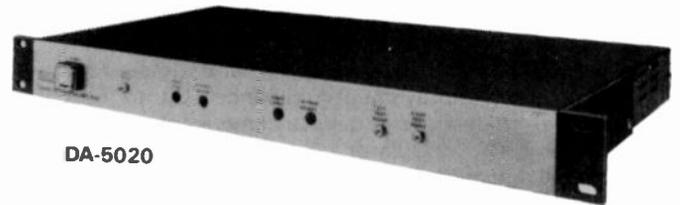
DA-5020 Video and Audio Distribution Amplifier

• Video and stereo audio DA combined into one unit • Broadcast quality video specs • VHS and Beta Hi-Fi quality audio specs • Rackmountable • More outputs per rack space — 12 video, 12 audio • Front panel level and frequency compensation controls • Front panel test points • NTSC and PAL operation • Signal-to-noise ratio: Video: 75dB peak video to RMS noise, weighted; Audio: 90dB, (0dBm in/out, 600 ohm load)

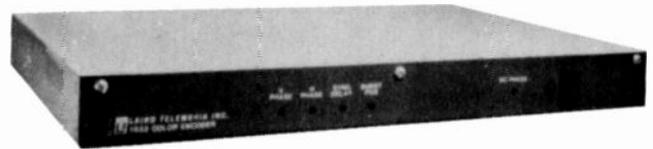
The DA-5020 is a versatile distribution amplifier that combines video and stereo audio into one cabinet. Twelve matched, isolated video outputs are provided from a single video input. Twelve audio outputs are provided from each of the two audio inputs. The inputs are looping or bridging so that additional DAs can be stacked to provide more outputs, such as 24, 36, 48, etc. The compensation control on the audio DA is designed to help offset the loss of frequency response encountered on 1/2" and 3/4" VCR audio tracks. The video compensation control will compensate for the loss of high frequencies on long cable runs. Up to 1500 feet of RG-59/U can be compensated.

Accessories Included: Rackmount hardware, service info

DA-5020	\$590.00
DA-5020/PAL PAL version, 230VAC	590.00



DA-5020



1032

1032 and 1032Y/C NTSC Color Encoder

• High quality, low cost R-Y, B-Y axis encoding • Ideal for non-broadcast, industrial applications • Allows the RGB source to have H and V phase matching • Contains a complete, RS-170A genlocking sync generator • Internal sync generator has stand-alone crystal mode • Operates in both upstream and downstream configurations

The 1032 changes RGB video, the 3-wire output of many character generators, cameras, etc., into composite NTSC video. The 1032 also allows the RGB signal to be "phased" or timed both vertically and horizontally with primary video. The 1032 encoder is an ideal mate to the 1500 character generator, and can also be used equally well with many other television products and systems.

The 1032 contains a complete genlocking, RS-170A sync generator that will readily lock to stable or unstable sources. It further has the ability to automatically switch over to a temperature-stabilized, internal, crystal-controlled sync generator in the event the program material is lost. Internal jumpers can be programmed to allow the unit to operate in various modes including upstream, such as an input to a switcher, or downstream, such as utilizing the 1500 character generator built-in keyer.

The 1032 will not allow encoding or non-standard, non-NTSC, or computer-generated signals. The RGB source must be 525 line, 60 field, analog, and capable of genlocking.

The 1032Y/C converts RGB signals to two-wire, NTSC, Y-C (3.58MHz) video fully compatible with S-VHS VCR's. The program or genlock input can be either composite or two-wire Y/C. This unit has a key input connector and a built-in, two-channel Y/C keyer, an external key clip level adjustment, and an internal key signal polarity-reversal switch. When mated with a Laird 1500 Series Character Generator, the encoder turns the CG output into NTSC, Y/C video. The CG's key output can also be fed to the encoder key input. This allows CG text to be keyed over external Y/C video by the encoder. The internal keyer will maintain the Y/C signals in two independent channels.

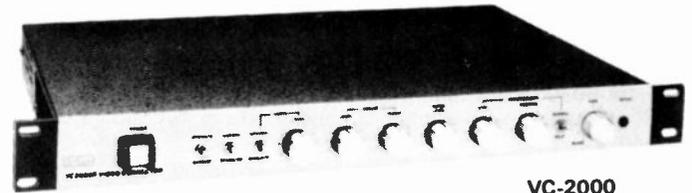
This model also has a composite, single wire, encoded output that can be used regardless of whether the input video is composite or Y/C. This feature permits the 1032Y/C to be used in a total composite system, yet allows full upgrading later to a Y/C system without scrapping either the CG or the encoder.

1032	\$1325.00
1032Y/C	1895.00

VC-2000 Professional Video Enhancer/Processor

- Ideally suited to 1/2" and 3/4" videotape correction • Copy-guard stabilizer • Fade to black control • Four audio and video outputs • Rackmountable • Automatic regeneration of all sync signals • Image enhancement and noise reduction • Signal-to-noise improvement-luminance: Up to 6dB with "Noise Level" • Useful as a remote camera control unit • Optional plug-in RF modulator • Signal-to-noise ratio: 60dB • Connectors used: BNC (video), RCA (audio), F (RF)

The unit automatically generates sync and blanking signals, both horizontal and vertical, plus color burst signals. The insertion of synchronizing signals plus back porch clamping permit the VC-2000 to solve a variety of stability problems. Jitter, flicker, bending, and rolling are automatically corrected in most cases.



VC-2000

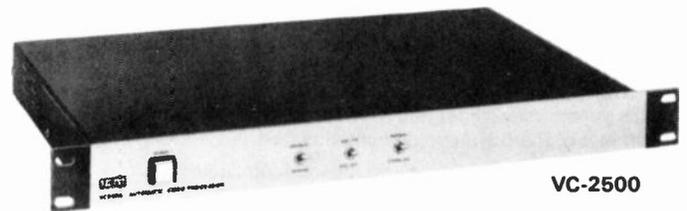
Accessories included: Rackmount hardware

- VC-2000 \$860.00
- VC-2000/PAL PAL version, 230VAC 860.00
- RFC-34 RF Modulator, channel 3 or 4 (NTSC) 70.00

VC-2500 Automatic Video Processor

- Automatically maintains correct video levels • Automatically maintains stable, regenerated sync • Ideal for driving RF modulators • Ideal for video tape duplicating • Clamp circuit removes hum and flicker • Four video and audio outputs • Available in NTSC or PAL models

The VC-2500 is ideal for applications where it is necessary or desirable to provide technically correct levels and stable video at all times, automatically and unattended. The VC-2500 is a video processor and as such it completely regenerates all horizontal and vertical sync and blanking signals. The sync regeneration along with an active back porch clamp circuit will



VC-2500

correct most of the stability problems encountered with video. Problems such as jitter, satellite receiver flicker, bending and rolling are corrected automatically in most cases.

- VC-2500 \$560.00
- VC-2500/PAL PAL version, 230VAC 560.00
- RFC-34 RF Modulator, channel 3 or 4 (NTSC) 70.00

**RS-400, RS-410, and RS-420
Passive Routing Switchers**

RS-400 Passive Routing Switcher

- 12 video inputs, 1 video output, 12 stereo audio inputs with stereo outputs • Unbalanced audio • Audio follow video switching • Pushbuttons have self-indicator feature • Suitable for desktop mounting • Rackmount hardware

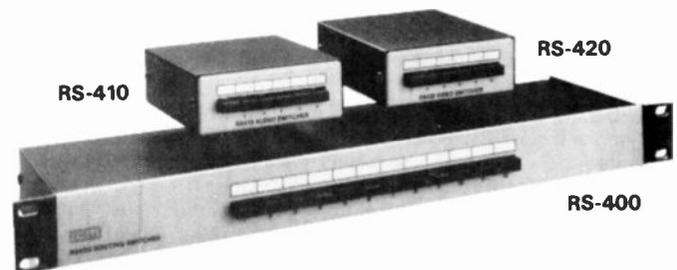
RS-410 Passive Routing Switcher

- Six stereo audio inputs with output for each channel • Unbalanced • Suitable for desktop mounting • Four switchers can be rackmounted in optional RM-6 rackmount • Pushbuttons are non-indicating

RS-420 Passive Routing Switcher

- Six video inputs, one video output • Pushbuttons are non-indicating • Suitable for desktop mounting • Four RS-410/RS-420 switchers can be rackmounted in optional RM-6 rackmount

These three switchers can be used in general purpose audio or video routing applications where selection from multiple sources is required. They should not normally be used when the switching must occur "on line" or during a program in process, because they could introduce a glitch at the switching point.



The switchers contain no active electronics and consume no power. High quality switches with gold contacts are used for high reliability operation. Gold plating is also used on all the audio input and output connectors to improve reliability. All unselected inputs are internally terminated to help minimize crosstalk. All pushbuttons are interlocking.

- RS-400 12x1 video/stereo audio \$300.00
- RS-410 6x1 stereo audio 100.00
- RS-420 6x1 video 100.00
- RM-6 Rackmount for RS-410/420 60.00

5300 Optical Multiplexer

The 5300 Optical Multiplexer provides as many as three separate film images projected for televising by a single camera. First-surface mirrors and precision optics ensure excellent results in color TV applications. An integral field lens provides an intermediate image plane upon which both camera and projector lenses are focused. The field lens mounting is designed to permit insertion of a special screen for alignment purposes. The mirrors are shifted by individual electric gear motors through a unique torsion-bar/pitman coupling and produce an "instant" vertical wipe image transfer. The optical transfer assembly is supported for a 48" optical center by a bench pedestal.

* **5300** For three input sources (small image). Includes optical transfer assembly with field lens and cover, bench pedestal and local control \$2095.00

* **5330** For three input sources (large image). Includes optical transfer assembly and cover, bench pedestal and local control . . . \$3680.00

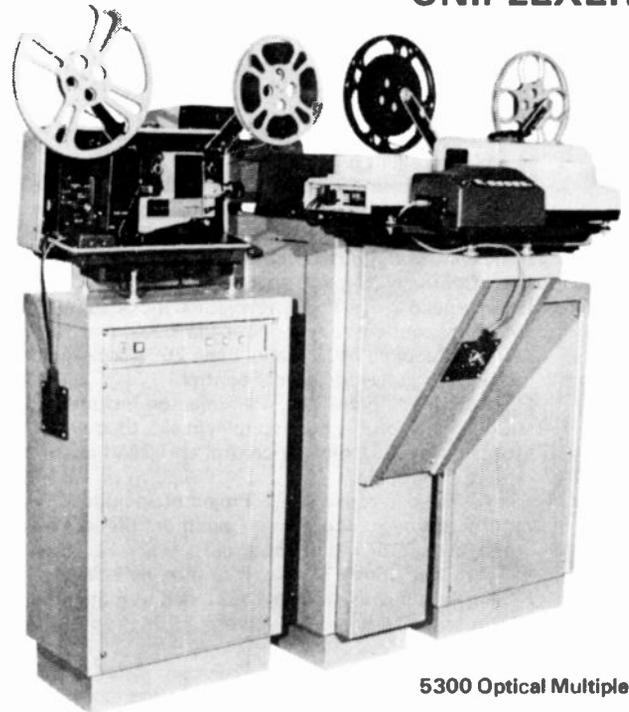
5040 Large image field lens and mounting assembly for 5330 Multiplexer. (Required for camera without integral field lens.) . . \$1105.00

Shelves and Stands

(For 5300, 5330 Multiplexers)

5104 Stand for cameras or projectors with optical center height between 8 1/4" and 12 1/4". Includes mounting adaptor. (Specify camera or projector model when ordering) \$425.00

5107 Shelf for camera or projector. Includes mounting adaptor. (Specify camera or projector model when ordering) \$310.00



5300 Optical Multiplexer

5108 Stand for camera or projector with height of less than 8 1/4" from mounting base to center of optics. Includes mounting adaptor. (Specify camera or projector model when ordering) \$425.00

* Does not include camera or projector mounting shelves or stands.

5100 Series Optical Diplexer/Uniplexer

The 5100 provides two separate film images that may be selectively projected for televising by a single camera. The 2-input projector complement may include either 16mm or Super 8 motion picture film in combination with 35mm 2" x 2" slides.

5116 Assembly with first surface mirror and field lens. Includes shelves and adaptors for camera and film projector. (Specify camera and projector when ordering) \$1200.00

5116 + 35 Diplexer Assembly—for two input sources. Includes first surface mirror, field lens, bench assembly and shelves (desktop mount) for 35mm slide projector and 16mm film projector. (Specify camera or projector, dedicated or dolly-up) \$1790.00

5135 Uniplexer Assembly same as above for one 35mm slide projector. \$1075.00

Lens Accessories

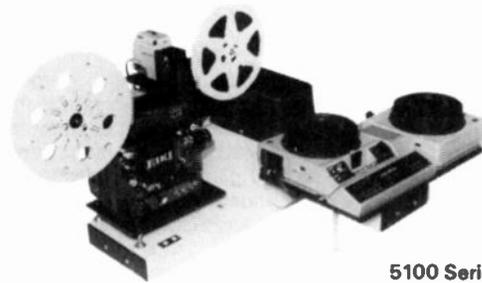
5015 Lens Extender—for "C" mount lens: 3/16" for 2/3" format camera. 3/8" for 1" format camera \$ 21.00

5017 50mm f/1.4 Lens—for "C" mount camera, includes lens extender: 3/16" for 2/3" format camera. 3/8" for 1" format camera. 240.00

5019 55mm lens with Bayonet mount for prism optic 2/3" tube cameras 1515.00

5023 Variable Focusing Kit—for use on 4320 projectors, with 7" lens, when full projected slide image is preferred, from all slide formats. (Normal projected image is overscanned to SMPTE standards) 395.00

5035 35mm Lens with Bayonet mount for WV-555 1/2" tube camera 890.00



5100 Series Optical Diplexer/Uniplexer

Multiplexer Accessories

5021 Test Slide/Loop Kit—includes Resolution, Registration, and Flesh Tone slides and Resolution 16mm film loop \$ 225.00

5021A Test Film, 6' loop, Resolution 16mm film 42.00

5021B Test Slides, includes Resolution, Registration and Flesh Tone slides 200.00

5036 Neutral Density Filter Kit—assortment of 6 filters, 2 pieces of glass and mounting hardware supplied. (For small image. One kit for each projector recommended) 110.00

5037 Neutral Density Filter Kit—assortment of 6 filters, 2 pieces of glass and mounting hardware supplied. (For large image. One kit for each projector recommended) 235.00

5050 Neutral Density Light Wheel & Automatic Light Control—maintains output from camera at 1V composite video. (Uses 2550 Remote Control) 2150.00

Film Projectors

- ST-180(R)** Elmo Regular 8mm 15fps Projector. Includes 25-50mm zoom lens, silent only. (Requires 5107 shelf, uses 2551 remote control and 3510 remote adaptor.) . . . \$ 800.00
- ST-180(S)** Elmo Super 8mm 20fps Film Projector. Includes 25-50mm zoom lens. (Requires 5107 shelf, uses 2551 remote control and 3510 adaptor.) 800.00
- HD-1500** Pitch Controller (Super 8 sound) 625.00
- GS1200TC** Elmo Super 8 24fps TV Film Projector. Includes 25-50mm zoom lens, optical and magnetic playback, and magnetic record. (Requires 5108 stand, uses 2553 remote control and 3522 adaptor for remote control.) 1875.00
- 16-CLLTI** Elmo Slotload 16mm TV Film Projector. Includes 75mm lens, optical and magnetic playback. (Requires 5108 stand, uses 2551 remote control and 3518 adaptor for remote control.) 2640.00
- ENT-OTLTI** Eiki Autoload 16mm TV Film Projector. Includes 3" lens, optical playback and remote adaptor. (Requires 5108 stand, uses 2554 remote control.) 2373.00
- ENT-2LTI** Eiki Autoload 16mm TV Film Projector. Includes 3" lens, optical and magnetic playback, and remote adaptor. (Requires 5108 stand, uses 2554 remote control.) 2924.00
- ENT-3LTI** Eiki Autoload 16mm TV Film Projector. Includes 3" lens, optical and magnetic playback, magnetic record and remote adaptor. (Requires 5108 stand, uses 2554 remote control.) 3475.00

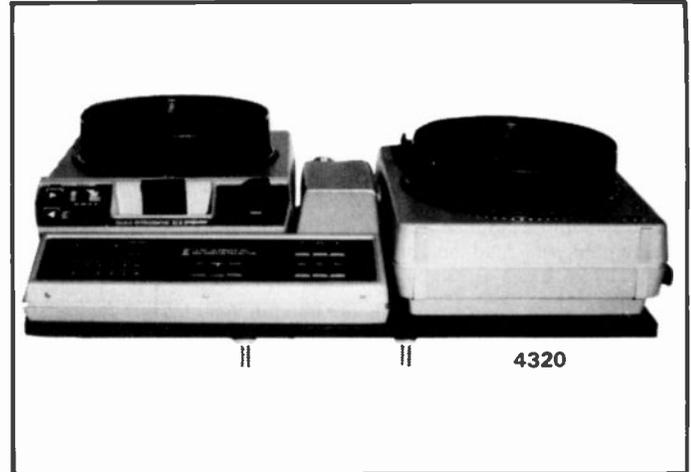
Note: It is recommended that one neutral density filter kit, 5036 or 5037, be ordered for each projector in the system.

Slide Projectors

- 4300** Eastman Single Drum Slide Projector. With Kodak III E Projector, holds 80 35mm slides. Includes modified 7" lens and adjustable mount. (Requires 5107 shelf or 5108 stand, uses 2543 remote control and 3504 adaptor for remote control.) \$ 590.00
- 4320** Dual Drum Dissolve Slide Projector, with Kodak III E Projectors, holds 160 35mm slides. Provides a large capacity projector with a time controlled dissolve transition. The dissolve time and the dwell time can be programmed to run automatically. The 4320 dual offers the alternate sequencing of up to 160 glass, metal, plastic, or paper-mounted 2" x 2" slides. Image transfer between successive slides is accomplished by a means of a stationary optical beam splitter, thus slides selected from either of the two storage drums share a single, high-quality projection lens. This, together with the use of a quartz halogen light source, makes the projector ideal for color television applications. The single-chip, programmable microcomputer based electronics allow for user computer interface, an unlimited number of remote inputs, and a real time sequencer. Includes modified lens and adjustable mounting hardware. (Requires 5107 shelf or 5108 stand, uses 2545 remote control and 2546 tone generator/decoder.)
 With 7" lens for small image system 4200.00
 With 7 1/2" or 9" lens for large image system . . 4700.00

Remote Controls

- (All modules use 1/3 remote control frame width unless otherwise specified.)
- 2540** Remote Control Frame. Accepts up to three remote control modules. Blank filler panels provided, if necessary. Frame: 1 3/4" H x 19" W x 1 1/4" D \$ 60.00
 - 2541** Remote Control for 5300 or 5330 Multiplexer. Controls input sources 1, 2 and 3. (Not required when LTI projector remote controls are furnished.) 120.00
 - RC50-2541** 50' cable 46.00
 - RC100-2541** 100' cable 75.00



- 2543** Remote Control for 4300 Single Drum Slide Projector. Controls "Off," "Ready," "Forward," and "Reverse" slide change \$150.00
- RC50-2543** 50' cable 62.00
- RC100-2543** 100' cable 105.00
- 2545** Remote Control for 4320 Dual Drum Dissolve Slide Projector. Includes all local control functions. Full width remote frame furnished 515.00
- RC50-2545** 50' cable 80.00
- RC100-2545** 100' cable 125.00
- 2546** Tone Generator/Decoder for 4320/2545 Dissolve Projector System 350.00
- 2549** 24V Power Supply for Uniplexer Remote Control. . . 190.00
- 2550** Remote Control for 5050 ND Light Wheel. 80.00
- RC50-2550** 50' cable. 47.00
- RC100-2550** 100' cable. 75.00
- 2551** Remote Control for film projectors. Controls "Off," "Ready," and "Show" modes. 120.00
- RC50-2551** 50' cable 49.00
- RC100-2551** 100' cable 80.00
- 2553** Remote Control for Elmo GS1200TC Projector. Controls "Off," "Ready," "Show," "Forward," and "Reverse." 150.00
- RC50-2553** 50' cable 73.00
- RC100-2553** 100' cable 115.00
- 2554** Remote Control for Eiki ENT-2LTI and ENT-3LTI Projectors. Controls "Off," "Ready," "Show," "Forward," and "Reverse." 150.00
- RC50-2554** 50' cable 73.00
- RC100-2554** 100' cable 115.00
- 3504** Remote Adaptor for 4300 Slide Projector 115.00
- 3510** Universal Remote Adaptor with AC power cord for all projectors without remote provisions. Includes local controls, "Off," and "Ready." (Used with 2551 Remote Control.) 155.00
- 3518** Remote Adaptor for 16-CLLTI Elmo Projector . . . 155.00
- 3522** Remote Adaptor for GS1200 TC Elmo Projector . . 150.00

Note: One Instruction/Service Manual supplied with each Multiplexer and both Dual Drum Slide Projectors.
 Extra Manual \$25.00
 Service Manual for Eiki and Elmo Projectors 45.00

LBO-5860B/H Waveform Monitor

The LBO-5860B is an economical half-rack Waveform Monitor. The unit has an internal graticule and a 7kV (16kV "H" model) accelerating potential for bright, easy-to-read displays. Total RGB and YRGB (optional) capability is available and horizontal sweep speeds of 2H (2 lines), 1µs/div (expanded 2 lines), 2V (2 fields) and 2V Mag (expanded 2 fields) are standard.

The LBO-5860H Waveform Monitor offers all these features in addition to allowing the Vertical Internal Test and Reference signals to be displayed by a front panel line selector. Lines 7 through 21 can be selected from field one or two without interference from the active portion of the video signal. The instrument also has a blanking output to blank the companion Vectorscope during the active portion of the video signal allowing differential gain and phase measurements to be accomplished easily.

The LBO-5860B/H are half-rackmountable and can be mounted side by side with the LVS-5850B Vectorscope. The LBO-5860H is also available in a PAL/SECAM version as the LBO-5861A.

- LBO-5860B NTSC \$1740.00
- LBO-5860H NTSC (lines 7-21 line select) 1995.00
- LBO-5861A PAL 2475.00
- LBO-5865 NTSC (full line select). 2695.00



LBO-5860B



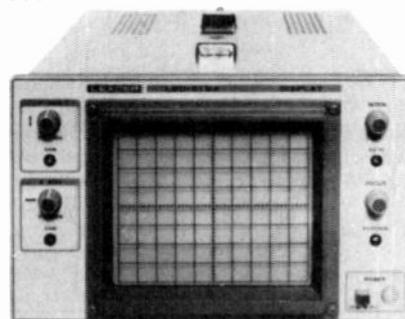
LVS-5850B

LVS-5850B Vectorscope

The LVS-5850B Vectorscope provides a convenient method for observing and measuring the relative phase and amplitude of chrominance signal components. It utilizes a unique technique which electronically displays the "inner boxes" which represent error limits of ± 2.5° and ± 2.5 IRE units. This improves the accuracy of phase and amplitude adjustments by eliminating errors due to CRT non-linearities. The LVS-5850B includes three loop-through inputs including a dedicated external subcarrier reference input which is front panel selectable. Either of the two composite video loop-through inputs can also be selected as the reference signal and all three inputs can be displayed individually.

The unit is also equipped with a Z-axis blanking input to provide blanking during the active portion of the video signal and unblanking during the VITS signal for a stable, jitter-free display. A test circle pattern is also selectable for a quick calibration check of the instrument. Another front panel pushbutton provides for either 100% or 75% amplitude levels. A gain control, with a detented calibrated position, provides for continuous amplitude adjustment. A phase control permits rotating the display through 360°. The LVS-5850B is supplied in a protective carrying case or in a 1/2" rack width configuration.

- LVS-5850B NTSC \$1995.00
- LVS-5851A PAL Vectorscope 2660.00



LBO-51MA

LBO-51MA Display Monitor

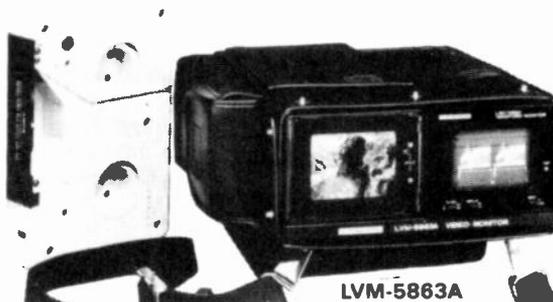
For special low-cost applications — The LBO-51MA is driven by R-Y and B-Y video signals, from a precision chroma decoder or a Tektronix 650 HR series picture monitor equipped with R-Y and B-Y outputs. The LBO-51MA has the added capability of displaying individual VITS and VIRS lines* when used with LBO-5860 waveform monitor.

The unit's CRT display area is 8 x 10cm. Combines 3MHz bandwidth on X and Y axes, with 4MHz on Z axis. Phase shift between X and Y axes is less than 3° at 1MHz (R-Y and B-Y signals are approximately 600kHz).

The absolute accuracy of the LBO-51MA display is dependent upon the accuracy of the precision chroma decoder being used to drive it.

*VITS and VIRS lines may be observed only when the signal delay inherent to the chroma decoder being used is not excessive (10 to 15µs).

- LBO-51MA \$1195.00



LVM-5863A

LVM-5863A EFP Color Monitor/Waveform Monitor

The LVM-5863A Monitor has full monitoring capabilities for video cameras, VCRs and audio recorders. Its 2H/2V waveform monitor provides the most useful displays an operator can have. A switchable IRE filter facilitates lens-opening checks. And the 1V/0.25V selector acts as a 4X magnifier to simplify setup level and black-balance checks. Yet, the LVM-5863A is easy to use since controls are kept to a minimum. And, it makes field productions as technically and artistically correct as they can be.

- LVM-5863A \$2150.00
- LBO-5864 EFP Waveform Monitor only 1350.00

Reporterlight Kits—HMI Portable/Location Lighting

270W Reporterlight Kit I

Kit includes:

- 310-002 Lamphead, manually operated focusing • 118-101 4-Leaf Barndoor • 171-052 Electronic ballast to operate on mains, including mains cord • 130-102 Diffusion filter in pouch • 130-202 Conversion filter in pouch • 148-202 Kit I Carry Case • 476-655 HMI lamp 270W, single ended socket

320-002\$4700.00

270W Reporterlight Kit III A

Same as Kit I with the following exceptions:

- 310-003 Lamphead with motor-driven focusing (for remote control—alternative to 310-002)

320-004/A\$5015.00

270W Reporterlight Kit III B

Same as Kit II with the following exceptions:

- 310-003 Lamphead with motor-driven focusing (for remote control—alternative to 310-002)

320-004/B\$5265.00



Reporterlight

Production Kit—Film/ENG Lighting

Designed to illuminate a 10'H x 15'W x 10'D area.

Applications include news, sports, weather, commercials, instruction, etc. Total connected load 45.8A at 120V.

Kit includes:

- (3) 100-515 1000W Fresnel • (3) 118-013 8 Leaf Barndoor • (3) 142-101 25' Extension Cable • (3) 152-053 Compact Stand w/Casters • (1) 142-215 Outlet Box w/2 Outlets 25' Cable • (3) 176-097 1000W Lamp • (2) 104-031 Broad • (2) 152-053 Compact Stand w/Casters • (2) 176-022 1000W Lamp • (1) 104-041 Multi-Broad • (2) 120-007 Diffusion Frame • (1) 142-101 25' Extension Cable • (1) 152-053 Compact Stand w/Casters • (1) 176-024 500W Lamp • (2) 148-001 Case

150-062\$4500.00



Production Kit

Location Lighting Kit—Complex Lighting Set-Ups

One case carries all equipment. Channel leg stands for reliable support. Draws 41.6A at 120V and 14.5A at 220V.

Kit includes:

- (2) 100-301 Multi-10 • (2) 118-013 8-Leaf Barndoor • (1) 122-147 Scrim Set—Single Half Single • (2) 176-012 1000W, 120V Lamp (150-056 Kit) • (2) 176-015 800W, 220V Lamp (150-057 Kit) • (2) 104-051 Mini-King • (2) 118-003 4-Leaf Barndoor • (1) 148-001 Case • (2) 152-051 Mini-Stand with 5/8" Stud • (2) 152-052 Compact Stand • (2) 176-022 1000W, 120V Lamp (150-056 Kit) • (2) 176-027 800W, 220V Lamp (150-057 Kit)

150-056 (120V)\$1900.00

150-057 (220V)1900.00



Location Lighting Kit

Flight Kit Fast, Simple Set-Up

Accessory holders on Multi-6 for simple set-up.

Draws 27.5A at 120V and 15A at 220V.

Kit includes:

- (2) 100-151 Multi-6 • (2) 118-013 8-Leaf Barndoor • (1) 122-147 Scrim Set—Single, Half Single • (2) 176-002 650W, 120V Lamp (150-058 Kit) • (2) 176-007 800W, 220V Lamp (150-059 Kit) • (2) 104-051 Mini-King • (2) 118-003 4-Leaf Barndoor • (1) 148-007 Case • (3) 152-051 Mini-Stand with 5/8" Stud • (1) 156-001 Gaffer Grip • (2) 176-022 1000W, 120V Lamp (150-058 Kit) • (2) 176-027 800W, 220V Lamp (150-059 Kit)

150-058 (120V)\$1800.00

150-059 (220V)1800.00



Flight Kit

Color Beam 800 — Fast Set-Up

Uses three cool touch Color Beam 800 units. Total connected load 16.3A at 120V and 11A at 220V.

Kit includes:

- (3) 400-201 Color Beam 800 • (1) 122-147 Scrim Set—Single, Half Single • (1) 148-007 Case • (3) 152-051 Mini-Stand with 5/8" Stud
- (3) 118-013 8-Leaf Barndoor • (3) 126-027 Accessory Holder • (3) 176-002 650W, 120V Lamp (150-060 Kit) • (3) 176-007 800W, 220V Lamp (150-061 Kit)

150-060 (120V)\$1540.00
 150-061 (220V)1540.00



Color Beam 800

Pro-Kit IV—Foreign Location Work

Designed for use with 120V or 240V lamps for foreign location work. Draws: 20A at 120V and 11A at 220V.

Kit includes:

- (2) 100-091 Mini-Pro • (2) 104-341 Mini-Broad • (3) 118-016 4-Leaf Barndoor • (1) 142-011 25' Extension Cable • (1) 148-030 Metal Case • (3) 152-050 Mini-Stand with 1/2" Stud • (1) 156-012 Gaffer Grip • (2) 176-002 650W, 120V Lamp (150-052 Kit) • (2) 176-092 600W, 120V Lamp (150-052 Kit) • (2) 176-007 800W, 220V Lamp (150-053 Kit) • (2) 176-094 650W, 220V Lamp (150-053 Kit)

150-052 (120V) with metal case\$1280.00
 150-053 (220V) with metal case1280.00



Pro-Kit IV

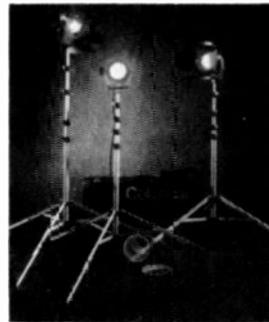
Mini-Pro Kit

Designed for use with 30V battery power, 120V, or 220V. Draws 15A at 120V and 8A at 220V.

Kit includes:

- (3) 100-091 Mini-Pro • (2) 118-016 4-Leaf Barndoor • (1) 122-137 Scrim Set—Single, Half Single • (1) 142-011 25' Extension Cable • (1) 148-030 Metal Case • (3) 152-050 Mini-Stand with 1/2" Stud • (3) 176-092 600W, 120V Lamp (150-050 Kit) • (3) 176-094 650W, 220V Lamp (150-051 Kit)

150-050 (120V) with metal case\$1100.00
 150-051 (220V) with metal case1100.00



Mini-Pro Kit

Cameraman's Lighting Kit

All equipment fits in one case. High output lighting equipment for optimum production lighting. Draws 27A at 120V and 14.5A at 220V.

Kit includes:

- (2) 400-201 Color Beam 800 • (2) 126-027 Accessory Holder • (2) 118-013 8-Leaf Barndoor • (1) 104-341 Mini-Broad • (2) 118-016 4-Leaf Barndoor • (1) 122-137 Scrim Set—Single, Half Single • (1) 148-007 Case • (2) 152-050 Mini-Stand with 1/2" Stud • (2) 152-051 Mini-Stand with 5/8" Stud • (4) 176-002 650W, 120V Lamp (150-054 Kit) • (4) 176-007 800W, 220V Lamp (150-055 Kit)

150-054 (120V)\$1595.00
 150-055 (220V)1595.00



Cameraman's Lighting Kit

Battery Belt Kit

Batteries are rechargeable NiCad Cells. Belt comes complete with 14-hour overnight charger and an integrated cable. Charger designed for 120 and 240V input power.

150-063.\$1500.00

Kit includes:

- (1) 100-091 Mini-Pro • (1) 140-003 30VDC Cord • (1) 140-021 Battery Belt w/Charger unit (120/240V) • (1) 148-030 Carry Case (Metal) • (1) 156-005 Mini-Pro Handle • (1) 176-090 250W, 3400°K, 30V Lamp, 25 hours

150-063.\$1550.00



Battery Belt Kit



Mini-Pro With Handle

Optional

- 140-022 Battery Belt with fast charge capability in place of 140-021Add \$100.00
- 140-023 For High Speed ChargerAdd 820.00



ELECTRONICS DIVISION

TERMINAL EQUIPMENT

300 Series Terminal Equipment

PFM-300 Mainframe and Power Supply

Heart of the system. Consists of a power transformer, power supply and nine cells with connectors \$ 875.00

PFM-300-1 300 System Mainframe

With dual power supplies 1095.00

PFM-301 Mainframe and Power Supply

System frame with a dual power transformer and power supply 1595.00

PPS-302 Spare Power Supply For PFM-300 frame \$ 145.00

PBL-305 300 Series Blank Panel Single width 15.00

PBL-306 300 Series Blank Panel Double width 16.00

PEX-308 300 Series Extender Board 71.00

PEX-309 300 Series Extender Board

For double width units 128.00

PSG-310 Digital Color Sync Generator

Ultra-stable and trouble-free generator with features not normally found in broadcast equipment 1238.00

Variable Blanking Width Assembly (option 1) 170.00

PSG-311 Digital Color Sync Generator

Engineered to operate with helical VTRs or other unstable time base signal equipment 1238.00

Variable Blanking Width Assembly (option 1) 170.00

PMG-312 Master Sync Generator

Designed to provide high quality. Meets demanding specs . . . 2575.00

PSG-313A Digital Sync Generator

Frame resident, genlocking, RS170A, designed for broadcast, industrial and computer graphics, broadcast spec oscillator 1535.00

PFT-314 Frame Timing Module

Receives signal and supplies PFM-300 all six drive signals . . . 1095.00

PGS-315 Sync Generator Substitute Module

Performs generator functions, jitter free and can be perfectly timed 663.00

PFI-316 Frame Interface Module

Inexpensive way to supply signals to PFM-300 frame. Does not have delay circuits 413.00

PCO-317 Automatic Sync Changeover Switch 655.00

PCO-318 Automatic Sync Generator Changeover

With black burst for PFM-301 frame only (option 1) 922.00

Black Burst Generator For PCO-318 only (option 2) 275.00

Remote Control For PCO-318 220.00

PCB-320 Encoded Color Bar Generator

Features a single composite delay circuit 1082.00

PBB-321 Black Burst Generator

Provides composite sync, set-up and burst 655.00

PBD-322 Bar Dot Visual Reference Generator

Provides standard dot grading signals and linearity test signals . . 922.00

PMB-323 Multiburst/Sweep Generator

A combination of two generators for overall system measurements 1025.00

PSS-324 Stairstep/Ramp Generator

Features a negative signal for all combinations of test signals . . 1133.00

PPB-325 SIN² Pulse Window Generator

Features nine test signals 1334.00

PFF-329 Blackburst/Background Generator

Provides the black input to switching systems 700.00

PSD-340 System Delay Module

Supplies all drive signals to any video source with timing capabilities 605.00

PST-341 System Timing Module

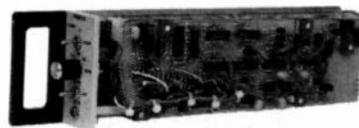
With optional black burst output, features delay and advance, requires PMG-312 to provide system distribution and timing 1095.00



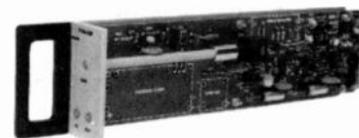
PFM-300



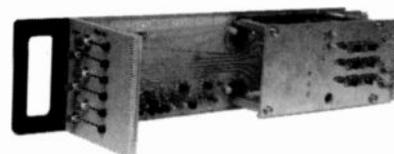
PFM-301



PSS-324



PVA-350



PSW-367

PBT-342 Black Burst Timing Module

Features delay and advance, requires PMG-312 \$ 1095.00

PPA-343 Pulse Distribution Amplifier

For standard methods of individual pulse distribution 314.00

Pulse Delay Assembly

For PPA-343 (option 1) 214.00

PFO-344 Fan-out Pulse Distribution Amplifier

Six separate and independent DA cells, features one input and one output with unity gain 413.00

PSA-346 Subcarrier Distribution Amplifier

Provides 3.58MHz sine wave, pure and distortion free 435.00

PVA-350 Video Distribution Amplifier

Flat to 15MHz, auto DC offset control, low noise, 70dB common mode rejection 319.00

Feedback Clamp Assembly (option 1) 121.00

Cable Equalizer Assembly (option 2) 99.00

Sync Adding Assembly (option 3) 66.00

PVA-351 White Clip Video Amplifier

Provides 60dB common mode rejection, gain is adjustable ± 6 dB, frequency response is flat to 10MHz 424.00

PVA-352 Utility Video Distribution Amplifier

Quality performance, LED remains lit when correctly powered, front mounted gain control and test points 197.00

PVD-354 Variable Delay Video Amplifier

Features no insertion loss, will provide 1,051 μ s of equalized video delay 1095.00

PRC-365 Processing Amplifier with Sync Generator

High performance requires only PFM-300 and power supply . . . 2079.00

PSW-367 6 x 1 Vertical Interval Switcher

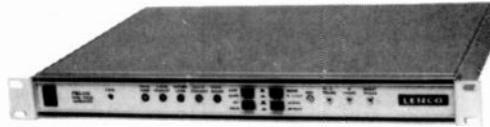
Provides six test signals, switches to either genlock video or one other external video source 605.00



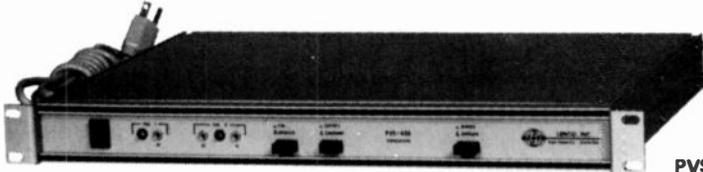
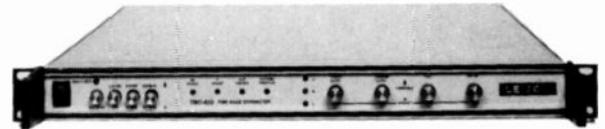
ELECTRONICS DIVISION

TERMINAL EQUIPMENT

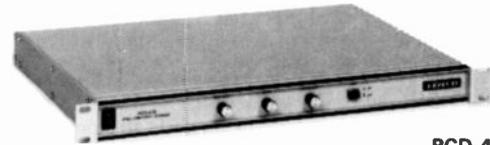
PSG-412



TBC-450



PVS-430



PCD-473

THE 400 SYSTEM

PSG-412 Master Sync Generator with Genlock, RS170A *

The PSG-412 is a Master Sync Generator with genlock. This unit meets the proposed RS-170A specifications. It maintains an accurate SC/H phase condition. There are 2 outputs of each drive pulse plus blackburst, video, CRS, burst flag and color field identification. CFI is programmed for field 1 line 10. An ovenized crystal is used to maintain an accurate internal timebase. All pulse widths are adjustable except VD and field ID. Vertical blanking is selectable between line 17 through 21. Also converts the genlock video to RS-170A by inserting a regenerated blackburst signal.

PSG-412\$3502.00
 PBL-400 1 3/4" x 19" Blank Panel*43.00

PCO-418

Automatic Sync Pulse Changeover for PSG-12*

The PCO-418 Automatic Changeover Switch instantly recognizes the failure of any of nine pulses and immediately switches to an alternate generator. There are nine LEDs metering each generator. A nine position DIP switch allows the lock-out of any of the nine generator pulses. A front panel switch selects GEN-1 or GEN-2 or Auto. The unit switches on failure of HD, VD, SY, SC, BL, CRS, BF, BB and CFI.

PCO-418\$1995.00

VNM-428 Video Noise Meter*

The VNM-428 is a Video Noise Meter that offers the in-service capability of making accurate real time signal-to-noise measurements. It has a built-in calibrator that insures an accuracy of 1% through its range of 28.5dB to 76dB. The signal-to-noise ratio is shown directly on a large LED display. The VNM-428 can be calibrated to read directly in either the EIA or PAL-M system standards.

VNM-428\$2145.00

PVS-430 Videoscope

The PVS-430 provides a true method for verifying the correct SC/H phase relationship. The PVS-430 will measure very accurately the SC/H phase relationship and compare the video input of a switcher or mixer for precise and accurate system timing. In an editing system, the Videoscope provides a useful method of determining off-tape SC/H phase.

PVS-430\$3245.00
 PVS-435* Videoscope with video display and LED
 readout4153.00

TBC-450 Digital Time Base Corrector

The TBC-450 high performance unit is sophisticated in its techniques yet its simplistic design allows unparalleled performance in a wide range of professional broadcast applications.

At less than 15 lbs. and only 1 rack unit tall, this digital device with its remarkably low power consumption requires no external cooling. The TBC-450 is engineered to be ultra reliable to keep downtime to a minimum, yet its totally digital design allows for quick and easy servicing. An essential part of any professional editing system, this compact unit has been constructed to be rugged enough to withstand the toughest applications.

With its state-of-the-art components, the TBC-450 is the answer to today's requirements for space-saving design, superior quality and unbeatable economy for the professional video user.

TBC-450\$5995.00

*Indicates availability for PAL System also

PRC-465 Processing Amplifier

The PRC-465 is a self-contained stand alone processing amplifier. The unit features chroma processing, a 10MHz luminance band pass, luminance only black clip, white clip, and a line by line VIT-VIR pass or delete selector. The unit has its own built-in sync generator, but may be set up to run off of an external video reference source such as blackburst. An internal switch allows the unit a greater lock range and enables the device to process the output of a helical scan VTR. Front panel controls provide adjustment of Burst Phase, Horizontal Phase, White Clip, Set Up, Video Gain, Chroma Gain, and Proc On/Off switch.

PRC-465\$2525.00

PCE-466 Color Encoder*

The PCE-466 Encoder produces an NTSC/EIA color signal from either a three or four channel video source. The fourth, or luminance channel, is optional. The encoder requires red, green, blue, sync, SC and blanking input. Split field color bars meeting RS-189A are standard. Full field or split bars are selectable internally. Front panel switches allow the selection of operate, color bars, black burst or mono. All inputs are 75 ohm loopthrough. Two video outputs.

PCE-466\$3450.00
 PCE-4661* Plug-in luminance channel795.00
 PCE-4662 Plug-in genlock option747.00

PSW-467 Vertical Interval Bridging Switcher*

The PSW-467 is a 12 x 1 vertical interval bridging switcher. It is designed to efficiently and economically route or delegate video signals.

PSW-467\$1150.00

PAF-467 Audio Follow Bridging Switcher*

The PAF-467 is a 12 x 1 Audio Follow Video Switcher designed as a companion to the PSW-467 Video Switcher.

PAF-467\$940.00

PSR-467 Remote Control*

The PSR-467 Remote Control is a self-contained rackmounted unit that can be located up to 1000' from the switcher location. It requires no external power source because it receives its power from the PSW-467 or PSW-468 Video Switcher.

PSR-467\$604.00
 PSR-4673* Remote control P.C. board assembly289.00

PSW-468 Remote Vertical Interval Video Switcher*

The PSW-468 is a 12 x 1 remotely controlled, vertical interval video switcher. This switcher has no push buttons. All input switching is controlled by the companion PSR-467 remote control unit or PSW-467 vertical interval switcher.

PSW-468\$985.00

PCD-473 NTSC Component Decoder

The PCD-473 is a self-contained chroma demodulator. The unit provides outputs of red, green, and blue signals or Y, R-Y, B-Y, signals, or I, Y, Q signals. Selection of outputs is internal to the unit through a jumper system. The unit features a comb filter which is switchable in and out of service through a lighted front panel switch. The front panel controls provide adjustment of Hue, Saturation, and Video level. A regenerated composite sync output is standard on the PCD-473.

PCD-473\$3190.00



ELECTRONICS DIVISION

TERMINAL EQUIPMENT

600 Series Audio Terminal Equipment PFM-600 Main Frame and Power Supply

The PFM-600 Main Frame is designed to accommodate both audio and video components. It is a nondedicated frame that will have virtually any configuration of audio and video components.

The nine cell design will house any 600 Series Audio modules and most of the 300 Series Video modules. The frame includes the PPS-602 Power Supply, a switchable tap transformer, RFI shielding and an exclusive rear panel design.

PFM-600	(Includes one PPS-602 Power Supply)	\$875.00
PPS-602	(Spare Power Supply for PFM-600)	165.00
PEX-602	Extender Board for PPS-602	87.00
PAA-600	1 in/6 out 600 ohm Rear Module Cell for PAA-650/651	72.00
PAA-601	1 in/2 out 150 ohm Rear Module Cell for PAA-650/651	70.00
PAM-600	Rear Module Cell for PAM-626	66.00
PMA-600	Rear Module Cell for PMA-670	66.00
PVA-600	Rear Module Cell for video module (some video modules require two PVA-600 cells)	68.00
PBL-605	Single Wide Blank Rear Module Cell	13.00
PBL-606	Double Wide Blank Rear Module Cell	15.00

Note: One appropriate rear panel audio cell is included at no charge with each audio module amplifier purchased.

PAM-626 Audio Monitoring Amplifier

The PAM-626 is a 4.5W per channel audio amplifier for the PFM-600 Main Frame. Four inputs provide for two internal and two external signal sources, either combination of which can be monitored on the two, 10-LED peak level meters. The convenient headphone jack permits monitoring either combination of inputs. Headphone volume is controlled by means of the speaker/headphone volume control on the front panel. A front panel switch selects either the two internal A and B bus signals or the two external A and B input signals. The correct rear module cell must be specified to match the appropriate module.

PAM-626	\$495.00
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PAA-650 Audio Distribution Amplifier

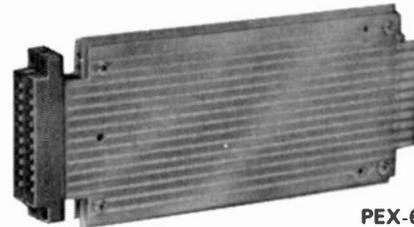
The PAA-650 features a transformerless balanced bridging circuit, with the input AC coupled to protect from excessive DC and diode protected to prevent overloading of the input cell. The common mode circuit provides over 70dB of common mode rejection on the input signal. The balanced input circuit can be converted to accept an unbalanced input simply by connecting the + or - input to ground. Signal-to-noise ratio is approximately -105dBV and frequency response is +0 to -0.2dB from 20Hz to 20kHz. The PAA-650 also features front panel selection of the A/B bus system for monitoring purposes. The appropriate rear module cell must be specified when ordering this unit.

Part of the system design of the PAA-650 and PFM-600 is the A/B bus system. Located on the front panel of the PAA-650 is a switch that allows the operator to take the output of the audio distribution amplifier and send it down the A or B bus on the PFM-600 frame. This allows the PAM-626 Metering and Monitoring module to pick up this signal and supply it as a speaker and headphone output. Utilizing two PAA-650's as a stereo source, one of the units can be set up to send its signal down the A bus and the other unit down the B bus. The PAM-626 will pick up both signals and provide 5W per channel of stereo output into an 8 ohm load.

PAA-650	. . . . .	\$424.00
PAA-651	Same as 650 with 10 segment LED Peak Level Meter	495.00



PFM-600



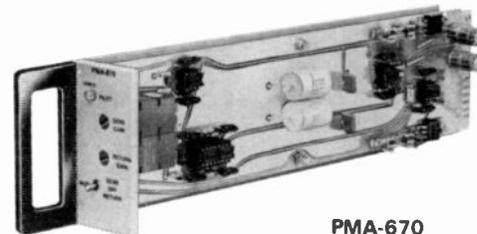
PEX-602



PAA-600



PAA-601



PMA-670

PMA-670 Impedance Matching Amplifier

The PMA-670 was designed to address the problems of two channel record-playback interfacing of balanced and unbalanced lines. The PMA-670 accepts two channels of high impedance unbalanced audio and outputs these two channels as 600 ohm balanced audio. The unit will also accept two channels of 600 ohm balanced audio and output these signals as unbalanced outputs. Phono jacks are used for low level high impedance inputs and outputs. Captive pressure screw terminals are used for the 600 ohm balanced high level inputs and outputs. The appropriate rear module cell must be specified when ordering this unit.

PMA-670	\$407.00
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ELECTRONICS DIVISION

TERMINAL EQUIPMENT

Starflex Professional Series Modular Television Systems Products

The Starflex modular frame system provide the flexibility which permits you to select the Starflex electronic functions you need and arrange them in the frame in any manner you desire. Starflex modules for signal distribution, timing or processing, either analog or digital, can be used in the Starflex frame simultaneously.

3000	Frame and one 150W power supply	\$495.00
3030	Frame (no power supply)	179.00
1011	Blank panel—single width	15.00
1031	Extender board—single width	100.00

Starflex 3120 Master CRS Generator

This module is one bay wide. The primary purpose is to generate CRS and supply it to the Starflex frame bus. When the front panel switch is on "internal", the unit performs this primary purpose. When "external" is selected, CRS must be provided to the unit through a BNC input. This optional selection permits the 3120 to function as a "CRS Slave" timing module. The 3120 has two BNC CRS outputs available to drive additional Starflex frames.

3120	\$895.00
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Starflex 3125 Black Burst to CRS Translator

This module is one bay wide and provides translation of a black burst signal to a CRS signal. Input is by a loopthrough BNC and the 3125 locks to a black burst signal and maintains color field one throughout the translation to CRS.

The 3125 detects loss of black burst and/or an improper SC/H relationship. CRS is applied to the frame bus under normal output conditions, but can be factory wired to the rear panel BNC output.

3125	\$895.00
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Starflex 3140 External CRS Slave

The 3140 module is one bay wide with two high impedance loopthrough inputs. The unit locks to an external BNC CRS input only and has a $\pm 5\mu s$ timing adjustment. The unit's purpose is to apply CRS to the Starflex frame bus. An example of use would be the transfer of timing from another Starflex frames' CRS source.

3140	\$895.00
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Starflex 3150 External CRS Black Burst Slave

The 3150 is one module bay wide and accepts CRS from an external source (rear panel BNC), supplies it (CRS) to the frame bus and supplies black burst to a BNC output.

It provides user adjustable "H" rate pulse widths, horizontal timing control, and 360° SCH.

3150	\$895.00
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Starflex 3020 150W Power Supply

The power supply is separate from the frame, and may be positioned anywhere in the frame, as desired. May be used in multiples. Use of removable modular rear panels allows totally customized connectors and labeling.

3020	\$326.00
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Starflex 3410 CRS Slave

The 3410 is one module bay wide, employing two high impedance loopthrough inputs. It locks to a CRS input only and CRS is selectable between the motherboard bus (normal) or the rear panel BNC input (optional). The 3410's outputs are timing pulses only.

3410	\$895.00
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Starflex 3420 CRS-Black Burst Slave

The 3420 is one module bay wide, employing two high-impedance loopthrough inputs, accepting 1V p-p CRS. The CRS input is selectable between the motherboard bus (normal), or rear panel BNC (optional). Output of the 3420 is two black burst, 75 ohms, terminated.

3420	\$895.00
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Starflex Series

Starflex 3500 Precision Video Distribution Amplifier

The 3500 is a one input, six output (75 ohm) precision distribution amplifier with full pulse and subcarrier capability. It incorporates a fully differential front end circuit with an extremely high common-mode rejection ratio. It is immune to parasitic high frequency failure and capable of handling the bandwidth of HDTV.

It is available with feedback clamp as well as cable equalizer options.

3500	\$319.00
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Starflex 3520 Universal Distribution Amplifier

The 3520 is a one input (high impedance loopthrough), six output (75 ohm, terminated) video distribution amplifier. It provides an economic alternative for the user who does not require the feedback clamp or cable equalizer options of the Starflex 3500. The 3520 is capable of handling the HDTV bandwidth.

3520	\$214.00
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Starflex 4350 Videoscope

The 4350 is a third generation Videoscope designed to use only one bay in the Starflex frame system. The 4350 Videoscope displays an accurate measurement of the SC/H and timing relationship of any NTSC standard video signals on any NTSC standard monitor, B and W or color.

Innovative use of a video insert display allows determination of reference signal SC/H phase and burst amplitude, and allows comparison with system SC/H phase as well as vertical and horizontal timing. This information is displayed while allowing the input signals to be viewed. To avoid washout of the Videoscope information with high APL, a Shadow mode is available which reduces contrast in the display insert portion. Additionally, the Videoscope display insert can be completely deactivated for crucial monitoring.

4350	\$2350.00
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Starflex 4500 Digital Frame Synchronizer/Time Base Corrector

This module is two bays wide with two inputs. The main input is a high-impedance loopthrough back burst for frame synchronization, $\pm 3\text{dB}$ from .429V p-p nominal. The second input is a VTR BNC, 75 ohm terminated. It has a 15-pin subminiature "D" remote connector.

The unit has two outputs. One is a time base corrected BNC video output that has auto-bypass operation. If the unit loses reference black burst (module is removed or loss of frame power), or if bypass is selected, the input video will be hard bypassed to this output BNC.

The second BNC output is for monitoring purposes and is time base corrected. A freeze frame can be selected by a front panel control.

4500	\$3995.00
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Starflex 6500 Audio Distribution Amplifier

This module is one bay wide with one input and six outputs (150 ohm output capability). The 6500 incorporates balanced (transformerless) differential input and output circuitry.

The signal-path is direct-coupled throughout (no capacitors) and possesses low noise, minimum phase shift and wide power bandwidth (200K). In addition, the 6500 creates a differential (balanced) output from a single-ended input.

Two 6500's may be operated in a stereo configuration by utilizing the two audio-send buses in the Starflex system frame.

6500	\$360.00
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Ultra I

Consists of: Ultra I Fluid Head and Claw Ball Assembly, JRA-83M Tripod with Spider Assembly, MQR-84S Quick Release with 2" adjustment and safety lock, Dual Handles

Specifications

Load: Up to 30 lbs.
Weight: Head and tripod—17½ lbs.
Size: 7" H x 7½" W
Height: Head and tripod—closed 45" / extended 59" / at rest 40½"
Pan: 360°
Tilt: 90°
Base: Ball or flat
Finish: Black vinyl
Accessories: Reversible feet, strap, Sta-Sets, case

Ultra 1\$2137.31

Ultra II

Consists of: Ultra II Fluid Head and Claw Ball Assembly, JRA-74 Tripod with Spider Assembly, LQR-84S Quick Release with 2½" adjustment and safety lock, Dual Handles

Specifications

Load: Up to 50 lbs.
Weight: Head and tripod—22 lbs.
Size: 8" H x 8" W
Height: Head and tripod—closed 45½" / extended 59" / at rest 42"
Pan: 360°
Tilt: 90°
Base: Ball or flat
Finish: Black vinyl
Accessories: Reversible feet, strap, Sta-Sets, case

Ultra II\$2463.43

Ultra 250

Consists of: Ultra 250 Fluid Head and Integral Aluminum Tripod with Handle

Specifications

Load: Up to 18 lbs.
Weight: Head and tripod—11 lbs.
Size: 5" H x 5¼" W
Height: Head and tripod—closed 42" / extended 59" / at rest 45"
Pan: 360°
Tilt: 90°
Base: Flat
Finish: Black vinyl
Thread Size: ¼"-20" or ⅜"
Accessories: Quick release, strap

Ultra 250\$1538.05

Ultra 500

Consists of: Ultra 500 Fluid Head and Claw Ball Assembly, JRA-83M Tripod with Spider Assembly.

Specifications

Load: Up to 25 lbs.
Weight: Head and tripod—15 lbs.
Size: 7½" H x 5" W
Height: Head and tripod—closed 44½" / extended 60" / at rest 42"
Pan: 360°
Tilt: 90°
Base: Ball or flat
Finish: Black vinyl
Accessories: Reversible feet, strap, quick release

Ultra 500\$1650.00

Ultra Classic

Consists of: Ultra Classic Fluid Head and Claw Ball Assembly, JRA-74 Tripod with Spider Assembly

Specifications

Load: Up to 50 lbs.
Weight: 28 lbs.
Size: 14" H x 11¼" W
Height: Head and tripod—closed 51" / open 64"

Camera Platform

Dimensions: 5½" W x 6" L
Elevation: Approximately 2"
Pan: 360°
Base: Ball or flat
Finish: Black vinyl
Tilt: 90° depending on camera position and platform elevation.
Accessories: Five pre-set drag adjustments
 Extra handle (attaches to camera base), Sta-Sets, case

Ultra Classic\$3560.45

Heavy-Duty Tripod Dolly

- 5" deluxe rubber tired swivel wheels
- Individual wheel locks
- 46" spread
- 10" in depth, folded
- Available in screwdown and springlock systems

Heavy-Duty Dolly\$508.00—\$566.00

Video Tripod Dolly

- Smooth, silent
- Heavy, ⅜" wall aluminum tubing
- 4" diameter swivel wheels
- Folds up
- 10" in depth, folded
- 46" spread
- Locking configuration optional

Video Dolly\$459.00-\$541.00



Ultra II



Ultra 250



Ultra Classic



Heavy-Duty Tripod Dolly

JRA-83M Tripod System

• True fluid action maintains a smooth regulated motion by a sensitive system without brake shoes, bands, or other mechanical parts to interfere with its operation. Separate positive locks and drag are featured on the pan and tilt. Tilt achieves a full 90° vertical position • Sealed leak-proof chamber • Adjustable quick release will counterbalance camera and lens requirements (optional) • Spider assemblies available • Versatile control—use right, left or dual handles • Reversible foot, rubber-tipped for interiors and standard metal points for outside use, can be ordered with either of the JRA tripods (optional) • Tripods come with various top castings to accommodate existing systems • Tripod weighs 7 lbs., 16 lbs. with head

JRA-83M \$517.16—\$558.21



JRA-83M Tripod and Fluid Head

JRA-74 Junior Motion Picture Tripod

• Finely machined tubular aluminum legs and stainless steel parts and nylon bushings. Rustproof and noiseless • Regular, intermediate and baby versions • Adjustable from 39" closed to 60" open. Flexible leg adjustment • Adjustable spider assembly • Weight: 9 1/2 lbs.

JRA-74 \$550.00—\$599.25

LST-80 Heavy-Duty Tripod

• Built for cinema and video weighing • Only 22 lbs. complete with built-in spider assembly • Aluminum legs and stainless steel parts and nylon • Will support 200 lbs. • For studio and location use • Available in standard, regular, intermediate and baby versions

LST-80 \$1017.91—\$1050.75



LST-80

LQR-84S Quick Release System

• Safety lock feature • Two parts to the system • Lower section mounts to tripod with 1/4" or 3/8" threaded thumbscrew • Upper section mounts to camera tripod socket • For most movie, television press and view cameras • All aluminum except latch

LQR-84S \$229.00

MQR-84S Medium Duty Quick Release System

• Rapid mounting • Lightweight, only 9 oz. • Quick release plate • Durable and accurate • Stands up to all conditions

MQR-84S \$221.00



LQR-84S

The Re-Inforcer Tripod Adaptor

The Re-Inforcer is a unique accessory for the Sony tripod adaptor which is supplied with the Sony line of industrial CCD color cameras such as the DXC-3000 and the Sony line of broadcast portable cameras and camcorders.

The Re-Inforcer is an aluminum plate which attaches to the two sliding devices on the bottom of the tripod adaptor and is then screwed into any head. The unit will allow the user to move the tripod adaptor forward and backward in order to obtain the best center of gravity for proper balance, but when tightened down, gives a very rigid base. The adaptor, as it is originally supplied, is not as rigid as when the Re-Inforcer is attached.

Re-Inforcer \$40.00



The Re-Inforcer

ON-CAMERA DISPLAYS

A-4075 9" Enhanced Display

- 110VAC or 12VDC battery input • ENG/EFP use
- A-4075 \$2675.00
- A-2271 Transit case 725.00
- A-1002 4AH, 12VDC NiCad battery with charger 335.00

Common features for A-2015W/2019W/2015EFP:

- Data monitor with high resolution
- Trapezoidal hood with tally light
- 70/30 mirror
- All necessary quick release hardware for all types of pan and tilt heads. Specify type of camera and pan head

A-2015W/2019W Monitor Prompters

- Wide angle hood and mirror assembly
- 110VAC input
- Mounting hardware for all cameras
- A-2015W 15" \$1995.00
- A-2019W 19" 2375.00
- A-2266 Transit case for A-2015W display 700.00
- A-2267 Transit case for A-2019W 775.00
- B-2001 Wide angle mirror for A-2015W and A-2019W 275.00

A-2015EFP Standard Monitor Prompter with 15" CRT

- EFP above lens configuration includes:
- Standard hood and mirror assembly
 - 110VAC input
 - Mounting hardware for all cameras
 - 15" on-camera monitor display with standard hood assembly for above lens mounting
 - A-2015EFP \$1995.00
 - A-2265 Transit case 650.00
 - B-2000 Trapezoidal mirror 225.00

MANUAL SCRIPT TABLES

A-2200 Long Script Table

- 16mm f/1.6 variable iris lens
- 2/3" Vidicon camera
- Dual adjustable lighting
- Conveyor belt drive for end to end placement of hard copy 8 1/2" x 11" sheets
- Variable speed, forward and reverse with plug-in control
- A-2200 \$2700.00
- A-2280 Transit case 825.00

A-2210 Short Script Table

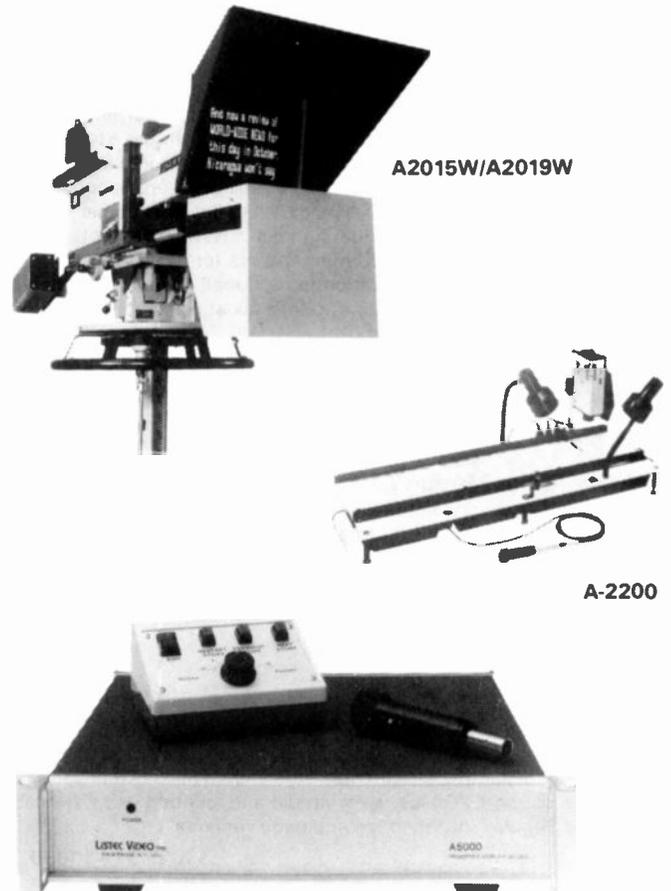
- Short drive table for continuous roll scripts. Otherwise, same as A-2200
- A-2210 \$2475.00
 - A-2215 Short drive table with AC/DC input. Packaged for remote use. Otherwise same as A-2210 2775.00

Accessories

- A-2211 4" wide ruled paper roll for A-2210 script table . . \$ 7.50
- A-2260 25' extension cable for variable speed control 85.00
- A-2261 6' extension cable for variable speed control 65.00
- A-2281 Transit case for A-2210 short script table 450.00

A-5000T Prompter Display Device (PDD)

- Infinite speed resolution
- Multiple character sizes
- Proportional spacing
- Printer output
- Optional international characters
- Time remaining display
- Holds up to 9600 lines of text



A2015W/A2019W

A-2200

A-5000T

- Stores up to 255 stories
- Optional color backgrounds
- Simple control box separate with speed control
- Driven from any computer with word processing
- Rackmountable or desktop unit
- 3 1/2" H, 16" D
- Video output 1V p-p compatible with standard B/W NTSC color monitors

The PDD is a stand-alone display device providing formatted prompting text from standard text created on a host computer or a newsroom computer system. Connection from the host computer to the PDD can be direct for local situations or by means of a telephone modem for remote operation. Display of prompting text may be controlled by the host computer, a terminal, or the optional remote control box. Control functions available include speed, reordering of run-down and other functions.

- A-5000T Stand alone prompting device, providing formatted text from host computer running standard word processing. Accepts commands and returns information from host or standard terminal \$4995.00
- A-5001 Optional simple control box, provides Start, Pause, Next, previous story commands, complete with variable speed control knob 250.00
- A-5004 Optional international character set. 300.00
- A-3175AM 12" status display monitor with amber phosphor, in 19" rackmount for use with A-5000 475.00

ViP SYSTEM KITS

V1-90 Easy-V Kit

2 V-lights (complete) less lamps, 2 ViP stands, 1 Totabrella, 1 Tota-frame, 1 assorted Tota gels, 1 ViP Lampak, 1 V shoulder case, 12.7lbs. \$435.00

V1-92 Tripla-Kit

3 V-lights (complete) less lamps, 3 ViP stands, 2 Totabrellas, 1 Tota frame, 1 assorted Tota gels, 1 Vipod with Stud-link, 1 ViP Lampak, 1 ViP shoulder case, ViP-86, 16.9 lbs. . . . \$635.00

V1-928 Tripla-Kit with ViP-88 Case

Same as above with ViP-88 Case substituted for ViP-86 Case, 18.2 lbs. \$700.00

VP-95 Far and Wide Kit

2 V-lights (complete) less lamps, 2 Pro-lights (complete) less lamps, 2 Pro-light 4-way barndoors, 4 ViP stands, 1 Tota-brella, 4 Tota-frames, 2 assorted Tota gels, 1 Swing-in diffuser, 1 Swing-in full scrim, 1 Swing-in half scrim, 2 Flag-links, 1 Tota-tatch, 2 Flexi-shafts (1 pkg.), 2 Tota-flags, 1 Vipod with Stud-link, 1 large Space Clamp, 2 scissor-mounts (1 pkg.), 1 Lobo, 1 Lobo arm, 1 ViP Lampak, 1 ViP-87 Case, 33.9 lbs. . . \$1195.00

VP-96 Sophisti-Kit

3 V-lights (complete) less lamps, 2 Pro-lights (complete) less lamps, 2 Pro-light 4-way barndoors, 5 ViP Stands, 2 Totabrellas, 3 Tota-frames, 2 assorted Tota gels, 1 Swing-in diffuser, 1 Swing-in full scrim, 1 Swing-in half scrim, 1 Swing-in graduated scrim, 1 lightreflector with tilter, 1 Vipod with Stud-link, 1 Cam-link, 1 handle with Low-link, 1 Tota-clamp, 2 scissor-mounts (1 pkg.), 1 ViP Lampak, 1 ViP-87 Case, 36.5 lbs. \$1325.00

VP-97 Jet Set

2 V-lights (complete) less lamps, 1 Pro-light (complete) less lamps, 1 Pro-light 4-way barndoor, 3 ViP stands, 1 Tota-brella, 1 Tota-frame, 1 assorted Tota Gels, 1 Vipod with Stud-link, 1 Tota-clamp, 1 ViP Lampak, 1 ViP Shoulder Case, ViP-86, 16.8 lbs. \$665.00

VP-978 Jet Set with ViP-88 Case

Same as above with ViP-88 Case substituted for ViP-86 Case, 19.7 lbs. \$730.00

VP-98 Intro-Kit

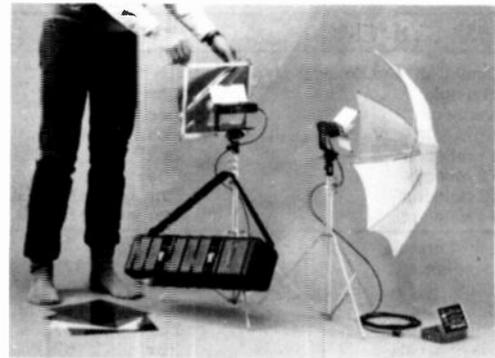
1 V-light (complete) less lamps, 2 Pro-lights (complete) less lamps, 2 Pro-light 4-way barndoors, 3 ViP stands, 2 Tota-frames, 1 assorted Tota Gels, 1 Vipod with Stud-link, 1 ViP Lampak, 1 ViP Shoulder Case, ViP-86, 16.6 lbs. . . . \$675.00

VP-988 Intro-Kit with ViP-88 Case

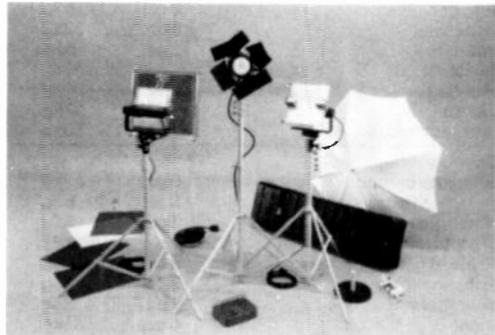
Same as above with ViP-88 Case substituted for ViP-86 Case, 19.4 lbs. \$740.00

P1-93 All Pro Kit

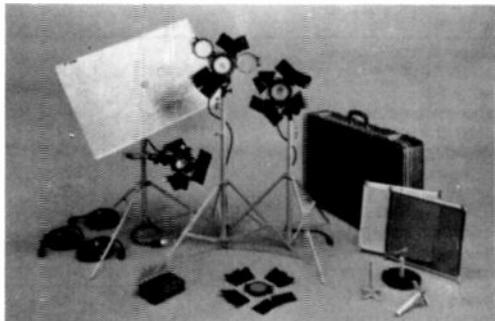
3 Pro-lights (complete) less lamps, 3 Pro-light 4-way barn-doors, 3 ViP stands, 2 Tota-frames, 1 assorted Tota gels, 1 Swing-in Diffuser, 1 Swing-in full scrim, 1 Swing-in half scrim, 1 Lightreflector with tilter, 1 Vipod with Stud-link, 1 Tota-clamp, 2 scissor-mounts (1 pkg.), 1 ViP Lampak, 1 ViP-87 Case, 27.9 lbs. \$925.00



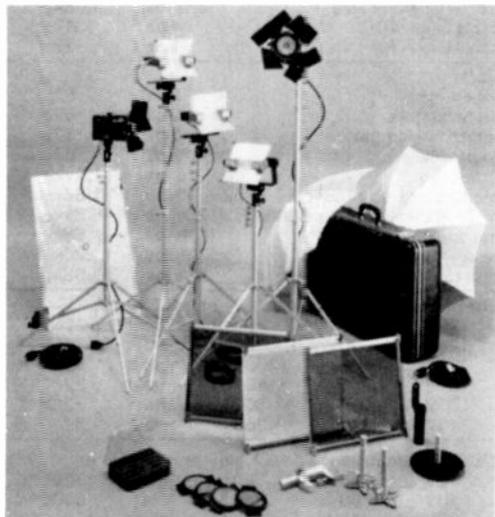
V1-90



VP-97



P1-93



VP-96

TOTA/OMNI SYSTEMS

Tota-Light, Omni Light and Reflectors

T1-10	tota-light	2 1/4 lbs.	1.02kg	\$112.00
01-10	omni-light	2 5/8 lbs.	1.19kg	135.00
01-13	omni-light 30V	2 1/4 lbs.	1.02kg	145.00
01-15	#1 reflector	2 oz.	57g	13.00
01-16	#2 reflector	2 oz.	57g	13.00
01-17	#3 reflector	2 oz.	57g	13.00
01-18	#4 reflector	2 oz.	57g	13.00

Tota/Omni Light Controls

T1-20	tota-frame GELS: PACKAGE OF 5, 10" x 12" (25x30cm)	6 oz.	17kg	\$24.50
T1-69	blue frost gels	2 oz.	57g	10.50
T1-70	day blue gels	2 oz.	57g	10.50
T1-71	n.d. 3 gels	2 oz.	57g	10.50
T1-72	frost gels	2 oz.	57g	10.50
T1-78	assorted gels	2 oz.	57g	10.50
T1-25	tota-brella	8 oz.	.23kg	30.00
T1-34	tota-tatch	2 oz.	57g	11.50
T1-50	flexishaft 16" (2)	4 oz.	.11kg	17.50
T1-52	tota-flag	4 oz.	.11kg	15.00
T1-54	tota-flector	6 oz.	.17kg	19.50
LFT	lightflector/tilter	1 3/4 lbs.	.79kg	75.00

Omni Light Controls

01-20	complete barndoor	8 oz.	.23kg	\$52.50
01-21	barndoor frame	2 oz.	57g	25.00
01-22	rectangular leaf	2 oz.	57g	10.00
01-23	triangular leaf	1 oz.	28g	10.00
01-50	diffused glass	3 oz.	85g	30.00
01-51	dichroic filter	3 oz.	85g	77.50
01-52	clear glass	3 oz.	85g	26.50
01-53	snoot	4 oz.	.11kg	28.50
01-54	full scrim	2 oz.	57g	12.50
01-55	half scrim	2 oz.	57g	12.50
01-56	graduated scrim	2 oz.	57g	15.50
01-57	cookaloris	2 oz.	57g	13.50

Tota/Omni Supports and Mounts

01-33	omni-stand	2 7/8 lbs.	1.30kg	\$87.00
KPH	half pole	1 lb.	.45kg	41.00
SC-10	large space clamp	1 1/2 lbs.	.68kg	48.50
SC-20	small space clamp	1 1/4 lbs.	.57kg	42.50
T1-30	tota-clamp	4 oz.	.11kg	18.50
T1-32	tota-mount	10 oz.	.28kg	25.00
GT-12	gaffer-tape 12 yards	8 oz.	.23kg	9.00
GT-30	gaffer-tape 30 yards	1 1/4 lbs.	.57kg	17.50
LSS	screw-in stud (2)	3 oz.	85g	10.50
T1-35	tota-daptor	4 oz.	.11kg	15.00
T1-36	tota-tilter	4 oz.	.11kg	21.00

Tota/Omni Cables

T1-80	16' tota/omni cable	13 oz.	.37kg	\$22.50
01-81	5' omni 30V cable	7 oz.	.20kg	35.00
01-82	omni 12V car adaptor	1 oz.	28g	5.00
LOE25	25' extension cable	2 3/8 lbs.	1.08kg	25.00
KCC	cable clips (40)	4 oz.	.11kg	9.00
K4CC	cable clips (10)	1 oz.	28g	4.50

Tota/Omni Storage

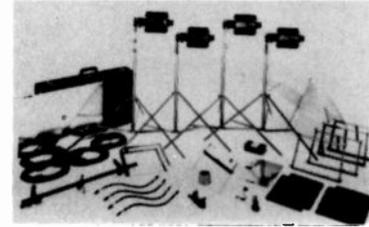
T1-61	tota-lampak	2 oz.	57g	\$ 14.50
01-61	omni-lampak	2 oz.	57g	14.50
TO-61	tota/omni lampak	2 oz.	57g	14.50
01-65	tota-pocket	2 oz.	57g	11.50
T1-85	tota-case	5 lbs.	2.27kg	95.00
TO-87	molded tota/omni case 87	10 lbs.	4.54kg	130.00
TO-84M	molded tota/omni case 84M	12 1/2 lbs.	5.67kg	180.00
01-86M	molded omni case 86M	14 1/2 lbs.	6.58kg	215.00
TO-89	heavy-duty case	28 lbs.	12.70kg	425.00
T1-82	tota tube case	2 3/8 lbs.	1.08kg	78.00

Lamps for Tota-Light tota lampak available - stores 5 lamps

EHA	120V	300W	2000 hr.	frost	2900°K	POR
FDN	120V	500W	400 hr.	frost	3200°K	POR
FCZ	120V	500W	2600 hr.	frost	3000°K	POR
EMD	120V	750W	400 hr.	frost	3200°K	POR
FHM	120V	1000W	300 hr.	frost	3200°K	POR
EMF	240V	800W	250 hr.	frost	3200°K	POR

Lamps for Omni Light omni lampak available - stores 6 lamps

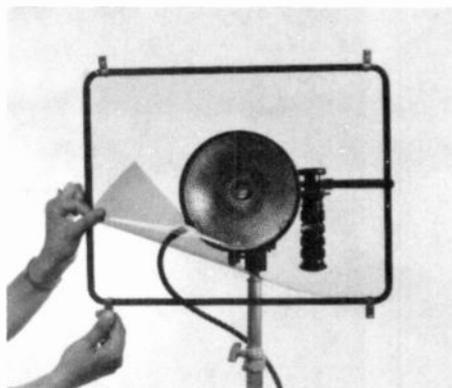
EYL	12V	100W	50 hr.	clear	3200°K	POR
DYG	30V	250W	15 hr.	clear	3400°K	POR
EKB	120V	420W	75 hr.	clear	3200°K	POR
DYS/DYV	120V	600W	75 hr.	clear	3200°K	POR
EKD	120V	650W	25 hr.	clear	3400°K	POR
DYR/220	220V	650W	50 hr.	clear	3200°K	POR
DYR/240	240V	650W	50 hr.	clear	3200°K	POR



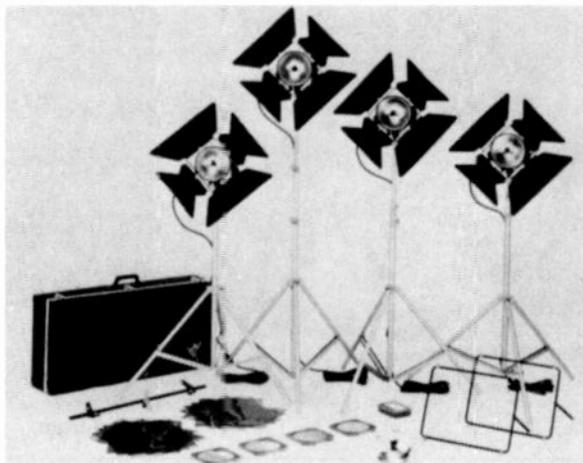
T1-94M

TOTA/OMNI KITS

T1-93M	Carry-on Kit	19 lbs.	8.62 kg	\$675.00
3 tota-lights, 16' cables (less lamps); 3 tota-frames; assorted gels; 3 tota-flags; 1 tota-flector; 4 flexishafts; 1 tota-mount; 1 tota-clamp; 1 small space-clamp; 1 12 yard gaffer-tape; 1 tota-lampak; 1 tota-case. (T1-85)				
T1-90	Tube Kit	14 lbs.	6.35kg	\$510.00
2 tota-lights, 16' cables (less lamps); 1 tota-brella; 1 tota-frame; 1 assorted gels; 2 omni-stands; 1 tota-lampak; 1 tube case. (T1-82)				
T1-92M	Trans-Kit	29 lbs.	13.15kg	\$770.00
3 tota-lights, 16' cables (less lamps); 3 tota-brellas; 3 omni-stands; 1 tota-lampak; 1 tota/omni molded case. (TO-87)				
T1-94M	T4 Kit	42 lbs.	19.05kg	\$1335.00
4 tota-lights, 16' cables (less lamps); 1 tota-brella; 4 tota-frames; 2 assorted gels; 1 lightflector/tilter; 4 tota-flags; 1 tota-flector; 4 flexi-shafts; 1 tota-tatch; 4 omni-stands; 1 tota-mount; 1 tota-clamp; 1 large space-clamp; 1 12 yard gaffer-tape; 1 tota-lampak; 1 molded tota/omni case. (TO-84M)				
01-92	Action Kit	30 lbs.	13.61kg	\$950.00
3 omni-lights, 16' cables, #1 reflectors (less lamps); 3 omni-barndoors; 3 omni-stands; 1 omni-lampak; 1 molded tota/omni case (TO-84M)				
01-93	Omni 3 Kit	34 lbs.	15.42kg	\$1150.00
3 omni-lights, 16' cables, #1 reflectors (less lamps); 3 omni-barndoors; 2 full scrims; 1 half scrim; 1 tota-brella; 3 tota-frames; 2 assorted gels; 3 omni-stands; 1 tota-mount; 1 tota-clamp; 1 12 yard gaffer-tape; 1 omni-lampak; 1 molded tota/omni case. (TO-84M)				
01-94M	Spatial Kit	44 lbs.	19.96kg	\$1495.00
4 omni-lights, 16' cables, #1 reflectors, (less lamps); 4 omni-barndoors; 1 #3 superspot reflector; 1 diffused glass; 2 full scrims; 1 half scrim; 1 graduated scrim; 4 tota-frames; 2 assorted gels; 4 omni-stands; 1 large space-clamp; 1 tota-clamp; 1 omni-lampak; 1 molded omni case. (01-86M)				
TO-97	Basically 3 Kit	28 lbs.	12.70kg	\$825.00
2 tota-lights, 16' cables (less lamps); 1 omni-light, 16' cable, #1 reflector (less lamp); 1 omni-barndoor; 1 full scrim; 1 tota-brella; 1 tota-frame; 1 assorted gels; 3 omni-stands; 1 tota/omni lampak; 1 tota/omni molded case. (TO-87)				
TO-95	Ambi Kit	41 lbs.	18.60kg	\$1445.00
2 tota-lights, 16' cables (less lamps); 2 omni-lights, 16' cables, #1 reflectors (less lamps); 2 omni-barndoors; 2 full scrims; 1 half scrim; 2 tota-brellas; 4 tota-frames; 2 assorted gels; 2 tota-flags; 1 tota-flector; 4 flexi-shafts; 1 tota-tatch; 4 omni-stands; 1 tota-mount; 2 tota-clamps; 1 12 yard gaffer-tape; 2 tota/omni lampaks; 1 molded tota/omni case. (TO-84M)				
TO-98	Elemental Kit	31 lbs.	14.06kg	\$925.00
1 tota-light, 16' cable (less lamp); 2 omni-lights, 16' cables, #1 reflectors (less lamps); 2 omni-barndoors; 1 full scrim; 1 tota-brella; 2 tota-frames; 1 assorted gels; 3 omni-stands; 1 tota/omni lampak; 1 tota/omni molded case. (TO-87)				
TO-96	Solo Kit	60 lbs.	27.22kg	\$2250.00
2 tota-lights, 16' cables (less lamps); 4 omni-lights, 16' cables, #1 reflectors (less lamps); 2 #3 superspot reflectors; 4 omni-barndoors; 2 diffused glass; 2 full scrims; 2 half scrims; 1 graduated scrim; 1 cookaloris; 3 tota-brellas; 6 tota-frames; 3 assorted gels; 1 lightflector/tilter; 4 tota-flags; 1 tota-flector; 4 flexi-shafts; 5 omni-stands; 1 tota-mount; 2 tota-clamps; 1 large space clamp; 2 tota-tatches; 1 12 yard gaffer-tape; 2 screw-in studs; 2 tota/omni lampaks; 1 molded omni case. (01-86M)				
To order above kits with heavy-duty case (TO-89)				
Substituted for standard kit case, see below;				
T1-93MHD	Carry-on/heavy-duty case	42 lbs.	10.05kg	\$1005.00
T1-90HD	Tube Kit/heavy-duty case	40 lbs.	18.14kg	857.00
T1-92MHD	Trans/heavy-duty case	47 lbs.	21.31kg	1065.00
T1-94MHD	T4/heavy-duty case	58 lbs.	26.30kg	1580.00
01-92HD	Action/heavy-duty case	45 lbs.	20.41kg	1195.00
01-93HD	Omni 3/heavy-duty case	49 lbs.	22.22kg	1395.00
01-94MHD	Spatial/heavy-duty case	57 lbs.	25.85kg	1705.00
TO-97HD	Basically 3/heavy-duty case	46 lbs.	20.86kg	1120.00
TO-95HD	Ambi/heavy-duty case	56 lbs.	25.40kg	1690.00
TO-98HD	Elemental/heavy-duty case	49 lbs.	22.22kg	1220.00
TO-96HD	Solo Kit/heavy-duty	73 lbs.	33.11kg	2460.00



DP with Gel Frame



D2-97

DP SYSTEM

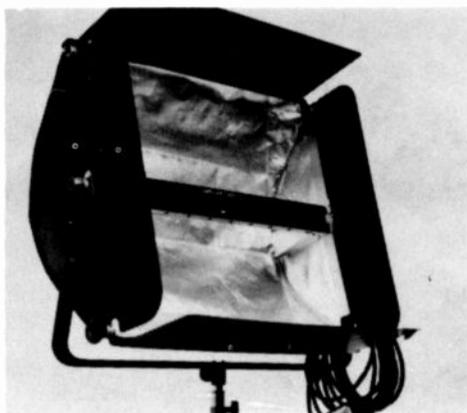
DP Light and Reflectors				
D2-10	dp light	37 ⁵ / ₈ lbs.	1.76kg	\$150.00
D2-15	#1 reflector	2 oz.	57g	13.50
D2-17	#3 reflector	2 oz.	57g	13.50
D2-18	#4 reflector	2 oz.	57g	13.50
DP Light Controls				
D2-20	complete barndoor	1 lb.	.45kg	\$ 62.50
D2-21	barndoor frame	4 oz.	.11kg	25.00
D2-22	rectangular leaf	4 oz.	.11kg	13.50
D2-23	triangular leaf	2 oz.	57g	13.50
D2-50	diffused glass	4 oz.	.11kg	34.00
D2-51	dichroic filter	4 oz.	.11kg	107.50
D2-52	clear glass	4 oz.	.11kg	30.00
D2-53	snoot	6 oz.	.17kg	38.50
D2-54	full scrim	3 oz.	85g	14.50
D2-55	half scrim	3 oz.	85g	14.50
D2-56	graduated scrim	3 oz.	85g	17.50
D2-57	cookaloris	3 oz.	85g	14.50
D2-24	dp frame	8 oz.	.23kg	40.00
GELS: Package of 4, 12" x 16" (30 x 41cm)				
D2-69	blue frost gels	2 oz.	57g	\$ 13.50
D2-70	day blue gels	2 oz.	57g	13.50
D2-71	n.d. 3 gels	2 oz.	57g	13.50
D2-72	frost gels	2 oz.	57g	13.50
D2-78	mixed gels	2 oz.	57g	13.50
D2-25	dp brella	21 oz.	.40kg	48.50
T1-50	flexi-shaft 16" (2)	4 oz.	.11kg	17.50
T1-52	tota-flag	4 oz.	.11kg	15.00
T1-54	tota-flector	6 oz.	.17kg	19.50
LFT	lightflector/tilter	13 ³ / ₄ lbs.	.79kg	75.00
DP Supports and Mounts				
KS	ks stand	4 ⁵ / ₈ lbs.	2.10kg	\$108.00
KP	full pole	13 ³ / ₈ lbs.	.62kg	48.50
KPH	half pole	1 lb.	.45kg	41.00
LC	lowel casters (3)	23 ³ / ₈ lbs.	1.08kg	48.50
LA	lowel anchors (4)	12 oz.	.34kg	9.50
LW	lowel weight	4 ¹ / ₄ lbs.	1.93kg	23.50
SC-10	large space-clamp	1 ¹ / ₂ lbs.	.68kg	48.50
SC-20	small space-clamp	1 ¹ / ₄ lbs.	.57kg	42.50
D2-32	tape-up bracket	8 oz.	.23kg	27.50
GT-12	gaffer-tape 12 yards	8 oz.	.23kg	9.00
GT-30	gaffer-tape 30 yards	1 ¹ / ₄ lbs.	.57kg	17.50
T1-30	tota-clamp	4 oz.	.11kg	18.50
KI-10	interlink	12 oz.	.34kg	21.50
KG	grip	13 ³ / ₄ lbs.	.79kg	27.50
LSS	screw-in stud (2)	4 oz.	.11kg	10.50
DP Cables and Storage				
LQE25	25' extension cable	23 ³ / ₈ lbs.	1.08kg	\$ 25.00
KCC	cable clips (40)	4 oz.	.11kg	9.00
K4CC	cable clips (10)	1 oz.	28g	4.50
D2-61	dp lampak	2 oz.	57g	14.50
MCSEM	molded multi case	16 ¹ / ₂ lbs.	7.49kg	215.00
D2-89	heavy-duty case	37 lbs.	17kg	450.00
DP Retrofit				
D2-05	quartz d retrofit	8 oz.	.23kg	\$ 15.00

DP KITS

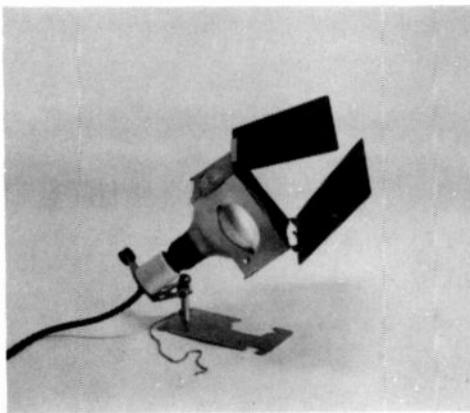
D2-95	dp brella kit	48 lbs.	21.78kg	\$1085.00
3 dp lights, #1 reflector (less lamps); 3 dp brelles; 3 ks stands; 1 dp lampak; 1 molded multi case				
D2-93	dp 3 kit	45 lbs.	20.41kg	1125.00
3 dp lights, #1 reflectors (less lamps); 3 dp barndoors; 3 ks stands; 1 dp lampak; 1 molded multi case				
D2-94	dp 4 kit	55 lbs.	24.95kg	1425.00
4 dp lights, #1 reflectors (less lamps); 4 dp barndoors; 4 ks stands; 1 dp lampak; 1 molded multi case				
D2-96	dp remote kit	52 lbs.	23.58kg	1535.00
3 dp lights, #1 reflectors (less lamps); 3 dp barndoors; 1 #3 superspot reflector; 1 diffused glass; 1 full scrim; 1 graduated scrim; 1 dp brella; 3 dp frames; 1 mixed gels; 1 pack day blue gels; 1 lightflector/tilter; 2 tota- flags; 2 flexi-shafts; 3 ks stands; 1 large space-clamp; 1 dp lampak; 1 molded multi case				
D2-97	close quarters kit	58 lbs.	26.31kg	1635.00
4 dp lights, #1 reflectors (less lamps); 1 #3 superspot reflector; 4 dp barndoors; 2 full scrim; 1 half scrim; 1 graduated scrim; 2 dp frames; 1 mixed gels; 1 pack day blue gels; 4 ks stands; 1 large space-clamp; 1 dp lampak; 1 molded multi case				
To Order Above Kits With Heavy-Duty Case (D2-89) Substituted For Standard Kit Case, See Below:				
D2-95HD	dp brella/hd case	68 ¹ / ₂ lbs.	31.06kg	\$1320.00
D2-93HD	dp 3/hd case	65 ¹ / ₂ lbs.	29.70kg	1360.00
D2-94HD	dp 4/hd case	75 ¹ / ₂ lbs.	34.24kg	1660.00
D2-96HD	dp remote/hd case	72 ¹ / ₂ lbs.	32.88kg	1770.00
D2-97HD	close quarters/hd case	78 ¹ / ₂ lbs.	35.60kg	1870.00

LAMPS FOR DP LIGHT

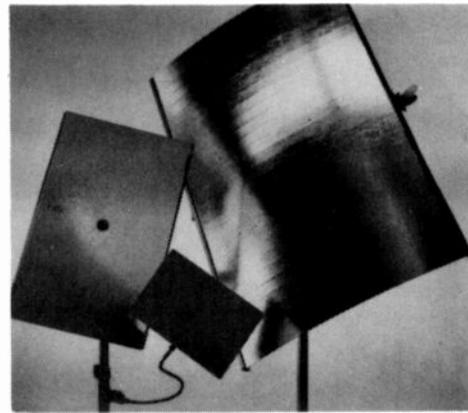
dp lampak available—stores 4 lamps							
EHC	120V	500W	300 hr.	clear	3200°K		POR
EHD	120V	500W	2000 hr.	clear	3000°K		POR
EHF	120V	750W	300 hr.	clear	3200°K		POR
EHG	120V	750W	2000 hr.	clear	3000°K		POR
FEL	120V	1000W	300 hr.	clear	3200°K		POR
FKR/220	220V	650W	300 hr.	clear	3100°K		POR
FEP/220	220V	1000W	150 hr.	clear	3200°K		POR
FKR/240	240V	650W	300 hr.	clear	3100°K		POR
FEP/240	240V	1000W	150 hr.	clear	3200°K		POR



Softlight 2



Lowel-Light



Reflectors

SOFTLIGHT SYSTEM

Softlight 2 Gels

S2-10	softlight 2	8 lbs.	3.63kg	\$285.00
S2-20	complete barn door	2 lbs.	.91kg	75.00
S2-21	top or bottom door	10 oz.	.28kg	30.00
S2-22	side barn door	5 oz.	.14kg	15.00
S2-30	reflector shell	6 oz.	.17kg	70.00

Gels: Package of 3, 24" x 34" (61 x 86cm)

S2-69	blue frost gels	7 oz.	.20kg	29.50
S2-70	day blue gels	7 oz.	.20kg	29.50
S2-71	n.d. 3 gels	7 oz.	.20kg	29.50
S2-72	frost gels	7 oz.	.20kg	29.50

Softlight 2 Supports and Mounts

KS	ks stand	4 ⁵ / ₈ lbs.	2.10kg	\$108.00
KP	full pole	1 ³ / ₈ lbs.	.62kg	48.50
KPH	half pole	1 lb.	.45kg	41.00
SC-10	large space-clamp	1 ¹ / ₂ lbs.	.68kg	48.50
SC-20	small space-clamp	1 ¹ / ₄ lbs.	.57kg	42.50
KG	grip	1 ³ / ₄ lbs.	.79kg	27.50
KI-10	interlink	12 oz.	.34kg	21.50
T1-30	tota-clamp	4 oz.	.11kg	18.50
KWW	water weight	8 oz.	.23kg	16.50
LW	lowel weight	4 ¹ / ₄ lbs.	1.93kg	23.50
LC	lowel casters (3)	2 ³ / ₈ lbs.	1.08kg	48.50

Storage

KCC	cable clips (40)	4 oz.	.11kg	\$ 9.00
K4CC	cable clips (10)	1 oz.	.28g	4.50
T1-61	tota-lampak	2 oz.	.57g	14.50
S2-51M	molded softlight case	13 lbs.	5.90kg	190.00
S2-53M	molded softlight case	13 lbs.	5.90kg	175.00
RU	roll-up carrier	3 ¹ / ₄ lbs.	1.47kg	98.50

Softlight Retrofit

S2-06	softlight retrofit	17 ¹ / ₈ lbs.	.85kg	\$42.50
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SOFTLIGHT KITS

S2-92	standard soft kit	29 lbs.	13.15kg	\$ 625.00
1 softlight 2 (less lamps); 1 ks stand; 1 complete set barn doors; 1 tota-lampak; 1 molded softlight case (S2-51M)				
S2-91	light soft kit	24 lbs.	10.89kg	535.00
1 softlight 2 (less lamps); 1 complete set barn doors; 1 tota-lampak; 1 molded softlight case (S2-51M)				
S2-93	triple soft kit	43 lbs.	19.50kg	1165.00
3 softlight 2 (less lamps); 3 complete set barn doors; 1 tota-lampak; 1 molded softlight 3 case (S2-53M)				

LAMPS FOR SOFTLIGHT 2

tota-lampak available — stores 5 lamps

FDL	120V	500W	400hr.	clear	3200°K	\$32.00
FCL	120V	500W	2600hr.	clear	3000°K	26.00
EJG	120V	750W	400hr.	clear	3200°K	40.00
EME/EJB	240V	800W	250hr.	clear	3200°K	37.00
FCM	120V	1000W	300hr.	clear	3200°K	32.00

LOWEL-LIGHT SYSTEM

Lowel-Light and Accessories

LL1	lowel-light	10 oz.	.28kg	\$33.50
BR40	barn door	4 oz.	.11kg	33.50
BR-1	replacement flap	1 oz.	.28g	8.50
BR-2	complete bulbmount only	3 oz.	.86g	20.00
GT-12	gaffer-tape 12 yards	8 oz.	.23kg	9.00
GT-30	gaffer-tape 30 yards	1 ¹ / ₄ lbs.	.57kg	17.50
K5C	lowel-light case	2 ¹ / ₈ lbs.	.96kg	72.50

Lowel-Light Kit

K5BR	lowel-light K5BR kit	8 ¹ / ₄ lbs.	3.74kg	\$375.00
5 lowel-lights (less lamps); One 12 yard gaffer-tape; 5 barn doors; 1 lowel-light case				

REFLECTORS

Reflectors

LFT	lightreflector/tilter	1 ³ / ₈ lbs.	.79kg	\$ 75.00
LF	lightreflector	1 ⁵ / ₈ lbs.	.74kg	57.00
T1-54	tota-flector	6 oz.	.17kg	19.50
V44A	variflector II	14 lbs.	6.35kg	275.00
V44RS	replacement panel	7 ¹ / ₄ lbs.	3.29kg	110.00
V44CK	side channels (2)	3 ¹ / ₂ lbs.	1.59kg	120.00

Supports and Mounts

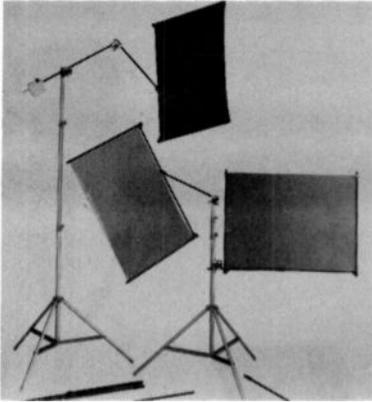
GS	grand stand	6 lbs.	2.72kg	\$175.00
KS	ks stand	4 ⁵ / ₈ lbs.	2.10kg	108.00
O1-33	omni-stand	27 ¹ / ₈ lbs.	1.30kg	87.00
LA	lowel anchors (4)	12 oz.	.34kg	9.50
LW	lowel weight	4 ¹ / ₄ lbs.	1.93kg	23.50
T1-36	tota-tilter	4 oz.	.11kg	21.00
T1-50	flexi-shaft 16" (2)	4 oz.	.11kg	17.50
T1-30	tota-clamp	4 oz.	.11kg	18.50
T1-34	tota-tatch	2 oz.	.57g	11.50
LC	lowel casters (3)	2 ³ / ₈ lbs.	1.08kg	48.50

Storage

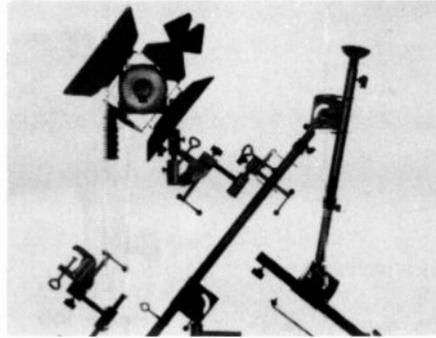
V44CC	variflector case	4 ¹ / ₄ lbs.	1.93kg	\$95.00
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Kit

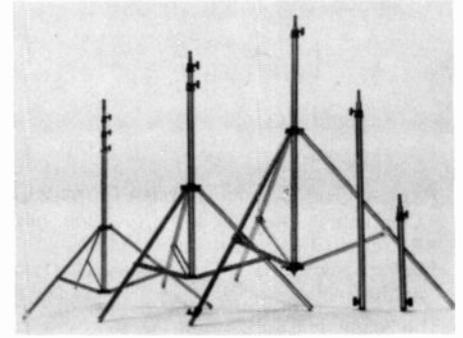
V44SC	variflector II kit	25 lbs.	11.34kg	\$525.00
1 variflector II; 1 grand stand; 4 lowel anchors; 1 variflector case				



FRAME-UP LOBO & LOBO ARM



CLAMPS AND MOUNTS



STANDS, POLES, BOOMS, RIGS

CLAMPS & MOUNTS

Clamps				
SC-10	large space-clamp	1 1/2 lbs.	.68kg	\$48.50
SC-20	small space-clamp	1 1/4 lbs.	.57g	42.50
SC-15	large bar	8 oz.	.23kg	22.50
SC-25	small bar	4 oz.	.11kg	16.00
SC-35	clamping arm (1)	6 oz.	.17kg	10.50
SC-30	stud bracket	4 oz.	.11kg	12.00
T1-30	tota-clamp	4 oz.	.11kg	18.50
KG	grip	1 3/4 lbs.	.79kg	27.50
KI-10	interlink	12 oz.	.34kg	21.50
KI-11	double male stud	4 oz.	.11kg	7.00
Mounts				
T1-32	tota-mount	10 oz.	.28kg	\$25.00
D2-32	tape-up bracket	8 oz.	.23kg	27.50
GT-12	gaffer-tape 12 yards	8 oz.	.23kg	9.00
GT-30	gaffer-tape 30 yards	1 1/4 lbs.	.57kg	17.50
LSS	screw-in stud (2)	4 oz.	.11kg	10.50
T1-35	tota-daptor	4 oz.	.11kg	15.00
T1-36	tota-tilter	4 oz.	.11kg	21.00
F1-30	lowel lobo	10 oz.	.28kg	18.50
F1-40	lobo arm	3 oz.	.85g	14.50

STANDS, POLES, BOOMS, RIGS

Stands and Poles				
GS	grand stand	6 lbs.	2.72kg	\$175.00
KS	ks stand	4 5/8 lbs.	2.10kg	108.00
O1-33	omni-stand	27 1/8 lbs.	1.30kg	87.00
KP	full pole	1 3/8 lbs.	.62kg	48.50
KPH	half pole	1 lb.	.45kg	41.00
Accessories				
LC	lowel casters (3)	2 3/8 lbs.	1.08kg	\$48.50
LA	lowel anchors (4)	12 oz.	.34kg	9.50
LW	lowel weight	4 1/4 lbs.	1.93kg	23.50
KWW	water weight	8 oz.	.23kg	16.50
KCL	ceiling link	10 oz.	.28kg	18.50
T1-30	tota-clamp	4 oz.	.11kg	18.50
KG	grip	1 3/4 lbs.	.79kg	27.50
KI-10	interlink	12 oz.	.34kg	21.50
KI-11	double male stud	4 oz.	.11kg	7.00
Storage				
MCSEM	molded multi case	16 1/2 lbs.	7.49kg	\$215.00
V44CC	veriflector case	4 1/4 lbs.	1.93kg	95.00
T1-82	tube case	2 3/8 lbs.	1.08kg	78.00
RU	roll-up carrier	3 1/4 lbs.	1.47kg	98.50

Booms and Rigs				
SP-90	big boom 1 grand stand; 1 grip; 1 full pole; 2 lowel weights; 1 set lowel casters (3); 1 package cable clips (10)	20 1/2 lbs.	9.30kg	\$325.00
SP-91	basic boom 1 ks stand; 1 grip; 1 full pole; 2 lowel weights; 1 set lowel casters(3); 1 package cable clips (10)	19 lbs.	8.62kg	265.00
SP-92	hi-lo-elbow 1 ks stand; 1 grip; 1 half pole	7 lbs.	3.17kg	165.00
SP-93	background support 2 ks stands; 2 interlinks; 2 full poles	13 1/2 lbs.	6.12kg	335.00

FLAGS, GELS, UMBRELLAS

Flags, Frames, Umbrellas, Mats, Gels				
F1-15	standard frame-up	14 oz.	.40kg	\$ 60.00
F1-20	large frame-up	1 lb.	.45kg	65.00
D2-24	dp frame	8 oz.	.23kg	40.00
T1-20	tota-frame	6 oz.	.17kg	24.50
T1-52	tota-flag	4 oz.	.11kg	15.00
B1-25	big brella	3 1/2 lbs.	1.59kg	160.00
D2-25	dp brella	21 oz.	6.6kg	48.50
T1-25	tota-brella	8 oz.	.23kg	30.00
MATS FOR STANDARD FRAME-UP: 20x24" (50x60cm)				
F1-42	black mat	3 oz.	.85g	\$17.50
F1-43	translucent mat	3 oz.	.85g	15.00
MATS FOR LARGE FRAME-UP: 24x34" (61x86cm)				
F1-52	black mat	4 oz.	.11kg	\$25.00
F1-53	translucent mat	4 oz.	.11kg	22.50
STANDARD FRAME-UP GELS: PACKAGE OF 3, 20x24" (50x60cm)				
F1-70	day blue gel	4 oz.	.11kg	\$17.50
F1-71	n.d. 3 gel	4 oz.	.11kg	17.50
F1-72	frost gel	4 oz.	.11kg	17.50
LARGE FRAME-UP & SOFTLIGHT 2 GELS: PACKAGE OF 3, 24x34" (61x86cm)				
S2-69	blue frost gels	7 oz.	.20kg	\$29.50
S2-70	day blue gels	7 oz.	.20kg	29.50
S2-71	n.d. 3 gels	7 oz.	.20kg	29.50
S2-72	frost gels	7 oz.	.20kg	29.50
S2-79	special colors	7 oz.	.20kg	29.50
DP GELS: PACKAGE OF 4, 12x16" (30x41cm)				
D2-69	blue frost gels	2 oz.	.57g	\$13.50
D2-70	day blue gels	2 oz.	.57g	13.50
D2-71	n.d. 3 gels	2 oz.	.57g	13.50
D2-72	frost gels	2 oz.	.57g	13.50
D2-78	mixed gels	2 oz.	.57g	13.50
TOTA/OMNI GELS: PACKAGE OF 5, 10x12" (25x30cm)				
T1-69	blue frost gels	2 oz.	.57g	\$10.50
T1-70	day blue gels	2 oz.	.57g	10.50
T1-71	n.d. 3 gels	2 oz.	.57g	10.50
T1-72	frost gels	2 oz.	.57g	10.50
T1-78	assorted gels	2 oz.	.57g	10.50

Mounting Devices				
F1-30	lowel lobo	10 oz.	.28kg	\$ 18.50
F1-40	lobo arm	3 oz.	.85g	14.50
GS	grand stand	6 lbs.	2.27kg	175.00
KS	ks stand	4 5/8 lbs.	2.10kg	108.00
O1-33	omni-stand	27 1/8 lbs.	1.30kg	87.00
T1-5C	flexi-shaft (2)	4 oz.	.11kg	17.50
T1-3C	tota-clamp	4 oz.	.11kg	18.50
T1-34	tota-tatch	2 oz.	.57g	11.50
T1-35	tota-daptor	4 oz.	.11kg	15.00
KG	grip	1 3/4 lbs.	.79kg	27.50
KI-10	interlink	12 oz.	.34kg	21.50
SC-10	large space-clamp	1 1/2 lbs.	.68kg	48.50
SC-20	small space-clamp	1 1/4 lbs.	.57kg	42.50
LW	lowel weight	4 1/4 lbs.	1.93kg	23.50
RU	roll-up carrier	3 1/4 lbs.	1.47kg	98.50

Frame-Up Sets				
F1-90	standard frame-up set 2 standard frame-ups, 3 lobos; 1 lobo arm	3 1/2 lbs.	1.6kg	\$170.00
F1-95	large frame-up set 2 large frame-ups, 3 lobos; 1 lobo arm	4 lbs.	1.80kg	180.00



Pepper Series — Miniature Quartz Lighting

- Compact, lightweight design location lighting
- Sturdy, cast-aluminum construction
- Full range of accessories, designed for fast and easy attachment and adjustments

The Pepper line consists of five focusing fresnel units, one open face and one soft light. Together they make a complete package for all types of photographic lighting situations.

The Pepper 100, 200, 420, 600 and 500/1K are all fresnel focusing luminaires designed to be used as key lights, back lights, eye lights, kickers and for effects. The Pepper Flood is a small, durable focusing quartz open faced light designed to provide an extremely clean, smooth field in all positions from flood to spot with maximum lighting efficiency. The Soft Pepper is a small, compact soft light designed for use as a fill light or as a shadowless key light.

Pepper 100 (1⁵/₁₆" Fresnel) 100/200W	
Head	\$175.00
4 Leaf Barndoors	53.00
Scrim (3") Full or Half (Single, Double or Double/Double)	8.30
Hinged Gel Frame	18.20
Fiber Gel Holder	1.90
Fiber Gel Holder with Filter Pak	4.40
Snoot (4/1) Apertures 1 ³ / ₄ ", 1 ³ / ₈ ", 1", 5/8"	62.50

Pepper 200 (3¹/₈" Fresnel) 200W	
Head	\$210.00
4 Leaf Barndoors	63.00
Scrim (4 ³ / ₁₆ ") Full or Half (Single, Double or Double/Double)	8.30
Hinged Gel Frame	21.50
Fiber Gel Holder	2.50
Fiber Gel Holder with Filter Pak	6.00
Snoot (5/1) Apertures 2 ¹ / ₂ ", 2 ³ / ₁₆ ", 1 ³ / ₄ ", 1 ³ / ₈ ", 1 ⁵ / ₁₆ "	69.50

Pepper 420 (3¹/₈" Fresnel) 420W	
Head	\$237.00
4 Leaf Barndoors	63.00
Scrim (4 ³ / ₁₆ ") Full or Half (Single, Double or Double/Double)	8.30
Hinged Gel Frame	21.50
Fiber Gel Holder	2.50
Fiber Gel Holder with Filter Pak	6.00
Snoot (5/1) Apertures 2 ¹ / ₂ ", 2 ³ / ₁₆ ", 1 ³ / ₄ ", 1 ³ / ₈ ", 1 ⁵ / ₁₆ "	69.50
Handgrip	16.50
Battery Belt with Cable	POR
Pepperoptics (Fiberoptic Lighting System)	POR

Pepper 600 (4³/₈" Fresnel) 650W	
Head	\$288.00
4 Leaf Barndoors	72.00
Scrim (5") Full or Half (Single, Double or Double/Double)	8.30
Hinged Gel Frame	26.50
Fiber Gel Holder	3.20
Fiber Gel Holder with Filter Pak	7.45
Snoot (5/1) Apertures 2 ¹ / ₂ ", 2 ³ / ₁₆ ", 1 ³ / ₄ ", 1 ³ / ₈ ", 1 ⁵ / ₁₆ "	88.50

Pepper 500/1K	
Head with 5" Fresnel Lens	\$390.00
4-Leaf Barndoor	68.00
Gel Frame	23.00
Snoot (3/1) Apertures: 4", 3", 2"	78.00
3-Piece Snoot Set:	109.00
Small Snoot #2	35.00
Medium Snoot #3	35.00
Large Snoot #4	39.00
Full or Half Single Scrim	8.00
Full or Half Double Scrim	9.00



Pepper 100



Pepper 600 shown with Pepper Pot Dimmer



Soft Pepper

Pepper Flood



Pepper Flood 650W	
Head	\$242.00
4 Leaf Barndoors	70.00
Dichroic Filter	132.00
Handgrip	35.00
Battery Belt with Cable	POR

Soft Pepper 400W	
Head	\$240.00
Egg Crate	82.50
Diffusion Frame	13.50

Universal Pepper Accessories	
Light Pepper Stake (stand)	\$ 60.00
Medium Pepper Stake (stand)	75.00
3" Baby Plate	25.00
Drop Ceiling Butterfly Clamp	14.20
Suction Cup Mount	59.50
3" C-Clamp with 5/8" Pin	29.00
6" C-Clamp with two 5/8" Pins	39.60
1-Channel Pepper Pot Dimmer	194.00
3-Channel Pepper Pot Dimmer	550.00
Gaffer Grip with 5/8" Pin	27.00
Pepperella	53.60
Pepperella Adaptor	29.00
Net Set (complete with Flexarm, Net Holder, Net and Silk)	113.00
Flag (for Net Set)	22.00

Cases	
Custom Case Red	\$346.50
Custom Case Green	352.00
Custom Case Cyan	381.00
Full Spectrum	450.00

Pepper Paks — Complete Light Kits

4 Standard Kits:

Cyan Pepper Pak (2 Pepper 100, 2 Pepper 420, Accessories)	\$1823.00
Green Pepper Pak (4 Pepper 420, Accessories)	1930.00
Red Pepper Pak (3 Pepper 600, Accessories)	1686.00
Full Spectrum Pepper Pak (1 Pepper 100, 200, 420, 400 Soft Light, 600, 650 Flood, Accessories)	3094.00
Custom Kits Available on Request	POR



MICROPHONE POLES

Microphone Poles

- Carbon and fiber composite material, undentable
- Telescopic extension system
- Knurled friction locks
- Cable access, threaded yoke support, no nut necessary
- International standard threaded stud
- Scratch-resistant black finish
- Robust and super lightweight
- Minimum bow when fully extended
- Five sizes, from 15" to 16'7"
- 4'8" extension (with longest pole measures 21'5")
- Size, weight and balance for the most comfortable feel

Microphone Suspension

- Fits all sizes of poles
- Simple, effective suspension
- Threaded yoke support, no nut necessary
- Non glare black epoxy finish
- 3.25 oz.

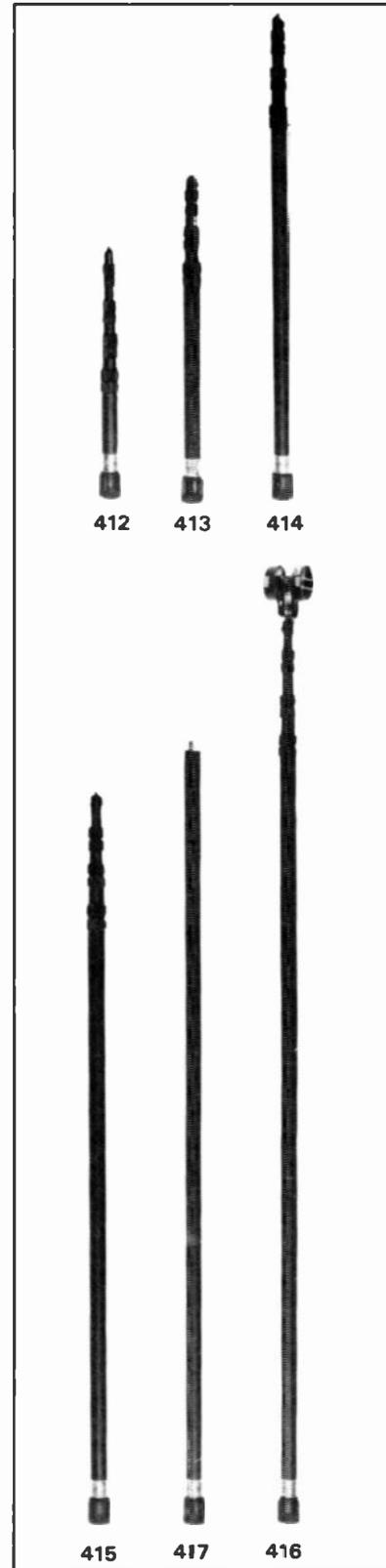


Microphone Suspension

Cat. #	Elements	Size	Weight	List Price
90A 412	5	15" to 44 1/2"	8.6 oz.	\$234.00
90A 413	4	20" to 63"	9.5 oz.	235.00
90A 414	4	31" to 9'	13.7 oz.	380.00
90A 415	4	4' 1" to 13' 8"	17.6 oz.	400.00
90A 416	4	5' 2" to 16' 7"	23 oz.	470.00
90A 417	1	4' 8" Extension Pole	9.5 oz.	298.00
301 070	—	Suspension	3.25 oz.	84.00



Above: Topmount
At Right: Foot





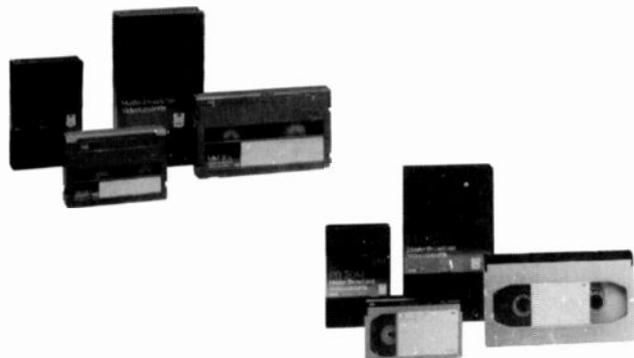
VIDEOCASSETTES/ VIDEOCASSETTE HANGERS



3/4" Broadcast Videocassette Tapes Master Broadcast U-Matic (MBR™)

The Master Broadcast video tape is designed to meet your most exacting needs. The Anti-Stat System of treated component parts and shell and Anti-Stat leader dissipates static charge for lower dropout activity and better performance under adverse environmental conditions. Ten units per carton.

	Length (Minutes)
MBR-10 Hanger or Album	10
MBR-20 Hanger or Album	20
MBR-30 Hanger or Album	30
MBR-50 Hanger or Album	50
MBR-60 Hanger or Album	60
Mini MBR-5S Hanger or Album	5
Mini MBR-20S Hanger or Album	20



1/2" Broadcast Videocassettes

Broadcast quality products designed specifically for use on high speed 1/2" equipment such as Betacam SP, and MII Format. Has 3M's exclusive Anti-Stat Treatment. Twenty units per carton.

	Length (Minutes)
Betacam Format	
PB-5 Album	5
PB-10 Hanger or Album	10
PB-20 Hanger or Album	20
PB-30 Hanger or Album	30
PB-60L Hanger or Album	60
PB-90L Hanger or Album	90
Betacam SP Format	
PB-5M	5
PB-20M	20
PB-30M	30
PB-60ML	60
PB-90ML	90
MIl Format	
MM10L Album	10
MM20S Album	20
MM30L Album	30
MM60L Album	60
MM90L Album	90
Broadcast VHS	
T80 Hanger or Album	60
T120 Hanger or Album	120

1/2" Scotch Videocassettes

Standard Grade VHS Videocassettes designed for general purpose applications. Twenty units per carton.

	Length (Minutes)
T-30	30
T-60	60
T-120	120

Broadcast U-Matics (UCA Color Plus)

Broadcast UCA Videocassettes use a special Color Plus oxide video tape which provides a superior signal-to-noise ratio, color-noise ratio and lower dropouts. Ten units per carton.

	Length (Minutes)
UCA-5 Hanger or Album	5
UCA-10 Hanger or Album	10
UCA-20 Hanger or Album	20
UCA-30 Hanger or Album	30
UCA-60 Hanger or Album	60
UCA-75 Hanger or Album	75

Broadcast Mini-U-Matics (UCA Color Plus)

Mini U-matic videocassettes are designed for use with such mini U-matic portable recorders. Features Color Plus oxide. An "S" after the model number (UCA-10S) indicates mini size. Ten units per carton.

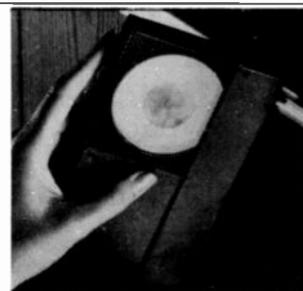
	Length (Minutes)
UCA-10S Hanger or Album	10
UCA-20S Hanger or Album	20
UCA-30S Hanger or Album	30



1/2" Professional Videocassettes

High grade quality product with superior electromagnetic and dropout characteristics designed for critical applications. Twenty units per carton.

Beta	Length (Minutes)	VHS	Length (Minutes)
L-250 Sleeve	30	T-30 Sleeve	30
L-500 Sleeve	60	T-60 Sleeve	60
L-750 Sleeve	90	T-120 Sleeve	120
L-125 Album Box	15	T-30 Album Box	30
L-250 Album Box	30	T-60 Album Box	60
L-500 Album Box	60	T-90 Album Box	90
L-750 Album Box	90	T-120 Album Box	120
		T-150 Album Box	150
S-VHS		T-30 Hanger Case	30
ST-30	30	T-60 Hanger Case	60
ST-60	60	T-90 Hanger Case	90
ST-120	120	T-120 Hanger Case	120
		T-150 Hanger Case	150



Snap Cap™ Hanger Bar System

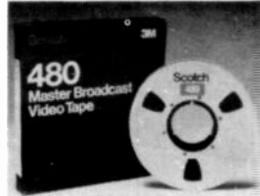
- Allows maximum storage density (280 videocassettes in a 4' x 8' area)
- Adapts to many locations and space requirements
- Provides maximum protection of videocassettes without additional packaging
- Allows easy and uniform labeling
- Locks firmly onto videocassette but is easily removed
- Locks onto the hanger bar but is easily detached and transported
- Features light high strength aluminum bar
- Installs easily and inexpensively
- 40 units per carton

The Snap Cap Hanger System efficiently protects and stores your valuable videocassettes in a minimum of space while allowing you to transport and quickly access the tape.

Betacart	Betacam
BSC-5	PBSC-10
BSC-30	PBSC-20
	PBSC-30



1" VIDEO TAPE/ACCESSORIES VIDEOCASSETTE HANGERS



1" Helical Open Reel Video Tape

No. 479 — #479-1" Helical video tape is a special application tape that can only be used with type "C" video recorders.

No. 480 — #480-1" Helical video tape is an improved broadcast video tape providing better signal-to-noise, color-noise qualities and virtually eliminates head stiction. For use on all recorders capable of using 479 mastering/broadcast video tape (type "C" recorders).

	Cat. No.	Length (Minutes)	Reel Size
Ampex VPR-1, 2,	479-1-1630-R179B	34	1" x 8"
Sony BVH-1000,	479-1-1630-R179C132	34	1" x 8"
Video Memory	479-1-3170-R179B	66	1" x 9"
VM-1000	479-1-3170-R179C132	66	1" x 9"
	479-1-4610-R179B	96	1" x 10 1/2"
	479-1-4610-R179C129	96	1" x 10 1/2"
RCA TR 800,	479-1-5070-R179C129	105	1" x 10 1/2"
Merlin Eng. Mod.	479-1-6050-R179C134	125	1" x 11 1/2"
Ampex & Sony,	479-1-7500-R179C134	155	1" x 12 1/2"
Sony, BVH 1180,	479-1-9100-R179C134	188	1" x 14"
Hitachi HR300*			
Bosch-Fernseh, (BCN), IVC,	479B-1-1630-R179B	34	1" x 8"
Philips, RCA,	479B-1-1630-R179C132	34	1" x 8"
BCN-20 Portable	479B-1-3170-R179B	66	1" x 9"
	479B-1-3170-R179C132	66	1" x 9"
	479B-1-4635-R179B	96	1" x 10 1/2"
	479B-1-4635-R179C129	96	1" x 10 1/2"
Ampex VPR-1, 2,	480-1-1630-R179B	34	1" x 8"
Sony BVH-1000,	480-1-1630-R179C132	34	1" x 8"
Video Memory	480-1-3170-R179B	66	1" x 9"
VM-1000	480-1-3170-R179C132	66	1" x 9"
	480-1-4610-R179B	96	1" x 10 1/2"
	480-1-4610-R179C129	96	1" x 10 1/2"
RCA TR800,	480-1-5070-R179C129	105	1" x 10 1/2"
Merlin Eng. Mod.	480-1-6050-R179C134	125	1" x 11 1/2"
Mod. Ampex & Sony, Sony	480-1-7500-R179C134	155	1" x 12 1/2"
BVH 1180	480-1-9100-R179C134	188	1" x 14"
Hitachi HR 300*			
Bosch-Fernseh, (BCN), IVC,	480B-1-1630-R179B	34	1" x 8"
Philips, RCA,	480B-1-1630-R179C132	34	1" x 8"
BCN-20 Portable	480B-1-3170-R179B	66	1" x 9"
	480B-1-3170-R179C132	66	1" x 9"
	480B-1-4635-R179B132	96	1" x 10 1/2"
	480B-1-4635-R179C132	96	1" x 10 1/2"

* 11 1/2" RCA TR 800
12 1/2" Merlin Engineering Modified Ampex & Sony Machines
14" Sony BVH 1180
Hitachi HR 300

Tape Accessory Descriptions

- B** At the end of a catalog number indicates box
- R179** Flat flange reel, 1" x 8", 9" and 10 1/2"
- C129** Fire retardant shipping case for 1" x 10 1/2" flat flange reels
- C132** Fire retardant shipping case for 1" x 9" flat flange reels
- C134** Fire retardant shipping case for 1" x 11 1/2", 12 1/2", 14" flat flange reels



Hanger System

Hanger System

A videocassette case design that's triggered a revolution in 3/4" and 1/2" videocassette storage and handling. The shipper/storage case (patents applied for) represents a design concept based upon the idea that hanging your videocassettes not only is the best way to protect them from damage, but it will organize your storage area and simplify the way you transport videocassettes.

Shipper/Storage Case

This sturdy shipping box can be labeled and mailed with no other packaging needed. Its unique hanging hook and slide-snap latch are only two of the features of this case that opens to reveal a recess for storing the record-lockout button when you are not using the record mode. The stabilizer bars on the box bottom and the expandable, spine-handle simplify storage and retrieval in any situation.

CHB-1 Case Hanger

This extruded aluminum bar comes in 4' lengths and can be cut to fit doors, desk backs, cabinets, shelves, walls, etc. Standard screws or bolts anchor them securely to concrete, wood, plaster or metal surfaces, and when properly mounted, the bars can maintain weights of up to 240 lbs.

6 PH Six-Pack Hanger

A sturdy, aluminum frame that easily totes up to 6 videocassettes, with the case or without.

Video Tape Reels and Accessories

R139B-1-8	Empty metal video reel in box
VB-1-10 1/2	Empty cardboard video boxes
C129-1-10 1/2	Fire retardant empty
C132-1-9	Plastic shipper/
C134-1-14	Storage cases
C137-2-10 1/2	
6-PH (Six-Pack)	Scotch
CHB-4 Bar (25 per carton)	Case hanger
H-Bar	Accessories
UCS-HC (Mini; C-124; recorded)	Head Cleaning
B-HC (Beta; hanger box; unrecorded)	Videocassettes
V-HC (VHS; hanger box; unrecorded)	
VRB-1-6 1/2	Empty plastic spot reels
	in box
VRB-2-6 1/2	Spot reels in box
8125-1/4-90	Diagonal stripe
	hold-down tape
Re-Label Tape	Re-label tape



OPEN REEL AUDIO TAPE/ CASSETTES/ACCESSORIES

Open Reel Audio Tape

Nos. 226, 227 and 250 are premium quality tapes for critical mastering. 12 reels per carton.

Nos. 806 and 807 are high output/low noise open reel tapes designed for critical music mastering. Nos. 808 and 809 are low print/low noise open reel tapes designed for critical voice and general music mastering.

Studio Mastering Tapes (12 per carton)

Cat. No.	Reel Size
250-1/4-1200	7"
2500-RN	10 1/2"
226-1/4-1200	7"
2500-RN	10 1/2"
227-1/4-1800	7"
3600-RN	10 1/2"

Mastering Tapes (12 per carton)

806-1/4-600	5"
1200	7"
2500-RN	10 1/2"
807-1/4-900	5"
1700	7"
3600-RN	10 1/2"
808-1/4-600	5"
1200	7"
2500-RN	10 1/2"
809-1/4-900	5"
1800	7"
3600-RN	10 1/2"

Logging Tapes

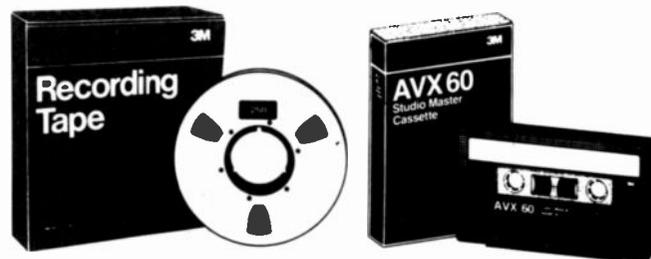
8206 is a 1.0 mil polyester tape with back treatment designed for logging. 8207 is a .5 mil version of the 8206. 8614 is a 1.0 mil polyester tape without back treatment for use on Magnasync recorders.

Cat. No.	Per Ctn.	Reel Size
8206-1/4-3600R183	12	10 1/2"
8206-1/2-3600R182	10	10 1/2"
8206-1-3600R182	5	10 1/2"
8206-1-10 800FAA	5	15"
8207-1/4-3600PR7	12	7"
8614-1/4-3600RN	12	10 1/2"
8614-1/2-3600R182	10	10 1/2"
8614-1-3600R182	5	10 1/2"

Accessories

	Cat. No.	Per Ctn.	Reel Size
Reels in Bulk	PR-1/4-7 Trapezoid	270	7"
Empty Metal	RNB-1/4-10 1/2	12	10 1/2"
NAB Reels	12	6	12"
In Boxes	14	6	14"
Empty Boxes	B-1/4-7		
	48		
Splicing	41-7/32-66	40	
Tape	620-7/32-66	12	
	66 Bulk	48	
	67-7/32-100	12	
	100 Bulk	48	
Leader	20-1/4-1000	12	
Tape	61W-1/4-1500	20	
	61Y-1/4-1500	20	
	62-1/4-1500	12	
Hold-Down	83-1/4-180 (Red)	10	
Tape			
Relabel Tape	Relabel Tape	48	
Audio			
Recording			
Studio			
Dispenser Kit	RSD-1	1	

RN = a 10 1/2" metal reel with solid NAB hub.



AVX Studio Master Cassettes—Boxed

AVX Cassettes are professional quality high output, low noise cassettes designed for the rigorous use of instructional applications. 5-screw shell with roller guides. 2-piece plastic album box with labels. 20 cassettes per master carton. Tensitized polyester.

	Thickness	Length (minutes)
AVX-20	0.5 mil	20
AVX-30	0.5 mil	30
AVX-46	0.5 mil	46
AVX-60	0.5 mil	60
AVX-90	0.3 mil	90
AVX-120	0.25 mil	120

AVX Bulk Cassettes

Bulk version of AVX Cassettes. Identical performance, but bulk packaged in master carton of 400; without labels or boxes. Designed especially for critical mastering applications.

Packed 25 identical cassettes per overwrapped tray, 4 trays per intermediate box, 4 intermediates of 100 cassettes per master carton. Black high impact styrene plastic shells are used.

	Length (minutes)
AVX-10	10
AVX-20	20
AVX-30	30
AVX-46	46
AVX-60	60
AVX-90	90
AVX-120	120

IRC Cassettes—Boxes

Instant Record Cassettes are leaderless, professional quality, low noise cassettes designed for instant recording applications such as dictating, interviewing, conference recording, slide sync, surveillance and information logging. 20 cassettes per master carton. Tensitized polyester.

	Thickness	Length (minutes)
IRC-30	.5 mil	30
IRC-60	.5 mil	60
IRC-90	.3 mil	90

IRC Bulk Cassettes

Bulk version of IRC Cassettes. Identical performance, but bulk packaged without labels or boxes. 400 cassettes per master carton.

	Length (minutes)
IRC-30	30
IRC-60	60
IRC-90	90

XSII Premium High Bias Mastering Cassettes

		Length (minutes)
XSII-60	Norelco Case	60
XSII-90	Norelco Case	90

XSM Cassettes—Boxes

XSM Cassettes are metal bias, .5 mil tensitized polyester, 40 per carton.

	Length (minutes)
XSMIV-C60	60
XSMIV-C90	90



CHARACTER GENERATORS

D-5000 Character Generator

- Multi-font library 4 resident fonts • Dual 3.5" disc drive
- Proportional character spacing • Full editing capability
- High resolution character definition • 35ns • Multi-speed roll, crawl, reveal, and billboard dynamics • Auto centering, line and page • 512 color palette • Built-in sync and genlock
- 9 speeds roll and crawl • 100 page internal memory • Programmable roll, crawl, and roll masking • Built-in clock
- Built-in italics, all fonts • Internal colorizer • Background color in 4 line increments • Nonvolatile data storage • Split screen displays • Character kerning and overlap • Multi-color logos • Word flash and color change flash • Mix rolls and/or crawl with static displays • Slow reveal—7 speeds
- Billboard—9 speeds • Vertical roll, 9 rates plus pause (blanking to blanking), five different masks are selectable
- Horizontal crawl, 9 rates plus pause (blanking to blanking), position selectable

D-5000	\$10,995.00
Built-in keyer (factory retrofit)	800.00
4 additional resident fonts	675.00
24 hour memory backup unit	50.00
Keyboard	1,700.00
Chassis	9,295.00
Custom fonts	400.00
Custom logos	200.00
1 font chip set	125.00

Memory Expansion Options

Local disk drive single	\$1,850.00
Local disk drive dual	2,250.00
(Greater on line storage and disc duplication capability)	
4 Font RAM memory	1,150.00
(Down load 4 of 100 fonts from font library disc)	
Font library disc set	800.00

D-3600 Character Generator

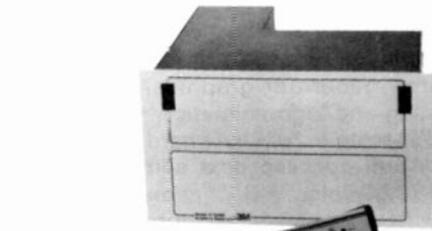
- 4096 color palette • 3.5" dual disc drives • 1000 pages of text can be stored on each diskette • 100 speeds roll and crawl
- Keyer genlock • 35ns • 16 heights • 16 widths • Single channel NTSC • 5 upper/lower case fonts, each 92 characters
- 256 sizes, row-by-row selectable • Characters may be inverted • Automatic proportional spacing • Formatting • Duplication • May be rackmounted

D-3600	\$6,995.00
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D-3602 Character Generator

- Dual channel version of the D-3600 • Remote "next page" function • Preview/program, off line/on line and two independent program channels

D-3602	\$8,995.00
Dual channel upgrade kit for D-3600	2,000.00
Operator training video tape	50.00



D-5000



D-3600



D-2200

D-2200 Character Generator

- 512 color palette • Dual 3.5" disc drives • 10 speeds • 2 channel • Sync • Genlock • Keyer • 70ns • 8 fonts • 64 sizes • Fonts disc loadable • Edge to edge operation • 2000 pages of extended memory playback • Totally software driven
- Designed for independent facilities such as cable television and industrial/education television facilities • Ideally suited for two-channel production needs or unattended messaging applications

D-2200	\$4,995.00
Font library disc set	800.00
Instruction manual	50.00



D-6000 Panther Graphics Generator

- Advanced character generator/graphics/paint system
- Camera grab • Painting and logo animation • 15 font faces
- 35ns • Proportional spacing • 20M byte hard drive • 5" disk removable storage • Word processor text editing, dynamics, and paint software • 1024 colors • B/W camera load • Sync and genlock • Keyer • RGB and NTSC outputs • Single channel

D-6000 \$15,995.00

Accessories/Options

- Font library disk set \$800.00
- Instruction manual D-6000 50.00
- Operator training video tape (VHS) 50.00
- Extra cable lengths for keyboard per ft./2.60



D-6000

Silver Video Production Workstation

Digital Video Effects:

- Compression and Mosaics • Wipes, slides, spirals, zooms, inlays

Animation:

- Real time animation over video • Cell by cell • Frame by frame VCR controller • 16 cell per screen

Font Generator:

- Anti-aliased fonts • 3M font library, disk, loadable • Automatic digitizing of logos, fonts and symbols • 16 levels of anti-aliasing

SEG Switcher:

- 4 input composite switching—cuts, wipes, DVE • Mirrors
- Quad effects • Programmable rate control

Business Graphics:

- Pie charts • Bar graphs • Input data by keyboard

Paint System:

- 65,000 colors • Multiple brushes—airbrushing and transparencies • Multi-plane editing and undo function • Cut and paste • Continuous tone shading • Instant RGB color frame grab from VTR • Instant composite grab, black and white or color

The Silver consolidates 6 functions into a single video production workstation. It combines power and reliability with an easy-to-use icon menu. Designed for post production and corporate installations.

The Silver offers literally hundreds of creative applications. It can "grab" images from moving videotape and input information from either black and white or color video cameras. With the Silver, you can create your own fonts and special effects, and control multiple video inputs from VTRs—all from a single workstation that's menu driven.

The Silver has dual expansion capabilities through software and hardware. It is available as a modular machine to expand your hardware system as needed; and, Silver's application software is expandable through the use of software cartridges.

Silver \$12,000.00

Fader/Decoder

Decodes incoming composite video into RGB, has internal keyer and mixer \$5,600.00

Decoder

Decode incoming composite video into RGB. Not needed if above fader/decoder is used. \$3,500.00



Silver Video Production Workstation

NTSC Saturation Controller/Encoder

Converts RGB output from the Silver into NTSC with controlled output saturation to comply with National Television Standards Codes \$5,600.00

VTR Controller

Controls single frame VTRs for field accurate editing and cell by cell animation. Sony 5850 version \$3,900.00
JVC CR8250U/CR850U version 3,900.00

Personal Computer Interface

For complete two way communication, file transportation or storage to IBM or compatible personal computer
PC version \$3,500.00
AT version 3,500.00

Accessories/Options

Memory Extension

Three planes of memory for DVE effects 3 1/2" disk drive for storage and recall \$9,000.00

Software Expansion

Airbrush, smoothing brush, gradations, 16 frame logo animation 5-30fps, business charts and graphs, live video compression integration, 4 input SEG/DVE \$5,600.00



15X SERIES ROUTING SWITCHERS

The Series 15X Routing Switcher offers an inexpensive method of eliminating patch panels and providing selectable distribution of audio and video signals. Any output channel can be independently programmed to select any input signal. The 15X Series offers very flexible control options which are divided into two categories—local and remote which can be intermixed within the same frame. Units are available in sizes: 2 outputs, 6 outputs, and 12 outputs. Also available with Audio Breakaway.

Plug-in input and output amplifiers are used for video and audio. The audio input amplifiers incorporate balanced inputs with common mode rejection for canceling hum on input lines. The video inputs have looping BNC connectors and terminating switches.

Local Control	Remote Control
15 in x 3 out \$3,300.00	15 in x 3 out \$ 4,300.00
15 in x 4 out 3,600.00	15 in x 4 out 4,800.00
15 in x 5 out 4,000.00	15 in x 5 out 5,700.00
15 in x 6 out 4,300.00	15 in x 6 out 6,300.00
15 in x 7 out 4,800.00	15 in x 7 out 7,500.00
15 in x 8 out 5,100.00	15 in x 8 out 8,500.00
15 in x 9 out 5,400.00	15 in x 9 out 9,300.00
15 in x 10 out 5,800.00	15 in x 10 out 10,000.00
15 in x 11 out 6,000.00	15 in x 11 out 10,800.00
15 in x 12 out 6,400.00	15 in x 12 out 11,500.00

Options

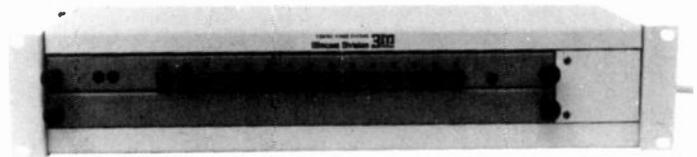
Vertical Interval Switching (Remote Only)	\$350.00
Audio Input/Output Cable (6' Pigtails)	
6 out frame	\$340.00
12 out frame	340.00
Remote Control Cable (Assembled and Tested)	\$ 50.00
	add per ft./1.00
Second Audio Level Switching (Remote Only)	
6 out frame, add	\$1,240.00
12 out frame, add	1,475.00
Expansion Modules for:	
15X Local Control Chassis, per output	\$ 510.00
15X Remote Control Chassis, per output	820.00
For 12 out frame with less than 6 outputs	1,500.00

15X-2 Series Video/Audio Routing Switchers

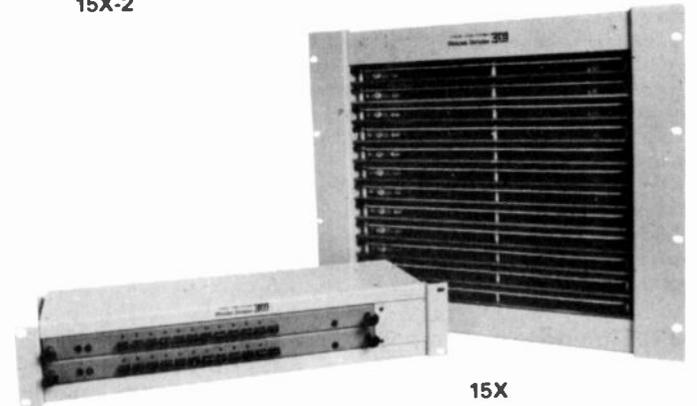
Local Control, Video Only	
15 in x 1 out.	\$2,000.00
15 in x 2 out.	2,200.00
Local Control, Audio/Video	
15 in x 1 out.	\$2,300.00
15 in x 2 out.	2,500.00
Remote Control, Video Only	
15 in x 1 out.	\$2,300.00
15 in x 2 out.	2,500.00
Remote Control, Audio/Video	
15 in x 1 out.	\$2,600.00
15 in x 2 out.	2,950.00
15X-2 with 1 Local Control Panel and 1 Remote Control Panel	
Video Only	\$2,340.00
Audio and Video	2,800.00

Accessories/Options

Vertical Interval Switching (Remote Only), add	\$ 350.00
Remote Control Cable (Assembled and Tested)	50.00
	add per ft./1.00



15X-2



15X



101

15X Series Video/Audio Routing Switchers

- Bridging crosspoints • Choice of local or remote controls
- Modular—field expandable • 3 frame sizes • Low crosstalk • Second audio level (optional) • LED status indicators • Input and output amps
- Terminating switches on inputs • Audio breakaway

Local Control

Mechanically interlocked pushbutton switches are used to select and switch the audio, video and tally signals.

Each video crosspoint is isolated from feeding back through the switch to the newly selected signal eliminating the glitch on other monitors. Each output has a separate plug-in tray containing the mechanical switch as well as the audio and video output amplifiers which are also separate plug-in units. LED status indicators above each pushbutton illuminate when the corresponding switch is depressed.

Remote Control

Standard remote controls are available for momentary pushbuttons. Remote control pushbutton trays are interchangeable with the local modules. Only DC voltages are used for control. Switch module assemblies are available in 12 x 1 and 15 x 1 sizes.

101 Series Vertical Interval Bridging Switcher

A 10 x 1 bridging switcher with built-in video and audio DAs featuring vertical interval switching on all inputs, lighted pushbuttons, and switch position memory. The switch position memory is effective for at least 30 seconds, and longer when connected to an external battery source (terminals provided).

101 Vertical Interval Bridging Switcher \$1,255.00

Accessories/Options

Remote Control.	\$450.00
Instruction Manual (one supplied with each unit)	30.00

1510A Test Signal Generator

• 10-bit, digital test signal generator with 40 precision test signals: multiburst, NTC-7 composite, SMPTE color bars, matrix, modulated ramp, convergence, field squarewave, window, NTC-7 combination, multipulse, red field, bars/Y, modulated staircase, modulated bar, 50 IRE lum, 0 IRE lum • Field sweep signal to 6MHz • Custom test signals available • Genlocks to external or internal reference • 12 character source ID and audio tone outputs—standard with every unit • Sized to share side-by-side rack with waveform monitor • 16 signal 1510S also available • Choice of rackmount or portable configurations

1510A	Test signal generator	\$3,490.00
1510S	Same as 1510A with 16 test signals	2,490.00
Option 03	Adds black burst and drive signal outputs	600.00
Option AT	Adds audio tone (2-channel) output	350.00
Option 05	D2 output only	750.00
Option 05I	D2 input and output	1,200.00

1515 Component/Composite Test Signal Generators

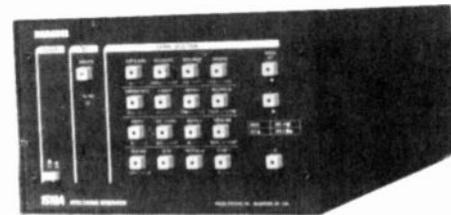
• Multiple formats: Composite NTSC, RGB and Y/B-Y/R-Y, standard on all units • Betacam™, SMPTE, M-II and S-VHS formats available • Unique signals for testing distortions peculiar to component analog video: "dual timing pulse" signal for setting Y/C delay and gain, color sweep for encoder/decoder tests, crosstalk test, noise coring test, bowtie test for delay matching, linearity test, clamping test • 12-character source ID standard with every unit • D1 output, optional, provides front panel selection of four 4:2:2 component digital signals: 75% color bars, 5MHz line sweep with 2T pulse and bar, split field signal of luminance and color-difference with valid ramps, 100% color bars all of which meet RP125/EBU 3246 requirements

1515S	Component TSG (SMPTE format)	\$5,300.00
1515B	Component TSG (Betacam format)	5,300.00
1515M	Component TSG (M-II format)	5,300.00
1515U	Component TSG (SMPTE, Betacam, M-II and S-VHS formats)	6,300.00
Option 03	Adds black burst and drive signal	600.00
D1 Option	8-bit	1,500.00
D2 Option	10-bit	1,700.00

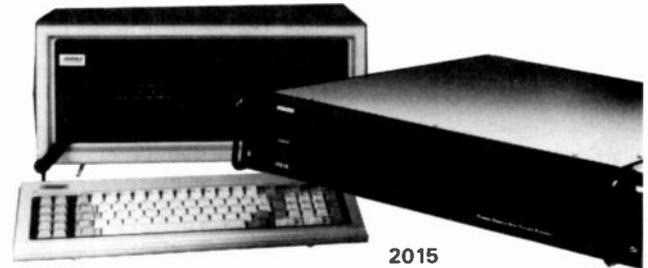
1517 Component (625/50) Test Signal Generator

• Supports RGB and the following Component Analog Video (CAV) formats: EBU (M-II™), Betacam, Y/CTCM, Y/CTDM • Sized for side-by-side rackmounting with a waveform monitor or vectorscope • 12-character source ID • Drive pulse outputs • Sync-lock • Dual Timing Pulses and timing bowtie test signals • Specific signals to ensure optimum CAV performance • Custom signals also available • Digital signal storage for reliable replication • Modular design allows easy testing and maintenance • In Average Picture Level (APL) Mode, test signals of 12.5% or 87.5% APL are provided by inserting 0% or 100% luminance level on three out of every four lines • Each instrument provides three signal sources, with each available on two isolated BNC connectors • Adaptor cables for connection to a Betacam or M-II 12-pin connector are available • D1 output, optional, provides front panel selection of four 4:2:2 component digital signals: 95% color bars, 5MHz line sweep with 2T pulse and bar, split field signal of luminance and color difference with valid ramps, plus 100% color bars, all which met RP125/EBU 3246 requirements

1517	Component (625/50)	\$6,930.00
Option 02	Drive signals output	350.00
Option 10	Single wide cabinet with handle	65.00
Option 30	Rackmount (for two units)	180.00
D1 Option	8-bit	1,650.00
D2 Option	10-bit	1,870.00



1510A



2015

2015/2015PL Programmable Test Signal Generators

• Broad library of test signals in many formats including: Analog: NTSC, PAL, SMAC, CAV, HDTV, and film-to-tape — Digital: Composite and 4:2:2 component • Capability of generating signals from 525/60 (NTSC) to 1125/60 (HDTV) and beyond • Custom signal capability • 10-bit digitizing yielding 30MHz flat analog bandwidth • Utilizes IBM™ (or compatible) personal computer as controller • Software selectable clocks • Up to 3 channels are available, to be used independently or for 3-channel CAV signals

2015	Single channel	\$ 9,950.00
2015	Three channel	14,950.00
2015PL	3-channel 2015 with digital encoder flat to 10MHz for PAL output with 25Hz offset subcarrier	17,450.00
Optional	Non-volatile memory (single channel)	550.00
Optional	Non-volatile memory (three channel)	1,450.00

2021/2021PL Programmable Test Signal Generators

• 3-channel unit which may be configured with up to 4 test signal sets available • NTSC, PAL, SECAM, Component Analog Video (CAV) Signals for all current standards (525 and 625 line formats), 4:2:2 Component Digital, HDTV, and more signals available • Signal sets directly selectable by front panel switch • Non-volatile memory, standard, allows portability • Can be used side-by-side with a personal computer for repeated routines

2021	NTSC	\$16,400.00
2021PL	PAL	18,900.00

4000 Series Video Graphics Systems

• Broadcast quality video direct from PC graphics • Available for IBM or compatible PCs and the Amiga™ 2000 • Controlled edges and timing meet broadcast standards • NTSC and PAL versions offered • Full genlock with correct color framing • Software selectable bandwidths • Black burst reference output • Video input for internal graphics keying • External key input • Software controlled fades and keying • Next frame control output • Supports locked or unlocked subcarriers from VCRs • Optional broadcast mode display enhancement

In addition to the basic 4000 Series capabilities, the 4004 (NTSC) and 4005 (PAL) Video Graphics Systems provide these features:

•	Rear panel control. GPI for timecode • Low cost software available	
•	4096 colors • Key on colored backgrounds • Locks Amiga RGB to video rate along with encoded output	
4004	(NTSC) for Amiga PC	\$1,295.00
4005	(PAL) for Amiga PC	1,425.00
4030	(NTSC) for IBM PC	3,750.00
4031	(PAL) for IBM PC	4,345.00

500 Series Waveform Monitors and Vectorscopes

The 500 Series offers the flexibility to accurately monitor component analog signals as well as composite video. The WFM560 Waveform Monitor provides 6 inputs, enabling you to run two complete channel sets in component format, or to tailor a combination of the two standards for your particular requirements. Switching between formats (SMPTE, Betacam, M-II) and displays (Alternate, Parade, A-B) is accomplished from the front panel, as is front panel memory storage of up to 18 switch position settings for later recall. Front panel status is recalled and restored in the event of a power down and repowering.

Basic component monitoring is available on the WFM530, with three inputs which can be dedicated to a single component train. Supporting either NTSC or PAL environments, the VS560/561 (with six inputs for composite video, color-difference and RGB signals) and VS530/531 (with three inputs for reliable composite vector display) expand their functionality through a serial interface allowing the operator to use line select and memory features through interconnection with one or more waveform monitors. Composite video and stereo audio displays are standard, as are graticule readouts in the VS560/561.

Graticule readouts, synchronously multiplexed with the video signal to ensure accuracy, provide an on-screen display of such parameters as input format, line selection and sweep speed, and are a standard feature of most 500 series instruments.

WFM530 Waveform Monitor

- Three inputs for composite monitoring • Advanced features for basic component capability • Supports NTSC, PAL, SECAM, 525/60 component and 625/50 component standards • Front panel memory • CRT readouts • Optional cursors • VITS display and line readout

WFM530 3-channel NTSC/PAL/SECAM/CAV \$2245.00

VS530/VS531 Vectorscopes

- Three inputs • Composite video and stereo audio displays • Alternate display and remote control • Supports NTSC (530) or PAL (531) standards

VS530 3-channel NTSC \$2245.00

VS531 3-channel PAL 2470.00

WFM560 Waveform Monitor/CAV Vectorscope

- Six inputs for full component and composite measurements, plus component vectorscope functions • Component format switching for SMPTE (EBU), Betacam, M-II • Supports NTSC, PAL, SECAM, 525/60 component and 625/50 component standards • Front panel memory • Time and voltage cursors, including risetime • Graticule readouts • VITS display and line readout • Built-in transcoder to feed RGB monitor

WFM560 6-channel NTSC/PAL/SECAM/CAV \$3600.00

VS560/VS561 Vectorscopes

- Six inputs— composite and component vector displays • Switch selection of composite video and component standards • Stereo audio display • CRT readouts • 560 NTSC and 525/60 component standards; 561 switchable between NTSC, PAL, 525/60 and 625/50 component standards

VS560 6-channel NTSC/CAV \$3600.00

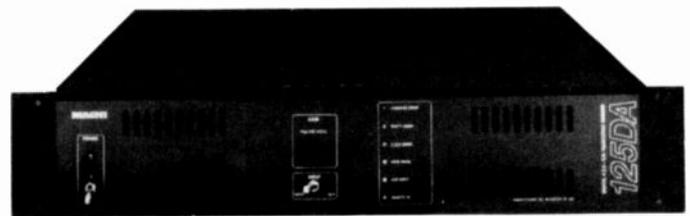
VS561 6-channel PAL/NTSC/CAV 3960.00



WFM560



VS561



125DA

1527 Combined Waveform Monitor, Vectorscope, Test Signal Generator

- Waveform and Vectorscope monitoring with a built-in test signal generator in one package • Simplified differential gain and differential phase measurements • SC-H phase measurement • May be used to measure the absolute SC-H phase of a single video signal even on "Demod Out" of type C recorder, relative SC-H phase of 2 signals, or incorrect color frame matching between 2 video signals even at points where the signals are not matched in time • A 10-bit, 4XFsc test signal generator with an expanded set of 24 test signals: Multiburst, field squarewave, SMPTE color bars, matrix modulated ramp, convergence, NTC-7 composite, calibration signal and more • Optional black burst output for master sync reference • Displays either of 2 external signal sources or built-in test signal generator. Display can be switched between output of TSG and output of device under test for easy comparison • 12-character source ID standard with every unit • Custom test signals available • Unique "auto" mode: matches test signal most often associated with each monitoring mode • Audio tone output standard • Choice of rackmount or portable configurations

1527-20 \$5750.00

1527 With SC-H phase measurement capability 7250.00

Option 03 Adds black burst and drive signal outputs . . . 600.00

125AD/125DA CAV-Digital 4:2:2-CAV Transcoders

- Selectable RP125 8-bit or full 10-bit performance • Adjustable setup level, or setup removal selection • Crystal-locked oscillator • Switchable main/aux. inputs • Filters linear to 5MHz • All front panel functions remoteable • 525/60 and 625/50 switchable • Digital clamping for precise A-D blanking level matching • Three full bandwidth channels option • Built-in 8 signal digital test signal generator option • Optional VITS test signal • Multi-format CAV input (SMPTE, Beta, M-II, RGB) • CAV output switchable (SMPTE, Beta, M-II formats) • Locks to sync and burst • Differential video inputs • Ancillary data input • Simultaneous SMPTE CAV outputs with RGB • 2 isolated digital outputs

125AD Analog to digital \$7990.00

125DA Digital to analog 4995.00

Option 09 Digital test signal generator 1700.00

Option 10 10 digital VITS insertion includes Option 09 . . 2700.00



Video Delay Boxes (Variable), DV Series

• Impedance: 75 ohms • Frequency Response: ± 0.05 dB Ripple up to 5.5MHz (0.1dB p-p) • Return Loss: 27dB • Temperature Range: 0-70°C • Max. Input Voltage: 2VDC • Performance of box and 19" rack units is a function of the delay line combinations used

Small metal boxes with BNC connectors provide infinitely variable video delay either with switches (type 180 or 360) or taps (type 097) over a range of 10-665ns. A ± 1 ns trim achieves precise timing at installation and will compensate for temperature and aging variations during subsequent maintenance. For longer delay requirements, these variable boxes may be cascaded with lump delay boxes (type DV 0100-1000) for a maximum delay of 2500ns. The prefix DV identifies boxes which can be used as "stand-alone" units or can be mounted on a 19" rack panel (Type 5) which accommodates 15 separate boxes. The prefix DN refers to similar boxes which are not rackmountable.

Adjustment of time delay in TV signal routes is important in all countries of the world. 75 ohm delay units are suitable for use in all TV systems including NTSC, PAL, SECAM, and all variations.

The Smaller Video Delay Units are designed to make the fullest use of the miniature DIP video delay line modules, and retain feature important to TV engineers.

Passive Delay Boxes

Rackmounted - V Series or Stand Alone N Series

Boxes with Switches and \pm Vernier

Delay Range-ns	Part Number	Price
3-9	UN 3/9	\$ 86.00
10-165	VU 180	226.00
	NV 180	241.00
10-330	NV or VU 360	434.00

Boxes with Taps and \pm Vernier

Delay Range-ns	Part Number NV	Price
15-165	097/A	POR
65-215	097/B	POR
115-265	097/C	POR
215-365	097/D	POR
315-465	097/E	POR
415-565	097/F	POR
515-665	097/G	POR

Rackmounted PC Card Delay (Infinitely Variable)

Video Delay Range 10-1830ns.

Type 175 Rack Frame: Height 1³/₄"; accommodates 10 PC cards (2 delay lines on each card); total 20 delays; BNCs on back of PC card; lucite front cover; cards mount horizontallyPOR

Type 350 Rack Frame: Height 3¹/₂"; accommodates 16 PC cards (2 delay lines on each card); total 32 delays; BNCs on back of PC card; lucite front cover; cards mount verticallyPOR

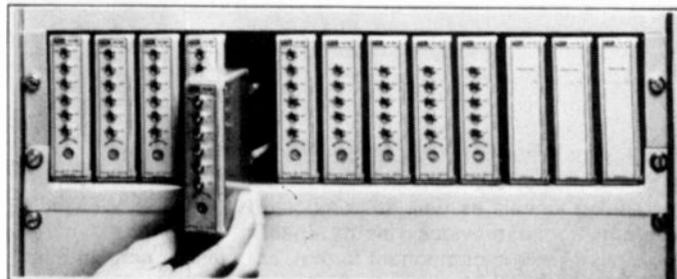
PC Card Delay Lines for 175 and 350 Series (not interchangeable)

Video Delay Channels Available

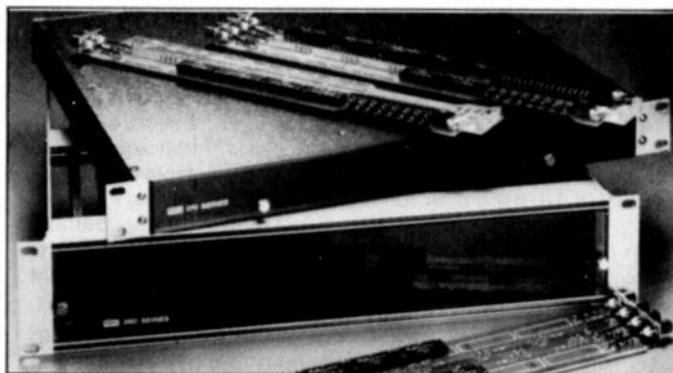
Available with Switches (Suffix "S") or Taps (Suffix "N")

Price On Request

Video Delay Ranges	Part Number Prefix 175 or 350	Video Delay Ranges	Part Number Prefix 175 or 350
10-170ns	A	810-1130ns	K
10-330ns	B	910-1230ns	L
170-490ns	C	1010-1330ns	M
210-530ns	D	1110-1430ns	N
310-630ns	E	1210-1530ns	P
410-730ns	F	1310-1630ns	R
510-830ns	G	1410-1730ns	S
610-930ns	H	1510-1830ns	T
710-1030ns	J		



Boxed Delay Lines



175/350 Series

Zero Loss Delay Video Delay Line

• 1 Input 1 Output • 1V p-p 'in' - 1V p-p 'out' • 75 ohm active • Delay selection 10-1830ns • Delay trim at front 5ns (8° Ø PAL) 6.4 Ø NTSC

The Zero Loss Delay unit is designed to delay a composite color TV signal without significant distortion. The printed circuit card selected will determine the delay time available. If additional delay is subsequently required, the user may add more Matthey DIP delay modules in spaces provided. Gold plated switches or "handbags" ensure a long lifetime of very low noise operation.

The Zero Loss Delay unit can be fitted into any rack frame equipped with ± 15 V nominal DC power supply and an Amp-Blade 23-pin socket (such as the 3400 Series made by Grass Valley Group Inc.)

Features accessible without removing the PC card:

1. 5ns adjustment via 2 x 2ns switches and ± 1 ns fine trim screwdriver adjust.
2. Optional gain variation by screwdriver adjust ± 0.7 dB. (Note: gain is automatically compensated for each delay step switched).
3. Optional DC offset by screwdriver adjustment over the range ± 750 mV.

Items 2 and 3 are normally not necessary but can be fitted if stated on the order.

Price On Request

Part Numbers	Delay Times	Part Numbers	Delay Times
ZL 170	10-170	ZL 1130	810-1130
ZL 330	10-330	ZL 1230	910-1230
ZL 490	170-490	ZL 1330	1010-1330
ZL 530	210-530	ZL 1430	1110-1430
ZL 630	310-630	ZL 1530	1210-1530
ZL 730	410-730	ZL 1630	1310-1630
ZL 830	510-830	ZL 1730	1410-1730
ZL 930	610-930	ZL 1830	1510-1830
ZL 1030	710-1030		

Tx2 Time Base Corrector

• Color field identification pulse • RS-170A output in NTSC • Proc-amp controls with presets • Optional remote control • Shuttle to $\pm 40X$ • 13.5MHz sampling • Available in NTSC, PAL B and PAL M • Infinite window TBC • Freeze frame • Interpolated field freeze (field 1 or field 2) • Component and composite outputs • Noise reduction • Drop-out compensator • Standalone sync generator • Genlock • Can operate as a single TBC or two TBCs in one chassis for A/B roll • Operates with or without advanced sync • Dub or Component and composite inputs • Compatible with S-VHS, U-Matic, U-Matic SP, Betacam, and MII formats • RGB outputs available • VARI-TRAK™ mode allows dynamic tracking equipped VCRs to broadcast quality pictures from -1 to +3X play speed and viewable images up to $\pm 40X$ • Operates in PAL high band and low band dub

Tx2 Single Component TBC	\$ 8,995.00
Tx2 Dual Component TBC	14,995.00
Upgrade from Single to Dual	6,995.00
Extender Card	500.00
Remote Control	1,295.00
(Dual TBC Controls with 75' cable)	
RGB Output Option	495.00
Betacam R, R-Y, B-Y interface	150.00
S-VHS interface	150.00

Tx4 S-VHS Time Base Corrector

• Component 4:1:1 design • Y/C or composite processing • Full frame of memory provides freeze frame and interpolated field freeze • Can be operated with or without advanced sync • Chroma comb filter noise reduction • Will genlock or automatically reference to internal RS-170A sync generator (standalone mode) • Drop-out compensator • Proc amp controls with presets • Shuttle performance to $\pm 40X$

Tx4	\$4,995.00
Tx4 Remote Control	650.00

Tx4 Effects Remote Control

Operates complementary to the Tx4 TBC • Proc amp controls • Freeze selection • Timing controls • Variable picture position with joystick control • Quarter-size image with variable position • Variable mosaic checkerboard tiles • Variable horizontal, vertical blind effect • Variable posterization with luminance inversion • Chroma solarization with inversion • Preset transitions—push left, right, up, and down • Horizontal vertical wipe • 4 selectable transition speeds

Tx4 Effects Remote Control	\$3,995.00
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S-134 Four Field Synchronizer with Scrambling Option

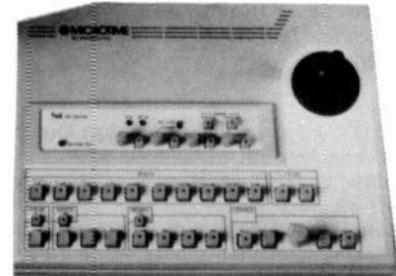
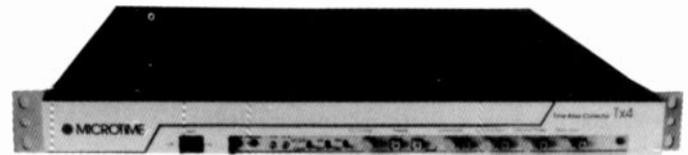
• Composite digital sampling • Noisy signal/non-synchronous signal "freeze" threshold adjustment • Stores two complete frames in memory, ensuring proper vertical interval processing • Four field/two frame Freeze selection • Can be interfaced with audio delay correctors to eliminate lip sync problems • Video scrambling/descrambling for secure transmission

S-134 NTSC, PAL-B, PAL-M	\$9,500.00
Remote control with 75' cable	1,295.00
Additional cable	ft./2.50
Remote control with 75' cable	1,295.00
Additional cable	ft./2.50
Scrambler option	3,995.00

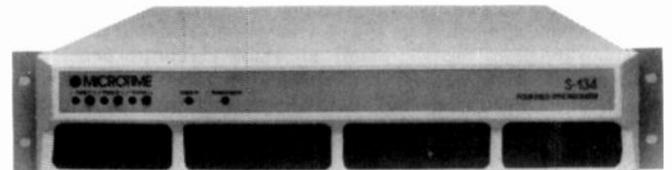
S-234 Four Field Synchronizer/TBC with Scrambling Option

The S-234 has all the features of the S-134 plus an infinite window, NTSC heterodyne TBC which will work with virtually all heterodyne VTRs with or without advanced sync. Auto mode switching samples the incoming video and automatically switches to TBC or synchronizer mode.

S-234 NTSC only	\$10,995.00
Remote control with 75' cable	1,295.00
Additional cable	ft./2.50
Scrambler Option	3,995.00



Tx4 TBC
with Effects
Control



S-134

300 Series

Features Common To All Three TBCs

• Wide window • Genlock or standalone operation • Constant RS-170A output in genlock, regardless of reference changes • LED to indicate optimum SCH calibration • Proc-amp controls with presets • Sync and blanking derived digitally for stability and repeatability • Composite or noncomposite outputs • Top access to all circuitry — no extender board required

T-300 Time Base Corrector

• 35 line memory—handles large gyro errors • Pictures in shuttle to $\pm 5X$ for rapid editing and previewing of tapes • 3.58MHz subcarrier feedback for wideband video processing • 8 bit 4X subcarrier sampling for transparent performance • Averaging velocity correction for best color performance • Lightweight, low profile, and low power consumption—ideal for mobile or ENG applications

T-300	\$4,995.00
Remote Control with 75' cable	1,295.00
Additional cable	ft./2.50
Rack Slide Mounting Adaptor	95.00

T-320D Time Base Corrector

• Freeze, field 1/field 2 selectable • Vertical interpolator to minimize flicker in freeze • Digital comb filter for improved separation of luminance and chrominance • RF sensing drop-out compensator • Pictures in shuttle to $\pm 40X$ • Optional VARI-TRAK (factory installed) for Dynamic Tracking operation with BVU-820 and BVU-870 • Heterodyne and 3.58MHz feedback modes

T-320D	\$6,995.00
VARI-TRAK option (factory installed)	500.00
Remote Control with 75' cable	1,295.00
Rack Slide Mounting Adaptor	95.00

T-320 Time Base Corrector

• 35 H-line window • RF sensing drop-out compensator • Pictures in shuttle to $\pm 40X$ • Heterodyne and 3.58MHz feedback modes

T-320	\$5,995.00
Remote Control with 75' cable	1,295.00
Rack Slide Mounting Adaptor	95.00

RP-1 3D Digital Effects System

- Rotation with three variable axes
- Variable perspective with simultaneous rotation
- Continuous compression and expansion
- Full 3D manipulation of frozen image
- Linear or curvilinear trajectory selectable by keyframe
- Variable aspect ratio
- Strobe
- Freeze
- Cropping of all four sides, independently or together
- Border with variable width
- Background/borders with variable color parameters
- Picture splits
- Mosaic, posterization, solarization, false colors and memory trails
- Y, R-Y, B-Y analog component inputs/outputs are standard in addition to the composite inputs/outputs
- Dual video inputs with 2 x 1 switcher
- Internal key with soft edge and position variable on four sides
- Timing and proc-amp parameters adjustable via control panel
- Advanced 16-bit digital filtering providing improved transparency
- High precision floating point arithmetic for accurate perspective
- Comprehensive directory of stored effects
- 20 on-line run registers
- Automatic input timing, frame synchronization
- Fluid smooth motion
- Numeric keypad for data entry
- Trajectory walk function via joystick
- Five soft keys for menus and future software developments
- Storage capacity of 256 sequences of 5056 keyframes per disk
- High resolution monitor
- Central diagnostic system
- Matte channel for flying linear key signals, dual inputs for front/back switching, optional
- Curved pictures — wide range of twists and curves
- Internal re-entry effects — uses the internal linear keyer to create tunnel, hall of mirrors and kaleidoscope effects
- Montage — up to five quarter size images can be frozen and then processed
- Varicomb NTSC decoder with 2 x 1 switching of component inputs, optional
- Varicomb PAL decoder with 2 x 1 switching of component inputs, optional
- Each RP-1 system can have up to 8 control panels



RP-1

RP-1	\$49,995.00
Matte Channel	8,995.00
Varicomb Decoder and 2 x 1 component switcher	9,995.00
Spare high-resolution IBM compatible 12" CRT	495.00
Extra RP-1 control panel	9,500.00
Extra extender card	500.00

Genesis 1/ACT 1™ Digital Effects System

ACT 1, the Artistic Control Terminal, combined with the Genesis 1 mainframe, increases creative capabilities to your imagination's limit. ACT 1 functions through the ease of the joystick.

- Flips, tumbles, zoom, variable position
- Drop shadow
- Mosaic
- Posterize
- Freeze, strobe
- Linear or curvilinear motion
- Border
- Crop
- Programmable 2 x 1 switcher
- Built-in preview keyer
- Key output signal for switcher interface
- Single keystroke operation for on-air application
- Edit controller interface for post production
- Component or composite mode
- Available in NTSC, PAL B, or PAL M



Genesis 1/ACT 1

Genesis 1/ACT 1 With 25' control cable	\$19,995.00
Extender Card	500.00
Additional Cable (2000' maximum) .....	.ft/2.50
DATAKEY® 5 per package	475.00

Image Plus

- 3D modeling and animation • Texture mapping and shaders • Metamorphosis
- Preview • Off-line rendering • 3D fonts and font generation • 32-bit paint system
- Frame grab and video interface • Film interface • Disk storage options
- Extended memory

High resolution 3D graphics, animation and paint—all fully integrated. The user interface is designed by artists, for artists, to help you master this sophisticated graphics system and, whether you are an expert or a beginner, you will create stunning, complex images, in next to no time.

The Image Plus 3D is a full feature graphics workstation incorporating 32-bit full color paint, real time RGB frame grab, 3D modeling and animation, internal VTR controller and font generator software.

The Image Plus is based on a PC-AT compatible CPU with 80386 microprocessor and math co-processor for optimum rendering speed. Lower cost systems based on the 80286 CPU are also available.

3D Modeling and Animation:

Simple or complex models can be constructed quickly and easily, with a minimum of keyboard entries. The menu system guides you through the process from sketches, line art or free hand drawing to the finished model. After defining the models, create the paths (trajectories) for the models to follow. Several models can be on a single path, or each model can have its own unique path. Initially, the camera is fixed, but for more complex animation, you can program the camera position, and its point of attention. The result is models, camera and lights, all changing independently during the animation.

Texture Mapping and Shaders:

Phong, Gouraud, metals, reflectance maps, texture maps, solid and transparent surfaces are all standard. Texture maps can be created from scratch in paint, or from a frame grabbed image. All or part of an image can be mapped onto all or part of a model. Anti-aliasing to eliminate the "jaggies" is standard. Select horizontal, vertical, horizontal and vertical, or none, depending on the model.

Metamorphosis:

3D shapes, color and transparency can all undergo metamorphosis during an animation. Just define the starting model and the finishing model, and let the system do the rest. Turn a pumpkin into a vase, create a beating heart, or any number of unique transformations.

Preview:

If you want client approval of a preview, before final rendering is started, use wireframe preview to check the position and orientation of the models. Or use the fast rendered preview to check lighting and surfaces. You can even try several "what if" previews before committing to final rendering.

Off-Line Rendering:

With an Off-Line Renderer, your overall productivity at the creative workstation is increased significantly. Completed designs are transferred on the Local Area Network (LAN) to the off-line renderer, freeing up the workstation for the next design. The LAN can also be used to link various combinations of workstations and rendering stations for special applications. A 3-D system can be upgraded at any time by adding the rendering station.

Each frame is normally rendered to the internal disk drive, and then edited to tape as a sequence. This avoids tying up the VTR during the entire rendering process and eliminates unnecessary wear and tear on the tape deck.

3D Fonts and Font Generation:

6 vector based fonts are standard with all 3D systems. The paint-systems do not have this feature. Use these fonts to create text for subsequent 3D modeling and animation or use the font generator to scale and modify them. You can even create custom fonts from a frame grabbed input, or create them free-hand.

Paint:

The 32-bit paint system allows you to create or modify images with the full 16.8 million color spectrum. A complete set of brushes, including variable air brushes, and tools for cut, paste and move, etc. are provided. A set of 2D fonts for titling is standard in the paint system, and anti-aliasing can be turned on or off as required.

Frame Grab and Video Interface:

Hardware and software for real time RGB frame grab are standard. You can capture flat art, stills from a slide chain, or live video from a camera for use as a background, texture map or model outline. Digital matting is also standard. Create a model, matte it over a background and save the composited picture as a new background (all digitally). Keep adding new layers until the project is complete. In addition to frame grabbing, the paint system can matte an image over a live background for post production.

Image Plus video inputs and outputs are RGB. If you have a Betacam or MII video system, just add a component transcoder (available from Sierra Video Systems and other suppliers). If the system is composite NTSC, you will need to add an NTSC encoder, and possibly a decoder (available from Faroudja Labs, and other suppliers).

Serial remote control of a VTR for frame-accurate editing of the finished animation is also standard. The RS-422 controller is built into the system software. The Sony, BVW-40*, BVH-2500*, VO-5850*, and other VTRs can be controlled.



Image Plus

Film Interface:

If the application calls for film output (transparencies, separations, etc.), Image Plus can optionally give high resolution rendered images. Frames can be rendered by the resolution independent software at standard TV resolution, or up to 8000 x 8000 pixels, without re-drawing the input. The Matrix PCR/QCR digital film recorder is currently supported for these high resolution formats, with aspect ratios of 2048 x 1536 and 4096 x 3072.

Disk Storage Options:

A Bernoulli box with removeable 20M byte cartridges allows you to transport data from one site to another. Conventional hard drives can also be added to suit your requirements.

Expanded Memory:

If your application calls for complex models to be rendered over high detail, frame grabbed backgrounds, you may want to add the EMS option. Models assembled over black which are merged with backgrounds in post production will not usually need the extra memory. In addition, EMS is a prerequisite for certain options.

Hardware Configuration:

The hardware supplied will depend on the model ordered as shown below.

Description	IP-1	IP-2	IP-3	IP-4	IP-5	IP-6
80386 CPU, Co-processor and keyboard		1		1		2
80286 CPU, Co-processor and keyboard	1		1		2	
1.2M byte floppy disk drive	1	1	1	1	2	2
40M byte hard drive*	1	1	1	1	2	2
Graphics tablet and puck	1	1	1	1	1	1
32-bit frame buffer	1	1	1	1	2	2
12" RGB video monitor	1	1	1	1	1	1
12" menu monitor	1	1	1	1	2	2
RS-422 VTR controller	1	1	1	1	1	1

*In some systems, two 20MB drives may be provided.

IP-1 Basic paint system	\$31,995.00
IP-2 Turbo paint system	37,995.00
IP-3 Basic 3D system	44,995.00
IP-4 Turbo 3D system	50,995.00
IP-5 Basic-plus 3D system	64,995.00
IP-6 Turbo-plus 3D system	75,995.00

3D 3D modeling and animation upgrade. Converts IP-1 basic paint to IP-3 basic 3D, or IP-2 turbo paint to IP-4 turbo 3D

RS-422 Second VTR controller for off-line systems (IP-5 or IP-6) to allow rendering to a VTR from both the workstation and the off-line renderer

EMS-2MB Extended memory support—adds 2 MB of RAM to a basic system. Order quantity of 1 for IP-1, 2, 3, 4 and quantity of 2 for IP-5, 6. Includes hardware and software

EMS-3MB Extended memory support—adds 3 MB of RAM to a basic system. Order quantity of 1 for IP-1, 2, 3, 4 and quantity of 2 for IP-5, 6. Includes hardware and software

Render-1 Off-line rendering CPU (80286) with keyboard, menu monitor, 32 bit frame buffer, 1.2 MB floppy disk drive, 40 MB hard drive, LAN, RAM. Converts IP-3 basic 3D to IP-5 Basic-Plus 3D

Render-2 Off-line rendering CPU (80386) with keyboard, menu monitor, 32 bit frame buffer, 1.2 MB floppy disk drive, 40 MB hard drive, LAN, RAM. Converts IP-4 turbo 3D to IP-6 turbo-plus 3D

Matrix Digital film recorder interface for Matrix PCR/QCR

Bernoulli Bernoulli 20 MB cartridge disk drive

Cartridge Bernoulli 20 MB cartridge

Maxtor Maxtor 140 MB hard disk drive to replace the standard 40 MB drive

RIO Resolution independent object software. Requires extended memory support option

RIO-Font #1 Library of 8 outline fonts licensed from Bitstream, Inc for use with RIO

RIO-Font #2 Library of 4 outline fonts licensed from Flamingo graphics for use with RIO



MILLER

TRIPODS/HEADS



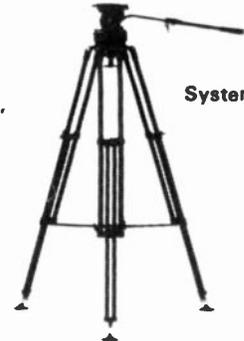
System 10A



**System 20
"Special"**



**System 40
"ENG Special"**



System 80

System 10A Cat. 332

• Junior fluid head 101 • Junior A tripod with column lift 331 • Reversible spike/pad feet • Single handle 270
System 10A (10 lb. capacity) \$499.00

System 20 "Special" Cat. 340

• Miller 20 fluid head 104 • Featherlite tripod with spreader 305 • Reversible spike/pad legs • Single handle 271
System 20 "Special" (20 lb. capacity) \$1,325.00

System 40 "ENG Special" Cat. 352

• Miller 50 fluid head 115 • Compact tripod with spreader 302 • Set of 3 rubber feet 235 • Single handle 271
System 40 "ENG Special" (50 lb. capacity) \$2,895.00

System 80 Cat. 355

• Miller 80 fluid head 150 • Maxi tripod with spreader 290 • Set of 3 rubber feet 235 • Dual telescopic handles 274
System 80 (80 lb. capacity) \$5,645.00

Also Available:

- System 10W Cat. 333** Includes Junior fluid head 101, Senior tripod 330, spreader, feet and handle (10 lb. capacity) \$ 690.00
- System 15 Cat. 335** Includes Senior F fluid head 102, Professional Series Tripod 320, feet, handles (20 lb. capacity) 1,495.00
- System 20 Cat. 338** Includes Miller 20 fluid head 104, compact tripod with spreader 301, rubber feet 235, two handles 271 (20 lb. capacity) 1,680.00
- System 25 Cat. 341** Includes Light Professional fluid head 106, Professional Series Tripod 321, spreader feet and handles (30 lb. capacity) . . 2,030.00
- System 30 Cat. 344** Includes Miller 30 fluid head 114, compact tripod with spreader 302, rubber feet 235, two handles 271 (30 lb. capacity) 2,805.00
- System 35 Cat. 347** Includes VG50 fluid head 118, ENG Tripod 310, spreader, feet, telescopic handles (50 lb. capacity) 2,580.00
- System 40 Cat. 350** Includes Miller 50 fluid head 119, mid-tripod with spreader 285, rubber feet 235, two telescopic handles 272 (50 lb. capacity) 3,265.00



20



30



50



80

Miller 20 Fluid Head Cat. 104

• Capacity 20 lbs. • Features integrated counterbalance system • Sliding camera platform and integrated claw ball level \$900.00

Miller 30 Fluid Head Cat. 114

• Capacity 30 lbs. • Features integrated variable counterbalance system • Multi-step drag control and integrated claw ball level \$2,025.00

Miller 50 Fluid Head Cat. 119

• Capacity 50 lbs. • Features integrated variable counterbalance system • Multi-step drag control • Sliding camera platform and integrated claw ball level \$2,295.00

Miller 80 Fluid Head Cat. 150

• Capacity 80 lbs. • Features integrated variable counterbalance system • Multi-step drag control • Sliding camera platform and integrated claw ball level \$4,650.00

All Heads Supplied with One Handle

Also Available:

- Miller Junior Fluid Head Cat. 101** Capacity 10 lbs. Features independent, variable pan and tilt drag adjustment. Supplied with flat base (claw ball level available). \$325.00
- Senior F Fluid Head Cat. 102** Capacity 20 lbs. Features independent, variable pan and tilt drag adjustment and independent tilt lock. Supplied with flat base (claw ball level available) \$710.00
- Light Professional Fluid Head Cat. 106** Capacity 30 lbs. Features independent, variable pan and tilt drag adjustment and independent tilt lock. Supplied with flat base (claw ball level available) \$1,095.00
- VG50 Fluid Head Cat. 112** Capacity 50 lbs. Features independent, variable pan and tilt drag adjustment and independent tilt lock. Supplied with flat base (claw ball level available) \$1,210.00

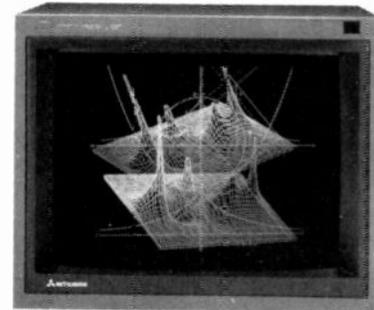
AM-1401R Color Monitor/Receiver

- 14" Flat Square Tube (FST) for enhanced picture quality
- 0.4mm fine-pitch CRT to permit use as a high-resolution computer display/compatible with the IBM® PC-1
- Frequency synthesizer tuning
- High contrast tinted faceplate
- 138-channel, cable compatible
- 19-function wireless remote control
- RGB port (8-pin) for computer use
- Max. 90 min. off timer

AM-1401R \$475.00

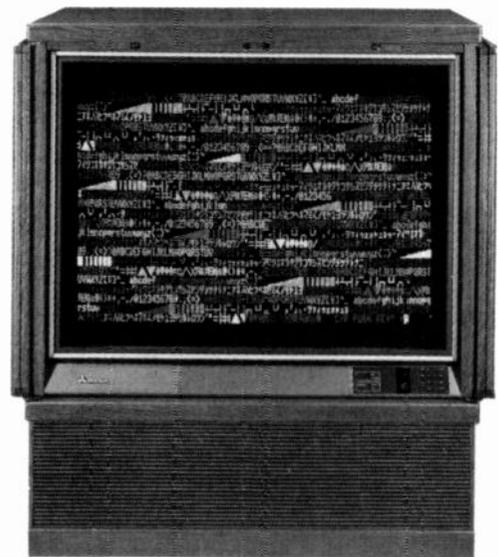
AM-1401R
AM-3501R 35" Color Multi Sync Monitor

- High-resolution monitor with automatic variable scanning from 15 - 35kHz
- Compatible with IBM PC PGC/EGA/CGA
- NTSC composite video
- RGB analog
- RGB TTL
- High-resolution graphic display for computers to workstations, with possibilities for countless other applications
- Two-channel audio amplifier and speakers
- Monochrome TTL

AM-3501R \$6900.00
VIMTA-M 35014 Metal shipping case 699.00
1540-500 30" Metal cart 335.00

AM-3501R
VS-4591R Color Projection Television

- Large 45" screen that has over 14 times more viewing area than a 12" computer monitor
- Precision optical coupling assembly between the CRTs and lenses to improve contrast by 300%
- CRTs with electro-magnetic focusing and six element glass lenses result in excellent resolution
- Compatible with the IBM PC-1 via RGB (TTL) input (2000 characters, 16 colors)
- 139-channel cable compatible
- 41-function VCR combination remote control
- Stereo/SAP broadcast reception
- Attractive wood grain cabinet with hinged doors
- High contrast image
- Channel display on screen and LED readout

The VS-4591R employs three electromagnetically focused CRTs instead of the electrostatic focus electron guns used by other manufacturers. Basically, this is the same design as that used in ultra-high resolution computer monitors. Picture sharpness is enhanced because a larger diameter electron lens can be used, thereby reducing spot size by approximately 50%.

VS-4591R \$3400.00

VS-4591R

VS-1200/2020 Video/RGB Projectors

- VS-1200 screen size: 70" -120"
- VS-2020 screen size: 120" -200"
- Horizontal Resolution: 1000 lines (RGB analog); 600 lines (composite video)
- Variable screen sizes from 70" to 120" (diagonal)
- 9,000K color temperature provides pure whites previously thought impossible for video projectors
- 3 times the normal contrast through the use of an electro-magnetic focus system and optical coupling of lenses and CRTs
- Dynamic focus circuitry keeps focus sharp right to the edges
- S-VHS, composite, RGB analog inputs
- Distributed scandium cathode for high current density resulting in a dramatic increase in brightness
- Electro-magnetic focus electron gun. Contributes directly to reduced "blooming" (the spot does not spread at high brightnesses)
- 675 lumen image
- Delay-line emphasis. Sharpens the changes in luminance to emphasize outlines and increases clarity of the image
- Dynamic focus circuit. Boosts accuracy of focusing around the edge of the picture
- Liquid, optically coupled optical system results in a three-fold increase in image contrast (compared with an otherwise similar conventional system) to match the increased brightness

VS-1200	.....	\$6,800.00
VS-2020	.....	6,800.00

Accessories

BR-001	Large ceiling mount	.....	\$285.00
BR-002	Ceiling extension arm	.....	500.00
BR-003	Small ceiling mount	.....	185.00
CA-003	15 meter cable	.....	240.00
CA-002	30 meter cable	.....	345.00
CA-001	50 meter cable	.....	545.00
VC-1200U	Controller	.....	615.00

VS-2000 200" Video Projector

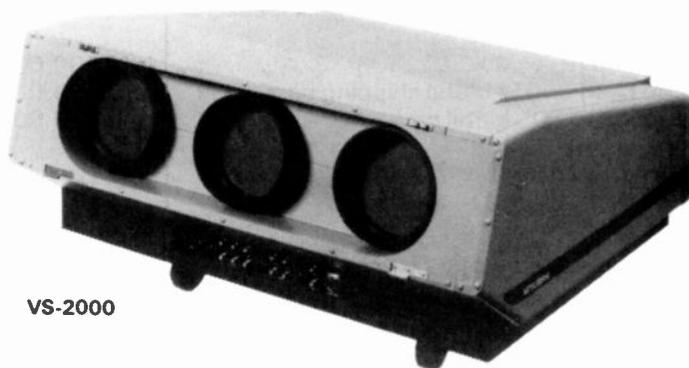
- Ultra-large display—120" ~ 200"
- Remarkably bright picture due to use of three large light output 13" CRTs and high speed, large diameter lenses
- 750 lines resolution
- High resolution picture electromagnetic focusing CRT
- High contrast picture through the optical coupling system
- All optically coated lenses to reduce light reflection and flare

VS-2000	\$45,000.00
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TX-102R Video Control Center

- 139-channel, cable-compatible tuner
- Channel-memory scan tuning
- Quick view tuning
- Remote control with many functions
- 4 AC outlets
- 3 sets of video inputs
- 2 sets of video outputs (switched separately)
- Separate bass, treble and balance controls
- Auto-manual fine tuning

TX-102R	\$300.00
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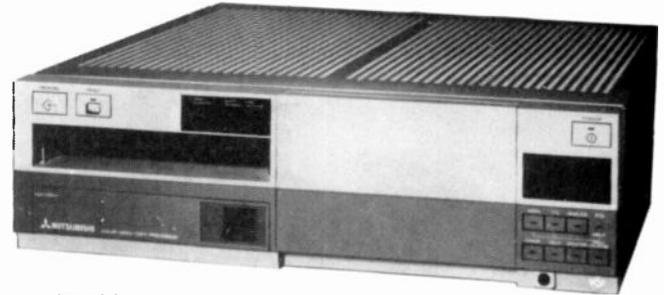

VS-1200/2020

VS-2000

TX-102R

CP-100U Color Video Copy Processor

- Multi-source inputs: Composite, S-VHS, RGB TTL, RGB analog (with autoscans from 15-34kHz) and parallel data interface
- Resolution capability: 640 dots, horizontal; 614 lines maximum, vertical • 64 color gradation • Built-in character generator with 80-character capacity for date, time or comments
- On-screen menu • Frame/field selectable • Full function wired control • Can print in color or monochrome
- Brightness, contrast, color, tint, picture and sharpness controls • Underscan, overscan capabilities • Automatic gain control provides a more uniform contrast from print to print
- Computer-related, medical, security applications

CP-100U \$2900.00

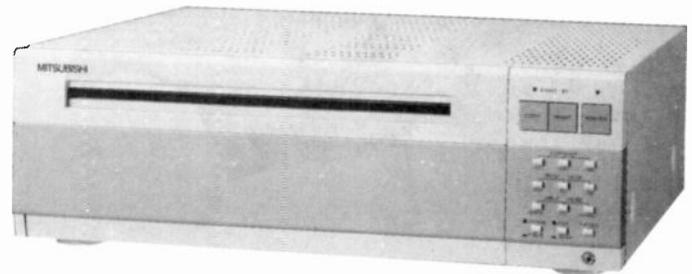


CP-100U

P71U Monochrome Video Copy Processor

- Multi-source inputs: composite (BNC), RGB TTL • 8-bit parallel Centronics® interface offers four modes: Character mode (ASCII character set: 96 char.); Line scan graphic mode; 16 gray scale dot graphic mode; 2 gray scale dot graphic mode
- Field/frame selectable • 21 second print time • Video frame memory catches and stores video images • Low-cost prints; up to approx. 90 prints per roll • Underscan capability • Multiple copy capability • Monochrome images can be reversed (negative/positive) • 16' wired remote control

P71U \$1550.00



P-71U

P-65U Monochrome Video Copy Printer

- Autoscans capability, 15-34kHz • 640 dots horizontal, 614 lines maximum vertical • 64 gray scale • Accepts composite, S-VHS, RGB-TTL, RGB analog (with Autoscans) and parallel data interface inputs • Automatic paper loading and cutting, improved paper feeding mechanism

P-65UPOR

P-61U Monochrome Video Copy Processor

- 3 direction printing (side normal and reverse) • 16' wired remote control from front or rear • Prints in only 17 seconds
- 640 dots by 512 lines • AC power receptacle • AC power outlet, unswitched • Sharpness control • PAL full frame • 64 level gray scale • 8-bit parallel Centronics interface • Print size: 4.3"H x 4.1"V • Image size: 3.9"H x 2.9"V • Underscan • 8 function dipswitch • Color: beige

P-61U \$1200.00



P-61U

P-51U Industrial Monochrome Video Printer

- Low-cost 57' rolls of thermal printing paper • Print direction can be normal or reverse • Pocket size pictures 3 1/4" x 4"
- Can be used with Videotex system • Optional wired remote control • Prints in only 15 seconds • 280 dots (horizontal) • 234 dots (vertical) • Color: beige

P-50U \$425.00



P-51U

Accessories

- | | | |
|--------------------------|---------------------------------------------------|----------|
| C2CU | Metal shipping case (P50U, 51U and 61U) | \$140.00 |
| TDG-10U | Time and date generator | 240.00 |
| VCP Thermal Paper | 4 rolls to a pack | |
| K50U | Normal grade (P50U, 51U). | 18.00 |
| K61S | Supergrade (P50U, 51U and 61U) | 44.00 |
| K70S | Supergrade (P70U). | 78.00 |
| CK-100S | Standard paper (CP-100U). | 70.00 |
| CK-100L | Large paper (CP-100U) | 90.00 |
| CK-100IS | Transparent paper (CP-100U) | 75.00 |



SP-3A CCD COLOR CAMERA

- Horizontal Resolution/450 lines
- 2/3" CCD Solid-State Image Sensor
- Signal-to-noise more than 58dB
- NTSC Color Signal
- f/1.4 Prism Optics
- -20°C to +45°C Operating Temperature
- Head Weights 6.71 lbs.
- Optional Built-In VTR

The SP-3A CCD color camera is designed to be used as an ENG stand-alone camera as well as in combined camera/recorder systems using on-board component VTRs for ENG applications. To enhance the versatility of the SP-3A camera, camera adaptor attachments are available to interface with external conventional portable VTRs, remote control unit and newly developed triax system.

The SP-1AD NTSC adaptor is used to generate composite video signal output for conventional VTR recording. Since the SP-1AD NTSC adaptor contains genlock and I/Q type encoder modules, it generates a burst signal and color frame pulse which meet both RS-170A standard as well as NTSC color signal requirements.

The SP-3AD II camera adaptor is used for EFP and studio camera applications in combination with RCU-3 remote control unit and 5" view finder. Gain, pedestal, iris, auto white/black, SC and horizontal phase, etc. can be controlled by the RCU-3 through a 41-pin camera cable. For chroma key and image processing applications, either R/G/B or Y/R-Y/B-Y component signals can be obtained from the RCU-3.

The SP-TRX triax adaptor extends EFP and field sports applications for the SP-3A camera in combination with TCU-3 triax control unit. In addition to the triax cable transmission, coaxial cable transmission, microwave link transmission and modem link transmission are available.

100% Solid-State

Instead of conventional pickup tubes, the SP-3A uses the Charge Coupled Device. By using three CCD chips, broadcast-quality output is obtained in an extremely reliable and lightweight system.

Free from Burn-In

The SP-3A is free from the burn-in, sticking and comet-tails which occur in conventional pickup tube cameras when high-intensity objects are viewed. CCD chips incorporated in the SP-3A are inherently resistant to blooming and smear.

550 Lines Resolution

Two CCD chips are used for the Green channel to provide high resolution and to reduce aliasing.

Stable and Accurate Registration

CCD chips are stable in operation. Disturbances like electrical circuit deviations or the earth's magnetism that can affect registration or cause geometric distortion in conventional tube cameras are totally ignored by the SP-3A.

Minimization of Aliasing Noise

A low-pass filter is inserted into the optical system to reduce "aliasing noise" without affecting resolution.

Image Sharpener Circuit

2H delay lines are built into a special image sharpener circuit to improve vertical resolution.

Optional Built-In VTR

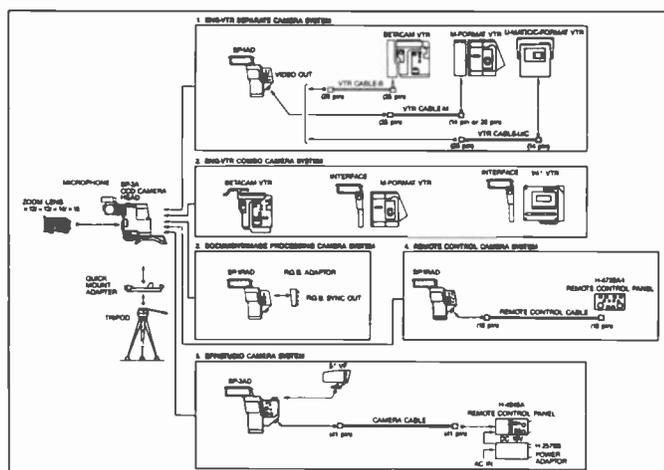
To provide the greatest ENG flexibility, an optional Beta or M2-format 1/2" or 8mm VTR can be attached to the back of the camera, creating a lightweight durable combined system.

Built-in Electronic Shutter

The SP-3A Three-Chip CCD camera has an Electronic Shutter featuring sixteen step-variable electronic-shutter speeds — from 1/60th through 1/2000th of a second. In contradistinction to mechanical shutters, CCD electronic shutter characteristics guarantee reliable, dependable and stable performance that is free from mechanical failure.

The SP-3A camera is ideally suited for a host of applications, including television coverage of competition sports, aerial shows and other fast-moving events, as well as graphics and scientific applications.

SYSTEM COMPOSITION



DVE System 100 Digital Video Effects System

- Infinite compression • Compression split • 4, 9, 16 multi-freeze
- Automatic flip & tumble • Continuous posterization • Negative chrominance • Forced monochrome • Variable cropping • Utility switcher control • 2 system control • Learn mode • Smooth moves • Frame freeze • Multi-freeze • Programming control • Battery back-up for memory • Variable event transition time • 3 temporary memories • Key tracking • Variable background • RS-170A specifications • Fine adjustment control • Expansion • Slide/slide split • Pushbutton pattern selection • Continuous mosaic tile • Negative luminance • Negative picture • Field tear • Variable aspect ratio • Built-in combiner • A/B switching • Linear moves • Field freeze • Incremental freeze • Random multi-freeze • 100 event on-board memory • 10 separate programs • Global program transition time • Off-line micro-floppy storage • Variable border • Digital shaft encoder • Low price • Image inversion control

The automatically centering joystick gives you accurate control over image positioning, aspect ratio, degree and position of image cropping, key gain and much more.

Use it to control saturation and hue of the on-board dynamic background and border generators. You can discretely control the Y & C output data to create posterization/solarization effects.

You have 100% digital control over compression size and continuous mosaic. The digital processing involved eliminates "cogging" or "stepping" movements. Your transitions will be very smooth.

Choose the major types of effects: compression, slides, mosaic/tile, splits, expansion, multi-freeze, tearing, and the optional chroma key tracking. In the multi-freeze mode, the DVE System 100 captures, freezes and displays 4, 9, or 16 images on a single screen. You may use the pattern select keyboard to control the pattern of those images appearing on the screen.

Each DVE System 100 can accept two video inputs so that if channel A is your normal source, channel B would automatically appear on the reverse side of the image as you manipulate it through flip/tumble mode.

The DVE System 100 features a built-in digital combiner so you can control two systems by a single control panel. When a second DVE System 100 is interconnected, these two buttons give you to activate the second unit and determine its priority on the screen (whether it is foreground or background).

If you have two DVE System 100s interconnected and being controlled by a single control panel, the CH 1 and CH 2 buttons determine which system is being manipulated. The systems may be used separately or simultaneously as you choose.

An exclusive feature of the DVE-100 is the learn mode which allows you to program the on-board memory by manipulating the image through an external device such as your production switcher. The DVE System 100 samples the incoming signal at a rate you select and stores the data on image manipulation into its memory. You can then edit the effects, play it back or store it on micro-floppy disk as you choose.

16 preset pattern effects are immediately available for live presentations or for use in a programmed sequence. This area also is used as the selection sequence touch-pad for multi-freeze effects in combinations of 4, 9 and 16 images.

Every effect parameter on the control panel can be loaded into the on-board memory registers. More than 100 events can be stored in the CMOS RAM registers. These events can be combined into up to 10 separate programs stored. You have complete control over the event-to-event transition time, duration of incremental freeze, the number of automatic flips or tumbles as well as total, or global, program transition time. The memory is battery protected so your programs are safe even when the power is off. Additionally, the on-board memory can be saved on micro-floppy disks for long term storage and to be loaded into the system in the future.



DVE 10

In addition to the programmable memory, you have three event registers (scratch pads) available. Each takes a "snapshot" of the screen when pushed, and when pushed again, will restore the original screen. This can be extremely useful in programming precisely repeating effects.

The 3.5" micro-floppy disk used with the DVE System 100 has 19 sectors, each of which can hold the full 100+ events of the on-board memory. You control which sector will be used to store events, or which sector will be loaded into the DVE System 100 for editing or playback. The capability and ease of operation of this feature gives you quick access to any project, sequence, spot, commercial, open, close, and so on, that you are producing.

If for any reason one of the two fans used to cool the main shelf of the DVE System 100 stops, this alarm will alert you so that you can prevent equipment damage due to overheating.

DVE System 10 Digital Video Effects System

The DVE System 10 offers all of the features of the DVE System 100 plus 3-dimensional control and perspective. The system allows you to determine the angle of rotation about an axis. You place the center of rotation practically anywhere you wish. The size of the image, the position of the image on any of the three axes and the amount of perspective to be added to the image are continuously adjustable and completely under your control. You can even create 3 or 6 sided cubes at the push of a single button and then manipulate the cube as you wish. The DVE System 10 also has the ability to output a command word during A/B switchover that can signal your switcher to switch video inputs so that you can use a number of video inputs during a single edit. This capability can really save you time and effort. Another built-in function of the system is external key masking so you can use a key signal to mask the incoming video into the DVE System 10.

Compression Effects Package Upgrade for DVE System 10

Optional hardware/software upgrade package for DVE System 10 enhances the capabilities of NEC's digital effects generator to create a whole new range of compression effects normally associated with opticals produced on film, rather than video.

Consists of a hardware modification, adding one new board and modifying other existing system components. Once modified, the upgraded hardware is activated by new software (Version 4.0 of the operating system). Just like the previous Transition Effects Package option, the Compression Effects are essentially two-dimensional effects that provide a 3-D simulation.

Activated through the "soft" keys select menu, the software provides three new capabilities that involve the ability to manipulate and move each individual line of video within the image area.



DP-1200A MULTISYNC™ VIDEO PROJECTION SYSTEM

- Two-piece projection system with variable projected picture size from 70" to 120", measured diagonally; large enough to accommodate large audiences
- Separate projector and control unit for flexible operation; permits total control in permanent installations
- Professional-grade 7.0" picture tubes are optically coupled and liquid cooled for improved picture sharpness and brightness
- Six-element all-glass lenses for superlative brightness (400 lumens, peak center)
- MultiSync computer inputs handle signals from all three IBM color graphics boards for the IBM Personal Computer: the EGA, the CGA, and the PGA; automatic switching for horizontal sync frequencies of 15-34kHz; vertical frequencies 38 to 100Hz
- Three RGB inputs (control unit) for the highest-quality connection to a computer; permit high-resolution color graphic displays
- Full 2,000 character computer text display (80 columns x 25 rows)
- Comb filter circuitry for superior color reproduction and incredible fine picture detail; 400 lines of horizontal resolution, via video inputs
- Wireless remote control, in addition to wired remote operation
- Multiple video monitor inputs/outputs control unit for full flexibility
- Two sets of direct-line video inputs with BNC video connectors for a more secure connection
- Loophrough outputs from a video source
- Special ceiling-mount and rear-projection installations possible via scan reversal (serviceman's adjustment)
- Digital convergence control for superlative accuracy; eight convergence preset memories

DP-1200A projects an image on any wall or screen, a spectacular 70" to 120" large, measured diagonally. This two-piece video projector has two sets of video inputs to handle VCRs, VDPs, camera inputs and more. MultiSync circuitry accepts inputs from all three IBM* color graphics boards for the IBM PC: the CGA, EGA and PGA.

*CGA, EGA, and PGA are under registered trademark for IBM.

Specifications PROJECTOR UNIT

RGB Input: Separate BNC connectors for R, G, B; 0.7-1.5V p-p, positive; BNC connector for H-V sync, 0.7-1.5V p-p, negative; auto switching for horizontal scanning frequencies of 15-34kHz; vertical frequencies of 38-100Hz

Video Input: BNC connector; 0.7V p-p, 75 ohms, positive

AC Input: Detachable grounded, 3-prong cable

Tube Type: Three in-line 7.0" optically-coupled, liquid-cooled tubes with magnetic focus

Face Plate Type: Clear, non-browning glass

Lens Type: 6-element large-diameter all-glass lenses

Projected Picture Size: 70" to 120" measured diagonally

Peak Brightness: 400 lumens

Contrast Ratio: > 30

Horizontal Resolution: 400 lines; video
500 lines; RGB (700 at center)

Vertical Resolution: 350 lines; video
350 lines; RGB

Character Display: 2,000 characters (80 columns x 25 rows)

Pincushion Distortion: < 1%

Linearity: > 5%

Convergence Limits: > 0.2% of V height

Set-Up Time: 10 minutes, typical

Set-Up Signal: Cross Hatch

Remote Control: Wired or wireless

Power Requirements: 100-132VAC (preset for 120V); 60Hz

Power Consumption: Approx. 300W

Dimensions (HxWxD): 11" x 24⁷/₈" x 26³/₄"

Weight: Approx. 110 lbs.

CONTROL UNIT

RGB 1 Input: 9-pin; TTL digital and analog

RGB 2 & 3 Inputs: Separate BNC connectors for R, G, B; 0.7-1.5V p-p, positive; BNC connector for H-V sync, 0.7-1.5V p-p, negative; and BNC connector for G sync, 0.3V p-p, negative

Video 1 & 2 Inputs: BNC connectors; 0.7V p-p, 75 ohms, positive

Loophrough Output: BNC connector; 0.7V p-p, 75 ohms, positive

Monitor Output: BNC connector; 0.7V p-p, 75 ohms positive

RGB Output: Separate BNC connectors for R, G, B; 0.7V p-p, positive; BNC connector for H-V sync, 1.0V p-p, negative

Video Controls: Color, Hue, Sharpness

RGB Text Color: Red, Green, Blue (digital input only) Yellow, Cyan, Magenta

Power Requirements: 100-132VAC (preset for 120V); 60Hz

Power Consumption: Approx. 30W

Dimensions (HxWxD): 2³/₈" x 17" x 13³/₈"

Weight: Approx. 6 lbs. 11 oz.

DP-1200A \$ 10,495.00

DM-2000A/DM-2600A/DM-3000A

Multi Sync Data Monitor Series

- S-Video input/output for S-VHS video cassette recorder
- Compatible with *IBM, *CGA, *EGA, *PGA, and the PS/2 *VGA Graphics Adaptors
- Multiple sync capability—automatically locks on data inputs 15-35kHz
- Available in 30", 26", and 20" diagonal sizes
- Picture tube with flatter, squarer screen for reduced geometric distortion
- Invar shadow mask resists deformation due to heat. Maintains color purity
- 34-pin multi-connector for easy interface
- Built-in stereo amplifier and stereo speakers, external speaker output terminals
- Picture tube corrects for pincushion distortion, so straight lines appear straight
- Professional comb filter for improved performance; horizontal resolution of 600 lines for DM-3000A (560 lines for DM-2000A and DM-2600A)
- Black matrix picture tube with dark screen glass for excellent contrast ratio (52% tinted)
- Switchable AFC: Fast for slow-motion or freeze-frame of videotapes, Slow to correct horizontal jitter from weak signals
- Blue raster switch for quick, correct setup
- 3.58MHz trap filter provides sharp edges on composite video computer graphics, eliminates "crawling"
- High DC restoration for a stable picture on high-contrast subjects; provides >90% restoration
- Heavy-duty switching power supply maintains picture size despite AC voltage fluctuation
- Video 1 input/loop output with BNC; independent L/R audio connections
- Video 2 input with BNC connector; independent L/R audio connections
- Monitor output with BNC video connector sends out whatever is on screen; independent L/R audio connections
- 8-pin VTR connector with separate switch position offers one-cable connection
- Earphone output jack
- Detachable 3-prong, grounded AC cable for safe connection
- Full range of controls; color, tint, black-level, picture, sharpness, RGB contrast, RGB H-position

The DM-2000A/DM-2600A/DM-3000A DataSmart Series is a complete line-up of data monitors for large screen data display applications. Available in 20", 26", and 30" sizes. DataSmart monitors offer you the ability to display high-resolution computer graphics, composite video and the new S-video format. The DataSmart Series of monitors will accept horizontal scanning frequencies within a range of 15 to 35kHz. (TTL or analog). This allows compatibility with IBM, CGA, EGA, PGA and VGA graphic adaptors. Color purity is maintained through an Invar shadow mask. The high-contrast black matrix picture tube combined with comb filter circuitry offers you remarkable detail—600 lines resolution (DM-3000A). DataSmart monitors are ideal for large conference rooms, training rooms or for major presentations.

Specifications

Power:	120VAC, 60Hz
Dimensions:	DM-2000A—18 ¹ / ₄ " H x 20 ¹ / ₂ " W x 19 ¹ / ₄ " D; DM-2600A—23 ⁵ / ₁₆ " H x 26" W x 19 ⁷ / ₈ " D; DM-3000A—28 ⁷ / ₈ " H x 31" W x 21 ⁷ / ₈ " D
Weight:	DM-2000A—63 lbs.; DM-2600A—93 lbs.; DM-3000A—148 lbs.

DM-2000A	\$2400.00
DM-2600A	3300.00
DM-3000A	4500.00

* Denotes Registered Trademarks of the International Business Machine Corporation.



DM-3000A



DP-5200A

DP-5200A 52" Multi Sync Rear Data Projector

- Digital Convergence™: Over 150 point/zone dynamic convergence points. >99.8% convergence accuracy
- VLSI Circuitry: Microprocessor controlled static and dynamic convergence adjustments by remote control
- 2-channel audio amplifier with speakers
- Full Remote Control: Power, test patterns, beam select, brightness, contrast, color, tint, sharpness, static, dynamic and point convergence controls, audio level, audio mute, all accessible by remote control
- Text Switch: For selectable color when viewing monochrome graphics
- Modular: Easily serviceable modular construction
- Multiple sync capability
- Compatibility: Unit will display information from every business/professional computer operating within a range of 15-34kHz horizontal, 38-100Hz vertical

This 52" Screen (DataSmart™) data projector will display high-resolution graphics as well as composite video with amazing detail. Its complete set of RGB data inputs (2 analog, 1 TTL/analog) allows the DP-5200A to accept any personal or professional business computer that has a horizontal scanning frequency range of 15 to 34kHz horizontal; 38 to 100Hz vertical. The DP-5200A utilizes Digital Convergence which allows remote control of over 150 areas of the picture making convergence simple and precise. For meeting rooms, training rooms and public demonstrations.

Specifications

Dimensions:	Projector—55 ⁹ / ₃₂ " H x 48 ⁹ / ₃₂ " W x 36 ²³ / ₃₂ " D Video Controller—2 ¹ / ₄ " H x 16 ⁷ / ₈ " W x 13 ¹ / ₈ " D
Weight:	Projector—220 lbs. Video Controller—11.9 lbs.

DP-5200A	\$12,495.00
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PM-971A 9" Color Video Monitor

- Black matrix picture tube • Picture tube corrects for pincushion distortion • Switchable AFC • Blue raster switch for quick correct picture setup • High DC restoration • Heavy-duty switching power supply • Video input/loop output with BNC connectors; switchable input impedance 75 ohms/high • Detachable 3-prong, grounded AC cable • Audio inputs, built-in audio amplifier and loudspeaker • Full range of controls: color, tint, black level, picture and sharpness • EIA rackmount capability

PM-971A\$470.00
RM-97A Dual PM-971A rackmount kit (6 rack units high)95.00

PM-1271A 12" Color Video Monitor

- Black matrix picture tube with detachable tinted glass filter • 90° deflection line picture tube with black stripe shadow mask • 0.6mm slit pitch • Detachable tinted glass shield • 350 lines horizontal resolution • Selectable AFC speed • 3.58MHz trap filter • DC restoration • BNC type input/loop output • 8-pin VTR connector • Automatic controls: color killer, degausser, voltage control, color control, beam limiter • Power requirements: 120VAC, 60Hz • Power consumption: 61W

PM-1271A\$465.00
RM-127A Rackmount kit for PM-1271A (8 rack units high)95.00

PM-1971A 19" Color Video Monitor

- Black matrix picture tube with detachable tinted glass filter • 90° deflection in-line picture tube with black stripe shadow mask • 400 line horizontal resolution • Selectable AFC speed • 3.58MHz trap filter • DC restoration • Built-in stereo amp and speakers • Wide range of inputs/outputs for future expansion plus 8-pin/input/output socket

PM-1971A\$740.00

PM-2571A 25" Color Video Monitor

- 100° deflection in-line picture tube with black stripe shadow mask • Other features same as PM-1971A

PM-2571A\$965.00

PM-3071A 30" Color Video Monitor

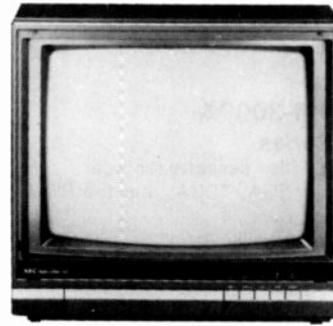
- S-VHS input/output • Flatter, squarer tube with Invar shadow mask, high-contrast black matrix and dark glass screen • 110% electromagnetic deflection • Horizontal resolution of 600 lines • Switchable AFC • Blue raster switch • 3.58MHz trap filter • High DC restoration • Switching power supply for constant picture size • Built-in stereo amp and stereo speakers; external speaker output terminals • Wide range of inputs/outputs for future expansion plus 8-pin/input/output socket • Earphone output jack • Detachable 3-prong, grounded AC cable for safe connection • Full range of controls: color, tint, black-level, picture and sharpness

PM-3071A\$2300.00

PR-2000A 20" Color Video Monitor/Receiver

- Flatter, squarer tube with shadow mask; black matrix; precise inline guns; detachable tinted glass filter • Comb filter • 350 lines horizontal resolution • Quartz frequency synthesis 142-channel cable-capable tuner receives VHF, UHF, mid-, super-, and hyperband channels • 20-function wireless remote control • Stereo TV reception, built-in MTS decoder; dbx noise reduction on stereo broadcasts; also receives Separate Audio Program (SAP) • Built-in stereo amp and stereo speakers; external speaker output terminals • On-screen time and channel display • Auto flesh tone control • Two sets of audio/video inputs with BNC connectors for video, left and right phono jacks for audio • "TV" audio/video outputs send out whatever channel is tuned • "Monitor" audio/video outputs send out whatever channel is on-screen • Fixed audio outputs for recording; variable audio outputs for volume-controlled connection to a high fidelity system • Two RF inputs with loophrough output for connecting a cable converter box, VCR or other RF source • Detachable, 3-prong, grounded AC cable for safe connection • Front-panel earphone mini jack and headphone stereo phone jack • "Sound Wide" synthesized stereo from monophonic sources • Sleep timer with 30-, 60- and 90-minute settings

PR-2000A\$840.00



CM-1991A



PR-2000A

PR-2600A 26" Color Video Monitor/Receiver

- Horizontal resolution: 560 lines • Other features same as PR-2000A

PR-2600A\$1075.00

CM-1991A (RGB) 19" Color Monitor

- Shadow mask tube with high contrast black matrix and detachable tinted glass filter • RGB analog inputs • Better than 350 lines horizontal resolution • 90° deflection in-line picture tube with black stripe shadow mask • Comb filter • Auto flesh tone • Built-in stereo amp and speakers • High efficiency circuitry • BNC input/output connections • 8-pin VTR connector • 34-pin multiconnector interfaces to many personal computers • Two audio/video inputs with monitor output

CM-1991A\$900.00

CM-2591A (RGB) 25" Color Monitor

- 100° deflection in-line picture tube with black stripe shadow mask • Other features same as CM-1991A

CM-2591A\$1225.00
IC-10A RGB cable interface IBM-PC to CM-1991A or CM-2591A (6') 79.00

PV-1200A Professional VHS VCR

- Auto repeat for continuous, unattended playback—ideal for trade shows, point-of-purchase displays and public spaces • Hour meter for a visual indication of head life, especially useful in intensive playback and duplication applications • Professional-grade BNC connector video input and output • VHS HQ circuitry • Digital head drum/capstan servo • Unified wireless remote control also operates NEC TV monitor/receivers • 110-channel cable-capable tuner receives VHF, UNF, mid- and superband channels; 20 preset stations • Picture search operates in EP mode • "Jet Search" ultra-high-speed search; EP mode • 4-event/21-day programmable timer can be set by remote control • Every day and every week recording options • One-touch segment recording up to five hours • Electronic tape counter with memory • Assembly editing • Detachable 3-prong, grounded AC cable • 4 1/4" H x 17" W x 14 3/4" D

PV-1200A\$535.00

PV-1400A Professional VHS VCR

- All the features of the PV-1200 plus: On-screen display of VCR channel and operating mode • Four-head special effects for a clear, noise-free picture in stop action, frame advance and slow motion • Picture search operates in both SP and EP modes • On-screen display of timer programming information • 4 1/4" H x 17" W x 14 3/4" D

PV-1400A\$650.00
RM-140A Rackmount kit—Fits PV-1200A, PV-1400A, DX-1000U (3 rack units high)95.00



TIME BASE CORRECTORS/ FRAME SYNCHRONIZER

NOVA Series Digital Time Base Correctors

All NOVA time base correctors give you optimum performance for a wide variety of applications using 3/4" and 1/2" video tape recorders. Each of the 1 3/4" high extruded aluminum packages includes the following features:

- Presets for the front panel controls • Digital, full color dropout compensation (DOC) • Twenty times forward and reverse shuttle operation • A test mode which applies a color bar signal to the video output • Black burst output from a built-in sync generator for locking up SEG's, character generators, etc. • Remote control capability that provides all front panel controls except power on/off and phasing controls found behind the adjusting slot. Dimensions: 3 1/2" H x 8 1/2" W x 4" D • 8-bit, 4X subcarrier sampling for maximum transparency • Perfect RS170A relationship regardless of reference SCH • Digital clamp for the most stable performance • Low power consumption for long, trouble-free operation

NOVA 620

Full Frame of Memory

Offers full frame of video storage to instantly freeze a field or frame for special effects. Time base correct even non-capstan servo type VTRs. Also includes a comb filter for maximum picture quality.

NOVA 620\$4990.00

NOVA 620S Full Frame S-VHS TBC

Same as 620 with S-VHS input processing

NOVA 620S\$5490.00

NOVA 511

32 Line Memory

Offers 32 line memory and heterodyne or direct operation. Designed for time base correcting both 3/4" and 1/2" capstan servo VTR's. Also includes a comb filter to heighten picture quality.

NOVA 511\$3990.00

NOVA 700 Time Base Corrector

- 32 line video memory for twice the "window" of conventional time base correctors • Fifteen times forward and reverse shuttle operation • Heterodyne picture processing • 8-bit, 4X subcarrier sampling for maximum transparency • Perfect RS170A output with digitally generated SCH • Digital processing amplifier and clamp for stable, repeatable operation • Low power consumption for long, trouble-free operation

NOVA 700\$2890.00

NOVA 700S Time Base Corrector

Same as 700 with S-VHS input processing.

NOVA 700S\$3390.00

Optional Accessories

"S" Option Factory Upgrade

620 to 620S\$750.00

700 to 700S750.00

Remote control — specify TBC model

(Not available for NOVA 700)

(3 1/2" H x 8 1/2" W)\$700.00

Filler panel for remote control

(rackmount configuration)75.00

Rack ears for remote control.24.00

Cable for remote control

10'70.00

25'90.00

50'120.00

Rack slide kit75.00



NOVA 511



NOVA 620



NOVA 620S



NOVA 700



NOVA Sync

NOVA Sync Frame Synchronizer

- Full bandwidth, broadcast quality signal processing • 8 bit, 4x sub-carrier sampling for maximum transparency • A/B video inputs plus synchronous alternate input • Auto default to black, color bars or alternate input • Select—input video, black color bars or alternate input • Auto Gain Control (AGC) for recovery to proper video level • Full processing amplifier with presets—video, chroma, hue and set-up • Compact, one rack unit high • Remote feeds to master control and production switchers • Satellite downlinks from network feeds, SNG vehicles, teleconferencing, weather satellites and scientific reconnaissance • Microwaved video from ENG locations and off-site facilities • Studio sources for easy backtiming and accurate system phasing • Commercial insertion sources for broadcast and cable TV automation
- NOVA Sync\$4490.00

Regular Support Systems

System 30

Model 30 fluid head with one handle, Model 55M claw ball metal tripod with spreader and spike guards \$2225.00

Same as above, except substituting Model 55W claw ball wooden tripod 2170.00

O'Connor molded system case for above (08143) 215.00†

Anvil "ATA" case for above (00985) 360.00†

System 50

Model 50 fluid head with two handles, Model 55M claw ball metal tripod with spreader and spike guards \$3455.00

Same as above except substituting Model 55W wooden tripod 3360.00

O'Connor molded system case for above (08143) 215.00

Anvil "ATA" case for above (00985) 360.00

System 100

Model 100 fluid head with side loading platform and two handles, Model 55M claw ball metal tripod with spreader and spike guards \$4860.00

Anvilite tripod case and Anvil "ATA" fluid head case for above (100C-094 and 55-019) 505.00†

Heavy Duty Support Systems

System 105

Model 100 fluid head with side loading platform and two handles, super claw ball or Mitchell 155M metal tripod, with Model 54 spreader \$5360.00

Same as above except with super claw or Mitchell 155W-B wooden tripod, with Model 54 spreader 5470.00

System 105HD

Model 105HD fluid head with side loading platform and two handles, super claw ball or Mitchell 155M metal tripod, with Model 54 spreader \$5870.00

Same as above except with super claw or Mitchell 155W-B wooden tripod, with Model 54 spreader 5470.00

System 155

Model 155 fluid head with side loading platform and two handles, 155M Mitchell metal tripod, with Model 54 spreader \$7370.00

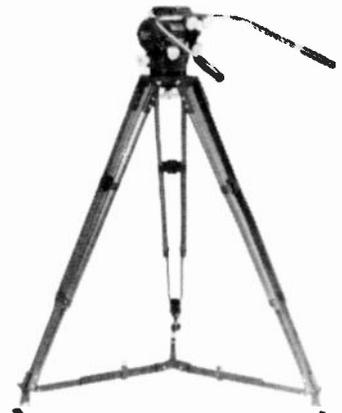
Same as above except with super claw base 155W-B wooden tripod, with Model 54 spreader 6970.00

Beta-Cam Tripod Bracket

- Heavy-duty one piece base plate • SMPTE standard base plate hole pattern (3/8"-16 thread on 1" center) to fit all professional fluid camera heads • Positive twist lock permits quick camera attachment and release
- Black anodized aluminum and stainless steel construction • Mates with System 50 for Sony Beta-Cam with or without the recorder 350.00



System 30



System 50



System 100



System 105



System 105HD



System 155



Beta-Cam Tripod Bracket



†Price applies if purchased with Camera Support System.

Fluid Camera Heads

Model 30B Fluid Camera Heads

Fluid Head with quick release adjustable camera platform and Claw Ball/Pro Jr. Base with tiedown all assembly, one 10" handle, and counterbalance adjustment wrench \$1395.00
 Extra Handle (1/2" x 15") 75.00
 Anvil "ATA" case for above (30B-066) 265.00 †

Model 50D Fluid Camera Heads

Fluid Head with 150" lb. counterbalance spring, quick release adjustable camera platform and Claw Ball/Pro Jr. Base with tiedown assembly, one 15" handle \$2575.00
 Extra Handle (1/2" x 15") 75.00
 Anvil "ATA" case for above (50D-130) 265.00 †

Model 100C Fluid Camera Heads

Fluid Head with 500" lb. counterbalance spring, Mitchell base with tiedown assembly, side loading or fixed platform and one 15" handle \$3985.00
 Extra Handle (5/8" x 15") 100.00
 Extended Handle (3/4" x 26") in place of 15" handle add 40.00
 Anvil "ATA" case for above (100C-094) 365.00 †

Model 100-HD Fluid Camera Heads

Fluid Head with 800 or 1000" lb. counterbalance spring, Mitchell base with tiedown side loading platform and one extendable handle \$4495.00
 Extra Handle (5/8" x 15") 100.00
 Extended Handle (3/4" x 26") in place of 15" handle add 40.00
 Anvil "ATA" case for above 365.00

Model 150B Fluid Camera Heads

Fluid Camera Head with 1000" lb. counterbalance spring, Mitchell base with tiedown assembly, side loading platform and one 15" handle \$5995.00
 Mitchell to Super Claw Ball Adaptor with tiedown 275.00
 Extra Handle (15") 100.00
 Extended Handle (3/4" x 26") in place of 15" handle add 40.00
 Anvil "ATA" case (150B-110) 460.00 †

Tripods

Model 35 Quick Release Tripod—Multi-Ball

• Multi-Ball top casting fits all fluid camera heads with 100mm ball, 150mm ball and O'Connor Claw-ball • Rated at 60 lb. capacity, the 35 Tripod is set up by simply lifting the top release ring, the feet instantly extend and lock with a slip-proof mechanism • Folds to a compact 34" and weighs approximately 7 lbs. \$550.00

Model 55M-C Tripods—Claw Ball

Claw Ball Metal Tripod Complete: (regular tripod, spreader and spike guards) \$875.00
 Claw Ball Metal Tripod only:
 Regular (24" to 60") 675.00
 Baby (16" to 24") 655.00

Model 55W-C Tripods—Claw Ball

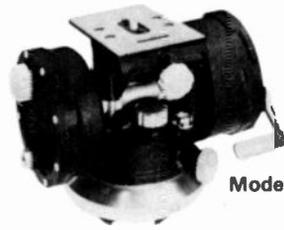
Claw Ball Wooden Tripod Complete: (regular tripod, spreader and spike guards) \$775.00
 Claw Ball Wooden Tripod only:
 Regular (24" to 60") 575.00
 Baby (16" to 24") 565.00

Model 155M Tripods—Super Claw Ball or Mitchell

Super Claw Ball or Mitchell Metal Tripod Complete: (regular tripod, Model 54 spreader) \$1275.00
 Super Claw Ball or Mitchell Tripod only:
 Regular (36" to 65") 1095.00
 Baby (22" to 38") 1085.00

Model 155W Tripods—Super Claw Ball or Mitchell

Super Claw Ball Wooden Tripod (Please specify Super Claw Ball or Mitchell top casting)
 Regular (38" to 67") \$875.00
 Baby (22" to 38") 865.00



Model 100C



127A



Model 55M-B, Regular and Baby

127A Aeroped Pedestal

• Full floating column pedestal for small broadcast and industrial studios • Pneumatic column can support up to 120 lbs. of camera, prompter, and fluid head yet floats its 22" of travel with a very light touch on the 16" diameter column ring • 3-way selector valve located on the control panel permits quick adjustment of the column pressure for perfect balance • Self-contained air reservoir • Cast aluminum base is over 40" in diameter, for stability but can pass through a 29" wide doorway \$7995.00

Hi Hats

Model 45

Claw Ball Hi Hat (5 1/2" height) \$175.00

Model 145

Super Claw Ball Hi Hat (6" height) \$235.00

Model 53 Tripod Dolly

Tripod Dolly with 6" diameter wheels; choice of:
 Regular (43" diameter) \$1295.00
 Wide Stance (48" diameter) 1295.00

Model 54 Tripod Spreader

Spreader, internal adjustable with locking pins \$180.00

Molded Cases—For Systems and Tripods

Fits Systems 30 and 50 or Model 55 Metal (08143) \$225.00 †
 Fits Model 55 Baby (08144) 215.00
 Fits System 30 and 50, wooden (08174) 230.00 †
 Fits Model 155 Regular (08170) 250.00
 Fits Model 155 Baby (08169) 235.00

Soft Pak Systems Case

Soft carrying case for any System 30 or 50. Made of 1000 denier Cordura with foam padding, inside pockets, handles, and shoulder strap \$875.00 †

Model 51 Claw Ball/Column Adaptor

Claw Ball to Round Column Adaptor (Please specify 1 3/8", 1 7/8", or 2") \$260.00

Model 21 Video Monitor Side Mount

A Universal Side Mount Plate for mounting any monitor beside a video camera, with 2 3/8-16 screws \$185.00

† Price applies if purchased with system or tripod.

MX-5050B-II

Compact Professional Recorder

The MX-5050B-II features: Switchable +4 or -10dB levels, DC Servo Capstan Motor, Hr., Min., Sec., Tape Counter, Front panel alignments for optimum performance, overdubbing and many more useful production features. Additional benefits of the MX-5050B-II are three speeds, selectable 1/2 or 1/4 track reproduce, full edit capability including splicing block, noise free inserts, XLR connectors, NAB/IEC EQ switching and the unique 3-position re-record level switch. Frequency response is 25Hz-22kHz ± 2dB, with an S/N ratio of 72dB, (15 ips) mike inputs, mike/line switching, remote.

MX-5050B-II Two-channel half-track recorder/reproducer with quarter-track reproducer capability. DC-servo capstan. Three speeds in speed pairs of 15/7.5 or 7.5/3.75 ips, field selectable. Transformerless balanced output. Vinyl covered wood cabinet.

MX-5050B-II \$2995.00

MX-5050B-IIIF One-channel full-track recorder/reproducer with two-channel half-track reproduce capability. Otherwise identical to MX-5050B-II

MX-5050B-IIIF \$3395.00

MX-5050BQ-II

Four Channel Compact Professional Recorder

The 1/4", four channel version of the MX-5050B-II is for those applications where utmost reliability, flexible interface (+4 or -10 levels), and premium performance is required. Whether your four channel recording requirement is fixed or portable, the MX-5050BQ-II is an ideal machine for small studios, broadcast stations, educational or A/V facilities and serious home recordists. Supports CB-116 auto locator.

MX-5050-BQ-II Four channel, quarter-track, quarter-inch tape recorder/reproducer. 15/7.5 ips. DC-servo capstan system. +4 or -10 levels, microprocessor control, and dynamic braking.

MX-5050-BQ-II \$4095.00

MX-5050

Mark III/2 1/4" Two Channel Professional Recorder

The Mark III/2 has BII features plus separate transport and electronics for convenient tabletop console or floor console, and microprocessor controlled transport functions. It has completely accessible front and rear electronics adjustments, and record punch-in and punch-out without clicks or pops.

MX-5050 Mark III/2 Two channel, quarter-inch tape recorder/reproducer. 15/7.5 ips. DC-servo capstan system. Transformerless balanced output. Tabletop console.

MX-5050 Mark III/2 \$3695.00

MX-5050

Mark III/4 1/2" Four Channel Recorder

The Otari MX-5050 Mark III/4 is a compact, tabletop console recorder in the 1/2" four channel format. A Proprietary Microprocessor governs tape handling including dynamic braking, motion sensing and transport logic. Additionally, a separate microprocessor controls a real-time electronic counter that features an LED real-time display and zero-return. The capstan is under servo control and speeds are switchable between 15 and 7 1/2 ips. The true, three head design machine also has a ± 7% variable speed control, selective reproduce for overdubbing, a built-in dual frequency test oscillator and a full complement of electronics adjustments for rapid test and setup. The MX-5050 Mark III/4 is capable of interface to tape controllers and time code synchronizers. A transport remote control (Model CB-102) is available +4/-10 switchable I/O.

MX-5050 Mark III/4 Four channel, half-inch tape recorder/reproducer 15/7.5 ips. DC-servo capstan system. +4 or -10 levels, microprocessor control and dynamic braking. Tabletop console.

MX-5050 Mark III/4 \$5595.00



MX-5050BQ-II

MX-5050

Mark III/8 1/2" Eight Channel Recorder

The Otari MX-5050 Mark III/8 is a compact, tabletop console recorder in the 1/2" eight channel format. A Proprietary Microprocessor governs tape handling including dynamic braking, motion sensing and transport logic. Additionally, a separate microprocessor controls a real-time electronic counter that features an LED real-time display and zero-return. The capstan is under servo control and speeds are switchable between 15 and 7 1/2 ips. The true, three head design machine also has a ± 7% variable speed control, selective reproduce for overdubbing, a built-in dual frequency test oscillator and easy-access rear panel calibration adjustments for rapid test and setup. The MX-5050 Mark III/8 is capable of interface to tape controllers and video synchronizers and is compatible with all dbx* noise reduction products. Two optional remote controls are available: Model CB-114 which handles transport functions or Model CB-110 Session Controller which has transport controls, channel switching, and remote electronic time display. +4/-10 switchable I/O.

MX-5050 Mark III/8 Eight channel, half-inch tape recorder/reproducer. 15/7.5 ips +4 or -10 levels, microprocessor control, dynamic braking, full function remote (optional)

MX-5050 Mark III/8 \$4995.00

Options

- CB-102** Remote transport control for MX-5050 series except MKIII-8. Includes record, play, stop, rewind, fast forward, and record indicator. . . . \$ 180.00
- CB-114** Remote transport control for MKIII-8 180.00
- CB-110** Remote session controller for MKIII-8. Includes transport controls, channel status switching, tape timer readout, and zero return . . 950.00
- CB-116** Full function auto locator for MKIII-8, MKIII-4, and MKIII-2 transports. Six memories with one stroke or keyboard store and search commands 1299.00
- FC-2B** Flight case for 5050-BII and BQII \$385.00
- RK-2B** Rackmount kit for MX-5050B-II and BQ-II 60.00
- RK-32** Rackmount kit for MX-5050-MKIII/2. 90.00
- RK-34** Rackmount kit for MX-5050-MKIII/4. 90.00
- ZA-52L** Metal roll-around floor stand (unassembled)
 - ZA-52L (22) B-II and BQ-II models; ZA-52L (32) MKIII-2 and MKIII-4 models; ZA-52L (38) MKIII-8 model. 350.00

E-Series Videotape Editing Systems

The Paltex concept allows you to expand and enhance the system as your needs grow, from the Elite to the Esprit Plus while maintaining system compatibility. This in turn allows staff to freely move between edit rooms of varying power without problem.

With different versions to choose from, you now have the proven benefits of Paltex Editing at a price that fits any budget.

Elite

- Up to 6 VTR interfaces, any mix 1", 3/4", 1/2"
- 3 machine edit, keyboard assignable
- 3 SFC's per event in EDL
- 3 user definable keys
- 250 event non-volatile EDL memory
- Assignable record/play capability
- Switcher register recall
- Delayed effects with A1/A2 splits
- EDL text edit, clean, block and sort routines
- Full page EDL display
- Sequential auto assemble
- Time code phase auto adjust
- Event match of EDL
- Rotary Varascan™ shuttle control
- Jog keys, ± one field
- A/V sync frame bump
- Effects rehearse facility
- Auto source selection
- Scratch pad memory
- Help and switcher set-up help

Elan

Includes Elite features, plus:

- Up to 12 VTR interfaces, any mix 1", 3/4", 1/2"
- 4 machine edit, keyboard assignable
- 5 SFCs per event in EDL
- 5 user definable keys
- 326 event non-volatile EDL memory
- Insert A1, A2, A3, A4
- Lookahead cue mode
- Speedscan™ programmable speed
- Freezescan™ programmable freeze
- Animation assembly
- Checkerboard and sync roll auto assembly
- Active ListTrac™ of EDL
- Auto list match of EDL
- Recall of sync roll effects from EDL
- Split screen EDL display
- Comments only event search
- Slow play with speed set
- Delayed start of source VTRs
- User key text with edit capability

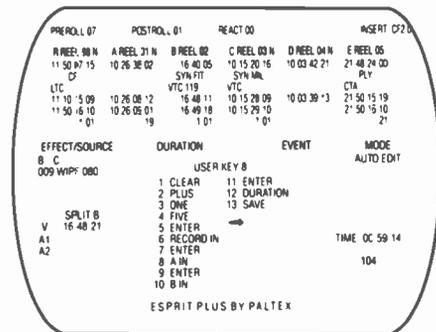
ES/P

Includes Elite features, plus:

- Up to 12 VTR interfaces, any mix 1", 3/4", 1/2"
- 4 machine edit, keyboard assignable
- 5 SFCs per event in EDL
- 3 user definable keys
- 998 event non-volatile EDL memory
- Backtrac™ "off-line" software
- Checkerboard auto assembly
- Active ListTrac™ of EDL
- Auto list match of EDL
- Recall of sync roll effects from EDL
- Programmable split screen EDL display
- Comments only event search
- User key store



Esprit Plus



ESPRIT PLUS DISPLAY WITH USER KEY SET-UP TEXT

ES/D

Includes Elite and Elan features, plus:

- Up to 12 VTR interfaces, any mix 1", 3/4", 1/2"
- 6 machine edit, keyboard assignable
- 10 SFCs per event in EDL
- 10 user definable keys
- 500 event non-volatile EDL memory
- Multi-record up to 6 machines
- Slave play and slave record facility
- Slave off-sets automatically listed in EDL
- Switcher memory data stored with EDL
- Auto data store and manual store capability
- M/E map data re-assignment
- Total learn-mode speed control in EDL
- Mid-interval learn and freeze
- FIT™ expansion and compression
- Programmable split screen EDL display
- All extra sources in EDL with recall
- FFWD and RWD speed set

Esprit Plus

Includes Elite, Elan and ES/D features, plus:

- Up to 16 VTR interfaces, any mix 1", 3/4", 1/2"
- 8 machine edit, keyboard assignable
- 10 SFCs per event in EDL
- 10 user definable keys
- 700 event non-volatile EDL memory
- Audio Console 'ESAM' interface

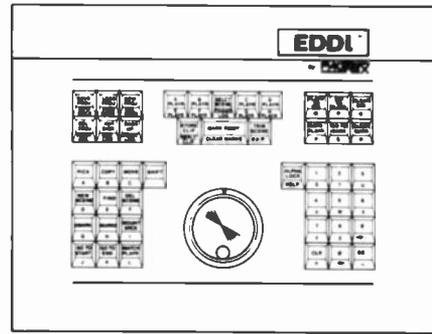
Elite	\$ 13,600.00
Elan	18,000.00
ES/P	22,000.00
ES/D	27,200.00
Esprit Plus	37,600.00

EDDi™ Non-Linear Editor

- Filmstyle off-line • Real-time preview • Master scene log • Working scene log • Clip and mark bins • 4000 cuts per project • 150 project store • Dynamic scene control

EDDi is a laser disc or VHS video tape based non-linear editor that uses a filmstyle approach to 'off-line' editing. Frame numbers or time code are never displayed on the screen, all references to source material are visual or by user defined 'named' labels. With a minimum configuration of four laser discs or eight VHS players it is possible to perform previews of most scenes in real-time. To support real-time viewing of material, EDDi allows the mounting of multiple copies of the same material.

EDDi.POR



Eddi

Abner A/B Roll Editor

- Individual control of VTR transports • SMPTE/EBU time code readers (optional) • A/B roll and sync roll modes • Insert and assembly editing modes • Split video and audio edits • Frame accurate VTR servoing (time code mode) • Animation editing • One button extend edit • Auto/manual take control for GPI trigger • Multi-event memory storage • On-the-fly, still frame or numeric entry mark with trim capability • Printer/PC output (RS232C) • System Diagnostics • Advanced microcomputer technology

The Abner is a low cost A/B roll micro-processor based video editing system using either SMPTE/EBU time code or control track and is available in a 19" rack/deskmount or slim line tabletop configuration.

Operating Configuration with Servo Routine

- JVC-8200, 8250, 7700, 8600, 8800, 600, 850, 900, S-710
- Panasonic-AG6500, AG-7500 • Sony-Type 5 series, BVU 800, 820, 850, 870, BVW10, BVW15, BVW40

Without Servo Routine

- JVC-6400 • Panasonic-8500, 9600, 9240, AU700 • Sony-SLO-383

- Abner/TC \$6600.00
- Interface Cables 300.00
- Sony Type 5 Cable 600.00

AR-2000 Auto Ramp Generator

The AR-2000 is a single rack unit device that provides the JVC KM-2000U Video Switcher with an auto-transition capability for dissolves and wipes taking up to 299 frames.

This will allow a video tape editor, the Paltex Abner for example, to trigger the KM-2000U with a General Purpose Interface (GPI) command during an A/B roll edit sequence.

The AR-2000 interfaces with the KM-2000U through the switcher control panel and can be field retrofitted to any existing unit without any major modifications.

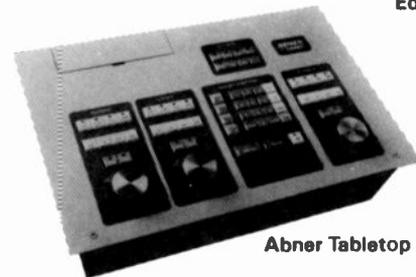
AR-2000 \$ 1200.00

SID Parallel VTR to RS422 Serial Interface

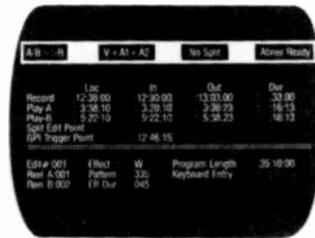
The SID unit provides various parallel remote VTRs the capability to be integrated with editing systems using RS422 serial interfaces, the E-Series from Paltex for example.

SID establishes communication with the editor interface and converts the serial data stream into the discrete parallel commands required by the VTR. SID reverses the process and passes back to the serial interface, all VTR acknowledgements.

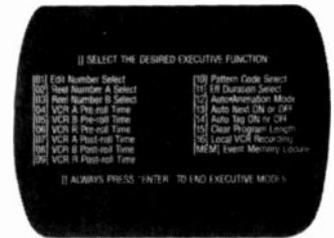
SID will also add Time Code to the RS422 serial line via its built-in time code reader.



Abner Tabletop



Abner Main Display



Abner Executive Menu

Using the latest micro-processor technology, SID provides rotary switch selection of multiple parallel VTRs including: KR-M800U, BR-S810U, BR-8600, PR-8800, VO-5850, VPR-2B, AG-6500, and AG-7500.

SID together with a suitable parallel cable will convert any of these to RS422 without any software changes. There is also a version that will work with the HR-200 and TT-7000.

The unit comes complete with a 9-pin serial cable and customer specified VTR cable.

- SID \$ 1300.00
- SID for 1" VTRs 1600.00

R-SID Serial VTR to Parallel Control System

The R-SID unit allows various RS422 serial VTRs to interface with the Abner Editing System.

R-SID communicates with the serial VTR and converts the data into the parallel structure needed by Abner. At the same time R-SID reverses the process and provides the VTR with serial data from Abner commands.

Using the latest micro-processor technology, R-SID identifies all machine types with one set of software, thereby allowing it to be plugged into numerous styles of VTR without modification.

R-SID will communicate with the following: BVU-950, BVU-800 Series, BVH-Series, BVW/SP-Series, AU-650, KRM-860, CR-850, PR-900.

The unit comes complete with a 9-pin serial cable, multi-pin Abner cable and external low voltage power supply.

R-SID \$800.00

AG-450 S-VHS Camcorder

- > 400 lines horizontal resolution in S-VHS mode
- 45dB video S/N
- Separate Y/C input and output (S-video connector)
- 1/2" CCD image sensor (360,000 pixels)
- Low light capability-10 lux minimum illumination
- Flying erase head
- High speed shutter (1/1000, 1/500, 1/250 second)
- Audio and video fade-in/out
- 0.9" viewfinder with status indicator and vision-compensating eyepiece
- Piezo auto focus with dual focus zones
- Video Insert Editing makes it possible to take a new scene and insert it while retaining the sound originally recorded
- Audio Dubbing
- Edit Switch maintains optimum video signal quality when dubbing
- Index Search function
- 10X power zoom lens with macro function
- Standby switch
- External AV input terminal
- VW-RM1E Pause Remote Control Unit, standard
- Uni-directional high-sensitivity microphone
- Earphone and external microphone input jacks
- Automatic-Tracing White Balance (ATW) system
- Auto/Date Recording allows superimposition of time/date
- Rec/review function
- VW-CG1P character generator, optional

AG-450\$2700.00

Accessories for AG-450

VW-CG1	Character generator	.....\$300.00
VW-SP7E	Shoulder pad	......65.00
AG-BP202	Battery pack	......55.00
VW-ACM1	Car battery cord	......25.00
AG-HT5	Carrying case	......400.00

AG-170 VHS Camcorder

- 1/2" CCD pick-up element
- 230 lines of horizontal resolution
- 1/1000 or 1/500 second electronic shutter
- Two-zone Piezo auto focus system
- High Quality Picture System
- 7 lux minimum illumination
- Still and speed search modes
- Rec/review function
- Audio dub function
- Up to 160 minutes recording
- Flying erase head
- Edit switch
- Detail enhancer circuitry
- Automatic tracing white-balance, switchable to manual
- Immediate playback capability via EVF or TV set/monitor
- 6X power zoom lens with macro capability and auto iris
- 2/3" electronic viewfinder (EVF) with status indicator
- Two-step microphone sensitivity selector
- Automatic time/date recording
- Backlight compensation
- Stand-by switch
- A/V input permits recording from TV
- Dimensions: 8³/₁₆" H x 4³/₄" W x 15¹/₁₆" D
- Weight: 5.06 lbs. (without battery)

AG-170\$1900.00

S-VHS

AG-450

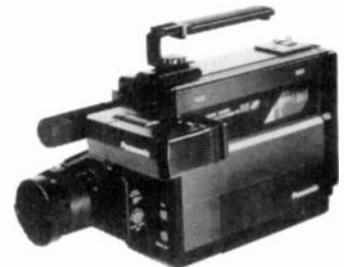


PRO LINE

AG-170

PRO LINE

AG-100S



Accessories for AG-170

VW-CG1	Character generator	.....\$300.00
VW-SP7E	Shoulder pad	......65.00
AG-HT4	Carrying case	......220.00
AG-BP202	Battery pack	......55.00

AG-100S VHS Camcorder

- Uses standard VHS cassettes
- Immediate playback
- Still and speed search
- Recording check
- 1/2" high band Newvicon camera tube
- 1/2" electronic viewfinder
- 6X power zoom lens (9 to 54mm, f/1.4)
- Automatic white balance adjustment
- Viewfinder angle adjustment and eyesight compensation
- Two hours of continuous recording on a single battery pack
- Manual aperture control
- Standby function
- External microphone input
- Earphone output
- Three-way power supply
- Memory counter
- Dimensions: 7¹/₂" H x 6¹/₁₆" W x 12⁵/₈" D
- Weight: 5.5 lbs. (without battery pack)

AG-100S "VHS Reporter" System

- Includes AG-100 camcorder, with 6X zoom lens
 - AG-B1 compact AC adaptor
 - VW-VBM2 Rechargeable battery pack (2AH)
 - VW-PM1 Adjustable padded shoulder brace and camcorder strap
 - AG-HT1 Hardshell carrying case for entire system (with strap)
- AG-100S**\$1780.00



WV-D5000 Camera Head
with WV-S050 ENG System Kit



WV-D5010

WV-D5000 Video Camera (Camera head only)

- Integrated color mosaic filter single chip CCD System
- 2/3" CCD insures high quality and virtually eliminates burn-in and after image. And 286,000 pixels assure superior reproduction quality
- Signal-to-noise ratio — 46dB
- Minimum illumination — 7 lux at f/1.4
- Auto Tracing White Balance (ATW) or Manual Setting (AWC)
- 2 line vertical enhancer
- Strobe effect shutter
- Fade-in/fade-out
- Nega-posit picture reversal
- Record review
- VTR remote control
- TTL auto focus (Magic Window) optional 8/AF
- Automatic intermittent recording — optional WV-CR12
- Multi-purpose modular systems makes the WV-D5000 ideal for education, industrial training, research, motion analysis (sports), film/slide transfer installations, photography, color monitoring, botanical/zoological observation, tele-conference, telecommunication input for videography and many other uses

The WV-D5000 is a component video camera that offers great flexibility in system configurations. So it can handle a wide variety of video applications. A full range of available accessories can tailor this camera system to meet your specific needs, and provide considerable system potential for the future.

WV-D5000 (camera head only) \$1375.00
WV-D5000 RGB camera 1535.00

WV-D5010 Video Camera

The WV-D5010 boasts the same features and specs of the modular WV-D5000 camera head except without the strobe effect shutter. Accessories available for the WV-D5000 can also be used with the WV-D5010.

WV-D5010 Video Camera \$1275.00

WV-S050 ENG System Kit

The S050 is the kit for users who demand versatility and convenience for their Electronic News-Gathering applications.

WV-S050 Standard Configuration

WV-LZ 14/12A	12X Power Servo Zoom Lens	
WV-VF01	1" Electronic Viewfinder	
WV-GR12	Shoulder Pad/Grip	
WV-MC12	Stereo Microphone	
WV-Q43	Cheek Pad	
WV-CA 10	VCR Cable	
WV-Q44	Camera Strap	
WV-S050		. . . . . \$935.00

WV-S060 EFP System Kit

The S060 is the Electronic Field Production Kit that lets professionals enhance their video creativity with the D5000.

WV-S060 Standard Configuration

WV-LZ 14/12A	12X Power Servo Zoom Lens	
WV-VF01	1" Electronic Viewfinder	
WV-GR12	Shoulder Pad/Grip	
WV-MC12	Stereo Microphone	
WV-AD36	Genlock Adaptor	
WV-CA 10	VCR Cable	
WV-PS03	AC Adaptor	
WV-S060		. . . . . \$1265.00

WV-S070 Studio Kit

The S070 kit modules expand the D5000 into a complete, professional-class studio recording system.

WV-S070 Standard Configuration

WV-LZ 15/12	12X Automatic Iris Studio Lens	
WV-LK 11	Lens Control Kit	
WV-VF65B	5" Electronic Viewfinder	
WV-Q39	5" EVF Bracket	
WV-RC35	Remote Control Unit	
WV-AD37	RCU Adaptor	
14C-30	Studio Cable	
WV-S070		. . . . . \$2970.00

Optional Accessories

WV-VF01	1" B/W viewfinder	. . . . . \$275.00
WV-MC12	Stereo microphone	. . . . . 40.00
WV-PS03	AC adaptor	. . . . . 220.00
WV-CA 10	(10-pin/10-pin) VCR cable	. . . . . 35.00
WV-CA 11	(10-pin/14-pin) extension cable	. . . . . 45.00
WV-PH10	Pan/tilt head	. . . . . 660.00
WV-Q39	5" viewfinder bracket	. . . . . 165.00
WV-AD36	Genlock adaptor	. . . . . 220.00
WV-AD37	RCU adaptor	. . . . . 275.00
WV-AD38	RGB output adaptor	. . . . . 275.00
WV-RC35	Remote Control Unit (RCU)	. . . . . 550.00
WV-CR12	Camera remote controller	. . . . . 440.00
WV-LZ 14/8AF	8X autofocus zoom lens	. . . . . 550.00
WV-LZ 14/12A	12X servo zoom lens	. . . . . 770.00
WV-LZ 15/12	12X auto iris studio lens	. . . . . 825.00
WV-CL19	1.5X Teleconversion lens	. . . . . 145.00
WV-LT21	35mm SLR lens adaptor (Canon)	. . . . . 50.00
WV-LT22	35mm SLR lens adaptor (Nikon)	. . . . . 50.00
WV-LT23	35mm SLR lens adaptor (Minolta)	. . . . . 50.00
WV-LT24	35mm SLR lens adaptor (Olympus)	. . . . . 50.00
WV-LT25	35mm SLR lens adaptor (Pentax)	. . . . . 50.00
WV-CC28	Carrying case	. . . . . 145.00
WV-831P	Camera mounting bracket	. . . . . 52.00

GP-CD1 CCD Color Micro-Camera System

- Interline transfer 1/2" CCD pickup element
- > 330 lines resolution
- 15 lux minimum illumination (f/1.6, +18dB)
- S/N: 46dB (Y CH)
- Internal/external sync
- Auto tracing/manual white balance
- Camera head can be located as far as 10m from CCU
- Genlockable
- +12/+18dB gain with AGC
- Super wide angle/pinhole lenses, optional
- Multitude of applications in manufacturing, robotics electronics, medical, surveillance

With the 250,000 element, 1/2" CCD pickup device, horizontal resolution is more than 330 lines, and signal-to-noise ratio is 46dB. An AGC high sensitivity mode switch (+12/+18dB), lets you obtain high quality color images in light as low as 15 lux. In addition, a small diameter wide angle lens makes high resolution standard, even with subjects as close as 1/16". Weighing only 0.04 lbs., this compact CCTV camera measures only 2/3" in diameter and less than 2" in length. It can be separated from its control unit and extended up to 10m away using the standard 2m cable plus an optional 8m cable (GP-CA31). Color changes are sensed instantly and compensated for by a microcomputer in the GP-CD1. Proper white balance is then obtained via the built-in Auto Tracing White Balance (ATW) circuit. Both white balance and R and B color can also be adjusted manually for optimum color reproduction.

Specifications

Picture Elements:	Approx. 250,000; 510H x 492V
Standard Illumination:	1,400 lux (f/4, 3,200°K)
Video Output:	VBS 1.0V p-p; 75 ohms unbalanced
Scanning System:	2:1 interlace
Power Source:	12VDC; 5.6W
Lens:	f/1.6; f = 7.5mm; macro 20mm
Operating Temperature:	+14°F to +104°F
Dimensions:	
Camera Head:	2/3" Dia. x 17/8" D
Camera Control Unit:	1 3/4" H x 5 3/8" W x 6 5/8" D
Weight:	
Camera Head:	0.04 lbs.
Camera Control Unit:	2.1 lbs.
GP-CD1	\$3500.00



GP-CD1 System



GP-CD1 Camera Head

Optional Accessories

GP-CA31	8m extension cord (to be used with 2m cord) ..	\$535.00
GP-AD22	"C" mount lens adaptor .....	.28.00
GP-LM3	Super wide angle lens .....	.285.00
GP-LP12	Pinhole lens .....	.525.00

WV-3260/8AF Color Camera

- High performance CCD pick-up element
- 380 lines of horizontal resolution
- TTL (through-the-lens) auto-focus 8X power zoom lenses
- Automatic focusing even through glass
- "Magic Window" three-step selectable TTL auto-focus zone
- Low light capability-0.7 fc (7 lux) at f/1.4
- Interchangeable 35mm SLR lenses by using optional adaptor
- Strobe effect shutter
- Auto tracing white balance system (ATW)
- Automatic intermittent recording
- Character generator function
- One inch electronic viewfinder character display
- REC review
- VCR remote control function
- Fade-in/fade-out function (audio/video)
- Negative/positive picture reversal
- Three setting sensitivity switch
- 2H enhancer
- Automatic iris (close/open) control

WV-3260/8AF \$2035.00



WV-3260/8AF

300CLE 3 CCD Color Camera

- High resolution, more than 700 lines
- S/N ratio, more than 60dB
- Variable speed electronic shutter (1/60, 1/250, 1/500, 1/1000 sec.)
- Ergonomically designed (right/left eye VF)
- Split configuration
- S-VHS (Pro Series) compatible/NTSC switchable
- Color matrix masking
- 25 lux minimum illumination (f/1.7 at + 18dB)
- Detail selectable (high, low, and off)
- SMPTE color bars
- Camera check in viewfinder
- Iris 1/2 open/close switch

WV-F300

- Camera head
- Camera adaptor

WV-F300\$6700.00

WV-S330 Basic Kit

- WV-VF38, 1.5" viewfinder
- WV-PS60, 1.65AH battery
- WV-PS31, AC adaptor with quick charger
- WV-CC37, carrying case

WV-S330\$1400.00

WV-S350 ENG/EFP Kit

- J12X10BKRSRM, 12X servo zoom lens
- WV-MC35, microphone
- WV-VF-38, 1.5" viewfinder
- WV-PS60, 1.65AH battery
- WV-Q47, tripod mounting adaptor
- WV-PS31, AC adaptor with quick charger
- WV-CC37, carrying case

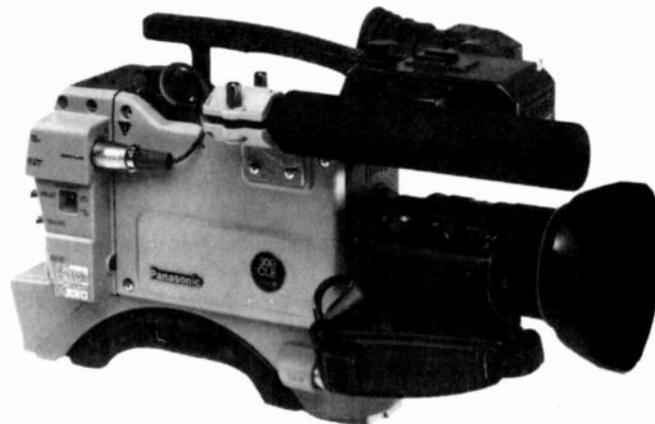
WV-S350\$2800.00

WV-S370 Studio Kit

- J12X10BKRSRM, 12X servo zoom lens
- WV-LK35, lens control kit
- WV-VF65B, 5" viewfinder
- WV-Q47, tripod mounting adaptor
- WV-RC36, remote control unit
- 32A-25, studio cable
- WV-Q95, extension board

WV-S370\$5600.00

**PRO
SERIES**



300CLE

WV-200CLE Industrial 3 CCD ENG/EFP Color Camera

- More than 600 lines resolution
- > 56dB signal to noise
- Y/C (Pro Series S-VHS) or NTSC switchable output
- Color matrix masking
- 25 lux minimum illumination
- Ergonomic design
- 2 memory 3 position auto-white balance
- SMPTE color bars
- Detail hi/low/off switch
- ± 1/2 stop iris open/close
- IQ color encoder system

Standard Configuration:

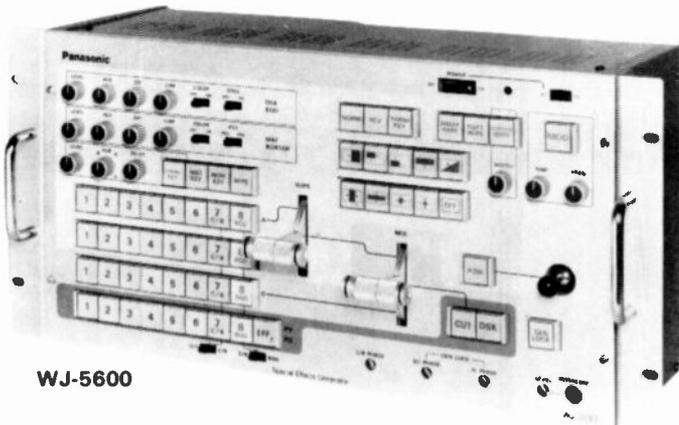
- Camera head
- WV-VF38, 1.5" viewfinder
- J12X10BKRSRM, Canon 12X (10-120mm) lens
- WV-MC35, microphone
- WV-Q47, tripod mounting adaptor
- WV-CC37, soft carrying case

WV-200CLE\$7500.00

Accessories:

WV-LK35	Lens control kit	.....\$1000.00
WV-MC35	Microphone	.....100.00
WV-VF38	1.5" viewfinder	.....500.00
J12X10BKRSRM	Canon 12X servo zoom lens	.....1500.00
A12X9BERM-84	Fujinon servo zoom lens	.....2750.00
A14X9BERM-24B	Fujinon servo zoom lens	.....5800.00
J15X9.5BKRS	Canon servo zoom lens	.....1650.00
J18X8.5BIRS	Canon servo zoom lens	.....9300.00
A10X10BRMV	Fujinon servo control zoom lens	.....1200.00
A12X9BERM2	Fujinon servo control zoom lens	.....2750.00
A14X95BERMV	Fujinon servo control zoom lens	.....5800.00
A16X95BRM	Fujinon servo control zoom lens	.....1678.00
J15X95BV	Canon servo control zoom lens	.....1650.00
WV-LC10	(12 to 8-pin) lens conversion cable	.....100.00
WV-Q47	Tripod adaptor	.....150.00
WV-CC37	Carrying case	.....330.00
WV-CA32/10	32P-10P VTR cable	.....90.00
WV-CA32A14	32P-14P VTR cable	.....150.00
10H-30AS	10m 10P-10P VTR extension cable	.....95.00

10H-50AS	15m 10P-10P VTR extension cable	.....\$145.00
WV-CC38	Hard shell carrying/shipping case	.....750.00
WV-VF65B	5" viewfinder	.....750.00
WV-RC36	Remote control unit	.....1800.00
32A-25	(7.5m 32P-32P) RCU cable	.....400.00
32A-50	(15m 32P-32P) RCU cable	.....530.00
32A-100	(30m 32P-32P) RCU cable	.....790.00
WV-PS33	(3H) battery	.....495.00
WV-PS60	(1.5H) battery	.....210.00
WV-BC30	(For WV-PS33) battery charger	.....100.00
DE-1232	(For WV-PS60) battery charger	.....60.00
WV-PS31	AC adaptor with quick charger	.....435.00
WV-AD19	Battery case	.....400.00
AG-BP202	Battery pack	.....55.00
WV-VT10	M-II adaptor	.....2000.00
AG-B640	AC adaptor with battery charger	.....420.00
WV-CA38	Conversion cable for desktop VCR monitor, must use with WV-CA32A14	.....170.00

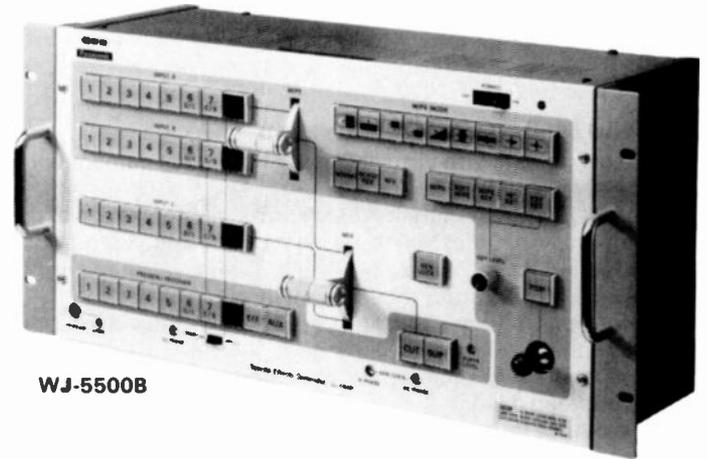


WJ-5600

WJ-5600 Color Special Effects Generator

- Two built-in mixing amplifiers allow three-channel mixing
- 8-channel inputs
- Three black burst outputs
- Mixing in fade-in, fade-out and dissolve modes
- Switch-over in normal; normal-reverse; and reverse
- Wipe waveforms in three stages: soft, sharp, and color border
- Switchover by self-collating non-locking button during the vertical interval
- A built-in positioner circuit
- Two color generators for the matte key and border wipe, and for downstream keying and background
- Color generators adjusted independently for hue, saturation and luminance
- The matte key has a negative/positive selection switch
- Downstream keyer has a built-in edge on/off switch
- Color matte key and RGB chroma-key are independent
- Chroma-key creates key signals in full hue, and controls key delay levels
- Downstream key signals capable of color/monochrome switch-over
- Input signals in both the VBS composite and VB non-composite modes. VBS genlock is also possible
- AC or 12VDC power operation available
- Rackmountable

WJ-5600\$7260.00

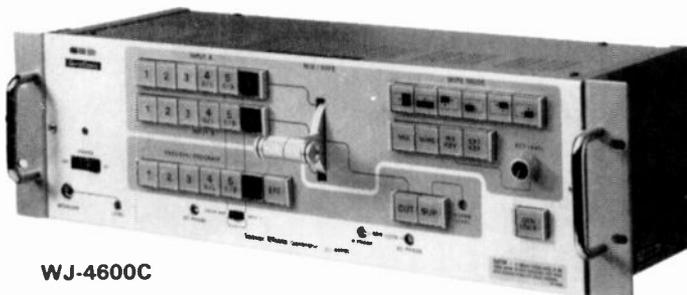


WJ-5500B

WJ-5500B Deluxe Color Special Effects Generator

- Vertical interval switching of 8 program inputs, 1 auxiliary input for VTR, 1 super input, and 1 external key input (monochrome)
- Downstream mixing of up to three cameras, including super
- Nine wipe patterns with soft/sharp edges; normal, normal-reverse, and reverse wipe modes; wipe positioner
- Wipe key, internal key, external key
- Built-in EIA RS-170A sync generator (HD, VD, Sync, BL, BFP, SC and black burst outputs) plus genlock capability
- Genlock circuitry for non-synchronous video signal mixing
- Subcarrier phase and horizontal phase adjustments for genlock
- Color bar generator with subcarrier phase control
- Black burst (program output only) 3 outputs
- Can mix composite and non-composite video inputs
- Effect, preview and two program outputs
- "Cut" pushbutton transfers program and preview buses
- 2-step illuminated, non-locking pushbuttons: light dimly when pressed to indicate selected preview inputs; light brightly when pressed to indicate selected program inputs
- Illuminated lock release buttons light up when pressed to show function selected
- Supplies intercom power to eight cameras and level adjustable
- Supplies tally light on/off switching to all ten inputs
- BNC connectors
- Audio amplifier for intercom with level control
- Rackmountable

WJ-5500B\$5060.00



WJ-4600C

WJ-4600C Color Special Effects Generator

- DC operation for EFP use
- Vertical interval switching of 6 program inputs
- Fades, dissolves, and six wipe patterns
- Super, external key (monochrome); internal key

- Built-in EIA RS-170A sync generator (HD, VD, Sync, BL, BFP, SC, and black burst outputs) plus genlock capability
- Genlock circuitry for non-synchronous video signal mixing
- Subcarrier phase and horizontal phase adjustments for genlock
- Black burst (program output only) 3 outputs
- Can mix composite and non-composite video inputs
- Effect, preview, and two program outputs
- "Cut" pushbutton transfers program and preview buses
- 2-step illuminated, non-locking pushbuttons: light dimly when pressed to indicate selected preview inputs; light brightly when pressed to indicate selected program inputs
- Illuminated lock-release buttons light up when pressed to show function selected
- Supplies intercom power to six cameras and level adjustable
- Supplies tally light on/off switching to all eight inputs
- BNC connectors
- Audio amplifier for intercom with level control

WJ-4600C\$2650.00

WJ-CC46 Carrying case for WJ-4600C\$440.00

AG-1950 Hi-Fi VHS Editing Recorder/Player

- Jog and shuttle search knob • Automatic assembly editing
- Insert editing and audio dubbing functions • Edit switch
- Editing controller (AG-A95) available • GX4 video head system • Flying erase head • LDD cylinder and double DD reel motors • High picture quality system • High definition (HD) audio: Dynamic range of more than 90dB with rotary audio heads and HSS (high-speed switching) Hi-Fi system • Quality sonics • Multi-function FL display: Realtime counter (hr. min. sec.) wide 16-segment L/R level meters, tracking meter, remaining tape time, edit position, edit in/out points, mode (rec/play/pause/etc.), dew warning, tape speed, VCR/TV, audio track, memory/search, and insert/audio dub • Automatic tape program search • Automatic functions: Auto power on, auto play, power off eject, auto tape canceller, auto rewind, and search lock • One shot recording • Automatic intermittent recording • Simulcast recording • 30-function wireless remote control • 8-hour recording with NVT-160 (EP mode) • Dual video input/output terminals • 5-pin terminal for optional editing controller • 16-station preset cable compatible TV tuner • Stereo microphone inputs (mini)

AG-1950 \$1650.00



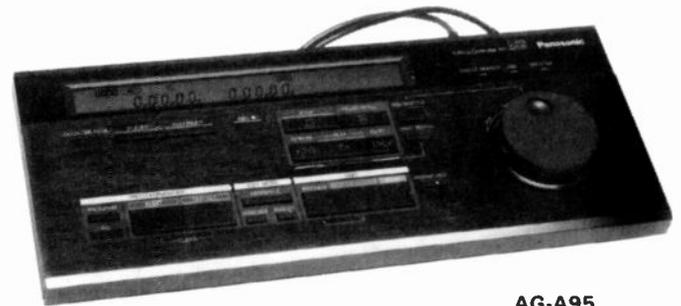
AG-1950

AG-A95 Editing Controller

- Usable with a variety of recorders including AG-1950, AG-6400, AG-2400, NV-8420 • Direct tape search • 8 programmable memory inset and outset points • Assemble/insert/audio dub • +7, -4 frame accuracy with AG-1950 • Built-in jog/shuttle search dial • Preview and edit stop functions • LCD multi-function display

The A95 editing controller now makes VHS editing extremely affordable. Equipped with 8 programmable memory inset-outset points, the A95 is an excellent way to get into the world of editing. In addition, the A95 will work with a variety of console and portable VHS recorders.

AG-A95 \$440.00



AG-A95

WJ-MX 10 Digital AV Mixer

- Built-in frame memory • 17 different wipe effect patterns; square or round wipe screens movable to any position with joystick positioner • 3 selectable video inputs for superimposition with reverse, key level control and color selection, plus shadow effect and edging effect • 8-color background selection: white, yellow, cyan, green, magenta, red, blue, black • Built-in 4 input audio mixer with headphone output and easy-to-read level meter • Fade-in and fade-out functions can be used alone or together for video, audio and video title signals • Optional keyboard-type character input available with versatile matching features (WV-KB12A or WV-KB12)

Designed for creative and effective audio/video mixing, the WJ-MX 10 has a built-in digital frame synchronizer so it can edit video signals from cameras or VCRs — without a time-base corrector. The WJ-MX 10 delivers a wide variety of special effects, including superimposition and wiping, and lets you create special digital effects like freeze frame, interval adjustable stroboscope, 5-level mosaics, and 7-level adjustable painting.

WJ-MX 10 \$3000.00



WJ-MX 10

AG-2500 VHS Recorder/Player

- GT4W Super 4-head video system
- Double fine slow motion
- Field still/double speed playback/cue and review
- Linear time counter (in hours, minutes, seconds)
- DD cylinder motor with oil film suspension system
- High quality picture system
- One month, 8-event program timer with built-in calendar
- Multi-function display
- 3-speed playback: SP/LP/SLP
- Programmable remote control
- Auto operation: Auto power on; auto play; auto rewind; auto eject; power off eject
- Super OTR (One-Touch Timer Recording)
- 93-channel/16-position cable compatible TV tuner
- One-button recording
- Picture sharpness control
- Counter memory
- Fine editing (automatic backspacing)
- TV/monitor output connector (8-pin) video input/output connector (BNC)

The AG-2500 is ideal for use in corporate offices for recording technical documentation, and as a valuable sales and training tool

High schools, colleges and universities can open up whole new worlds of creative instructional applications with the AG-2500

Government offices can use the AG-2500 for planning and program development, implementation, and monitoring

AG-2500 \$795.00



AG-2500



AG-2400



AG-V340

AG-2400 VHS Portable Recorder/Player Direct Drive Cylinder

- 2/4/6 hour playback; 2/6 hour record
- 4 head system with quartz-servo direct drive cylinder
- 5-speed search/variable slo-mo playback
- Compatible with the AG-V340 Tuner/Timer
- Multi-function LCD display
- Diecast aluminum chassis
- Wired remote control enables variable slo-mo playback
- Video adding for basic insert editing
- Audio dubbing capabilities
- Memory function
- Auto-rewind

AG-2400 is ideal for use with a portable video camera and is also perfect for stationary VCR applications when connected to the matching AG-V340 Video Tuner/Timer (optional). Two heads are used for conventional recording and playback, while the other two enable clear still, frame advance, and slow playback modes. In addition, a speed search mode is included, making it easy to locate any desired point on the tape. Recording is possible in the 2-hour and 6-hour VHS modes and playback is possible in all 2/4/6 hour modes.

With the liquid crystal display (LCD), this single panel can show transport speed modes (LP, SLP), cassette status, tape counter, remaining tape time, battery charge level, audio dubbing, and video adding. By simply connecting a single 20-pin cable, the AG-V340 can be added to provide you with the capabilities of a full-size conventional VCR. In addition, a standard 10-pin connector on the AG-2400 allows the unit to be used with most conventional video cameras. Weight: 4.84 lbs. (without internal battery pack). Dimensions: 8⁷/₁₆" x 2³/₄" x 10³/₈".

AG-2400 \$1095.00

Optional Accessories for the AG-2400

- AG-BP202 Battery pack 12VDC 2AH \$ 55.00
- AG-B12 Plug-in AC adaptor/battery charger
12VDC 1.5A 165.00
- AG-B11 AC adaptor/battery charger multiple
AC power 12VDC 1.5A 195.00
- AG-CR240 Car battery cable 30.00

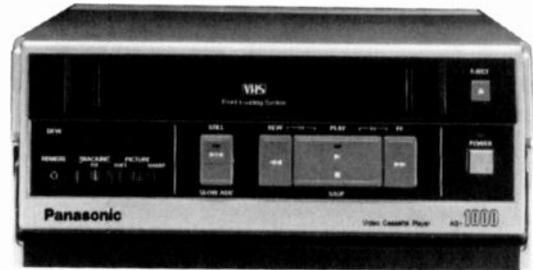
AG-V340 Video Tuner/Timer

- 14-day, 4-event timer
 - 16-mode infrared remote control
 - One Touch Recording (OTR) with Standby Function
 - 14-position, 107-channel cable capable TV tuning system
 - Easy-to-read fluorescent indicator panel
 - Battery charging function
 - Connects to the AG-2400 with a single cable
- AG-V340 \$525.00**

AG-1000 VHS Video Cassette Player

- 3 video head system
- Clear still picture and slow advance
- 3 speed playback (SP, LP and SLP) with up to 6 hour play with standard T-120 tapes front loading
- Auto-repeat playback
- Automatic playback
- Series playback
- Audio/video input and output terminals
- A/V loophrough
- External timer playback
- Easy connection to TV sets
- Use as a rental video cassette player, for demonstrations and promotions

AG-1000 \$650.00
 AG-HT 10 Hard shell carrying case 100.00



AG-1000

AG-1100 VHS Video Cassette Player

- 3 video head system
- High Quality (HQ) picture system
- 3-speed playback (SP, LP and SLP) with up to 6 hour play with standard T 120 tapes
- Front loading
- Remote control compatible
- Automatic power-on
- Automatic play
- Automatic rewind
- External timer play
- Tracking controls for regular and slow play
- Rear panel video and audio output connection terminals
- Audio recording capability
- LED indicators for play, still play, dew (moisture condensation) and power on
- Optional wired remote control AG-A 10

AG-1100 \$550.00
 AG-HT 10 Hard shell carrying case 100.00



AG-1100

AG-1220 VHS Video Cassette Recorder/Player

- GT3s 3 video head system
- 93-channel/16-position cable compatible tuner
- DD cylinder motor with oil film suspension system allows for slim cabinet only 3 1/4" high
- Linear time counter (hours, minutes, seconds)
- One month — 8-program calendar timer
- Auto operations
- 3-speed recording/playback
- High quality picture system
- Noiseless still/still advance, noiseless slow
- Multifunction display
- Advanced One Touch Timer Recording (OTR)
- 14-function wireless remote control

AG-1220 \$495.00



AG-1220

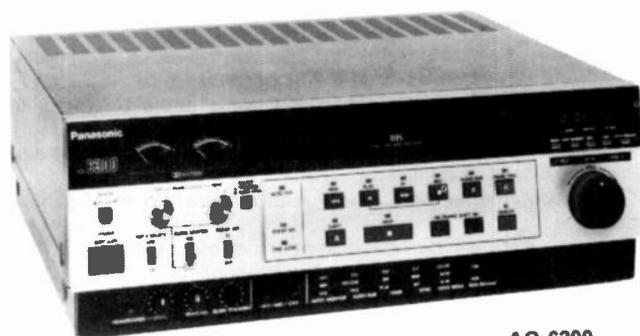


AG-6300 VHS Recorder/Player

- High performance VCR perfect for use in editing systems with all the precision and connectors required for professional use • Two DD Reel motors for smooth tape transport • Forward (noiseless) and reverse slow motion playback and frame shift • 17 step dial search • Audio dubbing selector • Audio level/tracking meter • Ext sync in • Time code in and out connectors • Dub/Normal switch select • Random auto repeat functions • Real time counter • Two channel audio with Dolby NR system • Audio limiter and audio level meter • Headphone level control • Loophrough recording for dubbing • Intermediate loading system • Mode lock function • Optional remote control • External clock timer • 19" rackmountable • Multiple AC power sources

AG-6300\$2420.00

AG-6300MD Same as AG-6300 but conforms to UL-544 standards for use in medical environments2475.00



AG-6300

AG-6200 VHS Recorder/Player

- Ideal for dubbing and a wide range of other applications including education, research, medical analysis and demonstration • Noiseless slow (forward) • 14-step dial search • Intermediate loading • Audio dubbing possible on channel 2 • Headphone level control • Audio limiter and audio level meters • 2-channel audio with Dolby NR system • Real time counter with "tape remaining" time counter • Random auto repeat • Optional remote control • Mode lock function • Time code connectors • Loophrough recording for dubbing • 19" rack-mountable • Multiple AC power sources

AG-6200\$2194.50

AG-6200E Multi-System VHS Video Cassette Recorder. A multi-system VTR international video PAL, CCIR and 4.43MHz NTSC.2365.00



AG-6200

AG-6100 VHS Player

- Playback only video cassette deck that offers the advanced functions of the AG-6200 • Noiseless slow (still) • 14-step dial search • Frame advance • Intermediate loading • 2-channel audio with Dolby NR system • Segment repeat • Optional remote control • External clock timer can be connected for timer—playback control • Mode lock function • Loophrough operation • 19" rackmountable • Multiple AC power sources

AG-6100\$1870.00



AG-6100

AG-6651 Hi-Fi VHS Duplication Recorder/Player

- For use in large and small scale systems • Serial remote recording • 34-pin remote control terminal • Loophrough remote control • 4-channel audio • Hi-fi/linear audio • Internal/remote switching • Auto-changer connection • Auto off/eject status and warning indicator • Large Rec indicator • Tape running indicator • VCR mode select system • Low power consumption • Test terminals and hour meter • Simple rackmounting with optional AG-M600 or AG-M601 mount racks (standard 19" racks)

AG-6651\$2585.00

AG-6650 Hi-Fi VHS Duplication Recorder

- All the features of the AG-6651 in a recording only unit

AG-6650\$1925.00

Optional Accessories

NV-C80	34-pin remote control extension cable	\$116.00
PC-600	Hard shell carrying case	192.50
AG-M600	19" rackmount kit.	77.00
AG-M601	19" rackmount kit for use w/AG-CL68	77.00
AG-A600	Remote control unit w/search dial	198.00
AG-IA12	Serial remote transmitter circuit board.	176.00
NV-A850	Search and controller for use with AG-6100/6200/6300/6300MD/6810	550.00



AG-6651

AG-6500 VHS Hi-Fi Editing Recorder/Player

- High quality picture with wide video heads: more than 240 lines (color) horizontal resolution — white clip level raised 20%
- Built-in timing and memory circuits let you specify in advance the in-point and out-point for an edit
- 8-Digit tape counter including an error display in case of abnormal operation
- Hi-Fi audio reproduction with high definition circuitry
- Framing servo circuitry for clear editing results
- Durably constructed for studio and production use
- Jog/search dial
- Front loading, 19" slide rackmountable
- Insert and assembly editing
- High-speed search
- SMPTE time code record/playback
- Dub in/dub out terminals
- In-point/out-point controls with auto-start/auto-stop
- Counter displays for in-point/out-point and lap time

The AG-6500 is a VHS video cassette recorder specially developed for editing and post production. The High Quality Picture System, extra-wide video heads and the chroma IC produce extremely clear, stable images, all the way up to 3rd generation dubbing. Complicated editing is made easy, with the rotary erase head, framing servo circuitry, and advanced jog/shuttle dial mechanism.

AG-6500 \$4395.00



AG-6500

AG-6400 VHS Hi-Fi Portable Recorder/Player

- High quality picture with wide video heads—more than 240 lines (color) video horizontal resolution
- Hi-Fi sound reproduction with high definition circuitry
- S/N Ratio—Video: better than 45dB (color); Hi-Fi Audio: better than 70dB; Normal Audio: > 48dB (normal)
- Framing servo circuitry for clear editing results
- High power capacity for professional camera connection
- XLR 4-pin external DC input connection
- SMPTE time code record/playback capability
- Stereo headphone jack with level adjustment
- Remote controllable from camera or remote control unit
- Full logic control transport and loading system
- Multi-function display with 4-digit tape counter, tape loaded indication and battery indication
- Memory stop at "0000" position in fast-forward and rewind modes
- Switchable illumination for display and meters
- Tracking and slow tracking adjustments
- Noiseless slow/still
- Condensation/tape-end indication LED
- Soft carrying case supplied

The AG-6400 is light and quick in the field, but big on professional features, starting with superb picture quality. The extra-wide GW 4 video heads and High Quality Picture System guarantee clear and sta-



AG-6400

ble images. The sound is excellent, too: 2-channel Hi-Fi audio and 2-channel linear audio with Dolby NR. Advanced framing servo circuitry executes clean, nearly invisible edit points, and the applicable camera range extends up to 27W.

AG-6400 \$2195.00

Optional Accessories

AG-B640 AC Adaptor

Provides a maximum power supply of 48W and enables simultaneous charging of up to two battery packs. Weighs 2.9 lbs. \$420.00

AG-BP202 Battery Pack

Powers the AG-6400 for up to 2 hours of continuous shooting. . \$55.00

VW-R17E Remote Controller

12-mode wired remote controller \$55.00

NV-C80 Extension Cable

34-pin extension cable for connecting VCRs \$120.00

AG-C65 Dubbing Cable

7-pin dubbing cable for source unit-to-editor unit connection. . \$45.00

NV-A505 Remote Search Controller

Remote Search Controller with Bi-Directional Search Dial, Step-Shift, Pre-Roll \$990.00

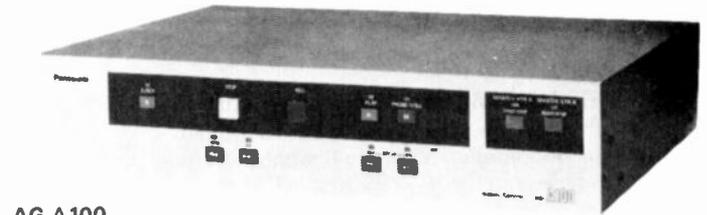
NV-J500 Multi-Source Switcher

Multi-Source Switcher equipped with 3 input and 1 output terminals each for video, audio. \$600.00

AG-A100 Dubbing Controller

- Either one or two master VTRs can be connected • From one to ten slave VTRs can be connected • Remote control of the start and stop of the playback mode of the master VTRs (one or two units) • Remote control of slave VTRs (one to ten units) recording, playback, fast forward, rewind, forward and reverse search, stop, pause/still and cassette ejection • As many as 40 slave VTRs can be connected by using the multi-connection system (with four Dubbing Controllers, AV Distributors and Switchers) • Remote control possible with any master VTR which has an RCA-type record remote jack • Rackmountable

AG-A100 \$880.00

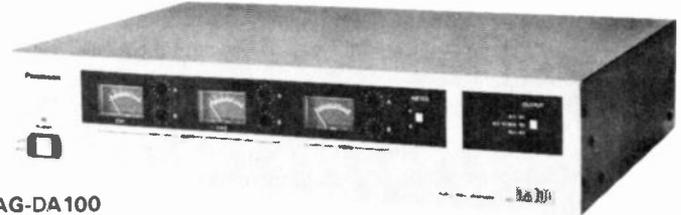


AG-A100

AG-DA100 Audio Video Distributor

- Two inputs, A and B, selectable for two outputs. A (1-5) and B (2-10)
- Because loopthrough type input terminals are used, video/audio distribution can be further expanded by using an additional AV Distributor
- Video and audio output levels can be adjusted while monitoring the level meter • Distribution to as many as 40 slave VTRs is possible by using the multi-connection system (with four Dubbing Controllers, AV Distributors and Switchers) • Rackmountable

AG-DA100 \$880.00

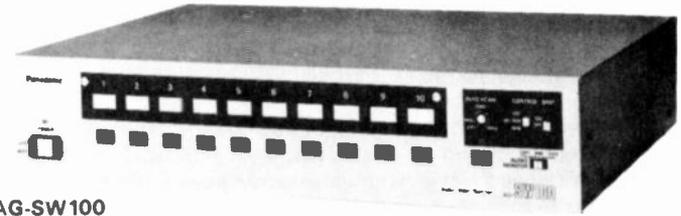


AG-DA100

AG-SW100 Switcher

- Video/audio selection of one from as many as 10 input signals for monitoring • Manual and automatic modes can be selected for the output signal • Selection timing for the automatic mode ranges from about 1 second to 30 seconds • Selection timing can be set according to the external pulse • Audio monitoring selectable as either audio channel 1, mixed, or audio channel 2 • Mode lock function for inhibition of remote control input (normal side) and front panel control (remote side) • Automatic skip function makes selection quicker by skipping terminals with no input signal • Interval switching function makes it possible to switch within the synchronized signal of the video signal if a video input signal is present at input terminal 1 • Rackmountable

AG-SW100 \$990.00



AG-SW100

AG-6810 VHS Hi-Fi Recorder/Player

- 2 Hi-Fi audio channels and 2 linear audio channels with separate level controls and level meters • Loopthrough recording for dubbing • Oversized auto-off/eject LED indicator • Forward and reverse search • Test terminals on the front panel • Hour meter up to 5000 hours for scheduling maintenance work • 19" EIA rack compatibility and convenient 3-part cover panel • Remote control connectors • Precision DD cylinder motor • One-piece aluminum diecast chassis • Short FF function can automatically advance the tape past the transparent leader tape (internal on/off switch) • Special function allows recording on cassettes with record protect tab out (internal on/off switch) • SMPTE time code recording/playback • Headphone jack and headphone level control on front panel • Picture sharpness control • 34 pin remote control connector for versatile remote connections, including use of full-function editing consoles • All indicators use LEDs for longer service life • Mode lock switch with indicator lamp prevents accidental misoperation

The AG-6810 is a Hi-Fi Video Cassette Recorder designed for a wide range of professional applications. It is equipped with virtually all the functions and features required for professional applications such as tape dubbing facilities, discos, demonstration and promotional activities, and a variety of educational uses. The picture and sound quality meet the stringent quality requirements of professional use. The 2-channel Hi-Fi Audio HD system with 2 rotational audio heads makes it possible to obtain sound recordings with outstanding audio specifications (S/N: > 85dB, Frequency response: 20Hz-20kHz)

AG-6810 \$2100.00



AG-6810

AG-6820 VHS Hi-Fi Duplication Recorder

- VHS Hi-Fi 2 hour record only VTR • Built-in serial remote receiver for all VTR function controls • Built-in self diagnostics • Mode select switch allows user to customize setup mode of VTR • Stereo linear audio with Dolby B noise reduction • Test point and hour meter (located inside VTR) • Large REC and auto-off eject indicators • 4 independent audio inputs (2 linear, 2 Hi-Fi) • 1 audio meter (switchable between Hi-Fi/normal)

AG-6820 \$1700.00

AG-CL68 Automatic Cassette Changer

- Designed for quick, easy attachment to the AG-6800 series duplication VCRs (AG-6800, AG-6810, AG-6820) • Built-in self diagnostics • Holds up to 2 blank tapes for loading and 2 recorded tapes for unloading • Automatic cycling operation, or multiple remote cycle operations • Large warning indicator for VTR and cassette changer malfunction • Eject button and reset button located on front of unit for convenient access • Rugged construction

AG-CL68 \$550.00

NV-8950 VHS Motion Analyzer Recorder/Player

- Perfect, noiseless slow motion and still frame
- 4-head configuration featuring floating playback heads
- Compatible with the NV-V950 Tuner/Timer
- Piezo-actuator keeps heads on track
- Microprocessor auto-tracking
- Single knob multi-speed control
- Microprocessor program access
- Remaining time and tape end warning in digital counter
- Blank search
- Auto-rewind and memory stop
- 14-function wireless remote control
- Front loading, front operation
- 2-track audio recording with dubbing capability
- Dolby noise reduction for audio circuitry
- Fine editing
- Direct camera connection
- 2, 6-hour recording and playback (SP, SLP)
- 5-motor drive
- Annealed diecast chassis
- Tape protection circuit
- BNC video input/output connectors
- RCA type audio in/out connectors
- Variable speed display shows selected speed setting in accordance with the speed control knob position
- 1/4" phone jacks for mike inputs
- Audio monitor select switch (CH1/CH2, mix)
- Audio switchover function for multiplex recording playback

The NV-8950 eliminates all noise and blurring in slow motion, still frame, and high speed search modes. Plus, all this is possible in both forward and reverse, regardless of whether the tape was recorded at normal (SP) or the extra-slow speed (SLP). The NV-8950 allows you to get more educational and communication value from video with its advanced design and host of features. These include program access, front loading, 2-track audio with Dolby* noise reduction, direct camera connection, and a full-function wireless remote control unit.

Specifications

Video Recording

System: 2 rotary heads, helical scanning system
FF/Rew Time: < 6 min. with NV-T120
Heads: Video: 4 rotary heads, Audio/Control: 1 stationary head, Erase: 1 full track erase, 2 audio track erase for audio dubbing

Input Level:

Video

Tuner Connector: 1.0V p-p, 75 ohm unbalanced



NV-8950



Camera Input

Terminal: 1.0V p-p, 75 ohm unbalanced

Video In

Connector (BNC): 1.0V p-p, 75 ohm unbalanced

Audio

Tuner Connector: -16dB, 5K ohm unbalanced

Camera Input

Terminal: -20dB, 50K ohm unbalanced

Mike In Jack

x 2: -70dB, 47K ohm unbalanced

Line In Jack

x 2 (RCA): -20dB, over 50K ohm unbalanced

Output Level:

Video Out

Connector (BNC): 1.0V p-p, 75 ohm unbalanced

Audio

Line Out Jack

x 2 (RCA): -9dB, < 1K ohm unbalanced

Audio Monitor Out

Jack (RCA): -9dB, < 1K ohm unbalanced

RF Modulated:

Channel 3 or 4, 75 ohm, unbalanced

Horizontal

Resolution: > 240 lines (color)

Audio Frequency

Response: 50Hz ~ 10kHz in SP mode

Video S/N:

> 45dB

Audio S/N:

48dB (Dolby NR in)

Dimensions:

6⁵/₈" H x 17³/₄" W x 16¹³/₁₆" D

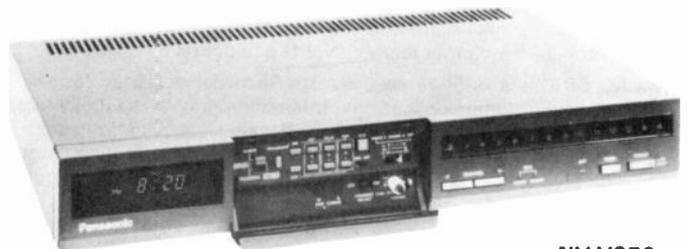
NV-8950 \$2585.00

PC-895 Hard shell carrying case for NV-8950 165.00

NV-V950 Electronic Tuner/Timer

- Designed especially for the NV-8950
- One-touch up/down channel selector
- Auto-fine tuning
- One touch recording
- Built-in programmable timer
- Memory back-up circuit
- Single cable connection

NV-V950 \$495.00



NV-V950

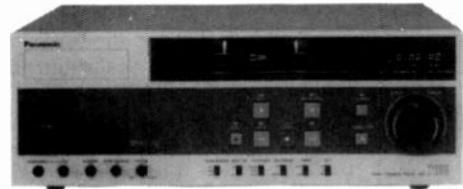
AG-7100A S-VHS Player

- Excellent S-VHS system picture quality • Digital-servo circuitry (10 bits) for jitter reduction • Ext. sync input • S-VHS/VHS playback LED indicator • 14-step dial search • Noiseless slow (forward) • Random auto repeat function • External timer play • 19" rackmountable with optional adaptor

The AG-7100A provides excellent video playback quality, plus the durability and flexibility needed for a multitude of industrial and professional video playback applications.

The AG-7100A automatically selects for S-VHS or VHS playback and has a random auto repeat feature, which along with its loophrough function facilitates segmented and/or extended length presentations in multi unit systems. Two channel linear audio is provided with Dolby B noise reduction for clear sound reproduction.

AG-7100A \$2380.00



AG-7100A

AG-7300 S-VHS Recorder/Player

- Excellent S-VHS system picture quality • Y/C comb filter • Separate S-Video input/output connectors (4-pin) • Rotary erase head • Edit switch • Video sensor recording (line-in only) • External SC input • Y/C filter circuitry • 17-step dial search • Forward (noiseless) and reverse slow and noiseless frame shift • Random auto repeat function • Real time counter • Loophrough recording for dubbing • External sync • 19" rackmountable with optional adaptor

The AG-7300 S-VHS VCR might well be considered the "workhorse" of the family. Its excellent performance and high durability lend it to use in a wide range of industrial through professional video applications. From basic S-VHS or VHS record and playback to an alternative, editing source deck for the AG-7500/AG-A750 editing system.

The AG-7300 provides composite, plus S-Video (4-pin), input and output connections. Two channel audio with Dolby B noise reduction and SMPTE time code record/playback capability on track 2 are also provided. Internally, the AG-7300 has a diecast aluminum



AG-7300

chassis, direct drive reel motors, ball bearing based tape guide posts and a 10-bit digitally controlled servo circuit, that all contribute to the reduction of tape jitter.

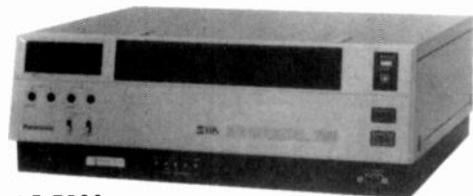
AG-7300 \$3200.00

AG-7800 Hi-Fi S-VHS Duplication Recorder/Player

- Excellent S-VHS system picture quality • Digital-servo circuitry (10-bit) for jitter correction • Y/C comb filter • 2/6-hour recording/playback (S-VHS mode) • 2-hour recording/playback (VHS mode) • 4-channel audio (2-channel Hi-Fi, 2-channel linear with Dolby NR) • Separate S-Video input/output terminal (4-pin) • 34-pin remote control terminal • Serial remote control receiver unit • Auto cassette changer connection • 19" rackmountable with optional adaptor

The AG-7800 provides the durability and heavy-duty construction needed for the extended periods of operation required in the tape duplication field. The AG-7800 adds the flexibility of both S-VHS (2 and 6 hr.) and VHS (2 hr.) record and playback. Also included is a built-in serial remote receiver unit that allows centrally actuated transport control for large or small multiple unit systems.

Preventive maintenance is aided by front panel test terminals, an hour meter and an easily removable top cover panel (for periodic head and tape path cleaning).



AG-7800

A diecast aluminum chassis and ball bearing based tape guide posts are incorporated to insure jitter-free operation and reliability.

AG-7800 \$3000.00

NV-ST120P/ST60P S-VHS Videotape

NV-ST120P 2-hour S-VHS Videotape \$20.00
 NV-ST60P 1-hour S-VHS Videotape 16.00



AG-7500 Hi-Fi S-VHS Editing VCR

- Excellent picture quality • Digital decoder for complete Y/C separation • Separated S-Video input/output terminals (4-pin) • 7-pin dub-in/dub-out terminals for superior dubbing quality • Edit switch • 4-channel audio (linear 2-channel with Dolby NR, hi-fi 2-channel) • Insert and assemble editing • Jog/shuttle dial (17-step) • Auto-promoting illuminated switch system • Framing servo circuitry for clear editing • Digital servo circuitry (10 bits) for jitter reduction • Improved audio editing accuracy • Rotary erase heads • Automatic backspace function • External SC input for TBC connection • External sync input • SMPTE time code rec./play capability • Built-in sync generator • DOC output terminal • LED tape counter for frame display • VHS mode selector

AG-7500\$5900.00



AG-7500

AG-A750 Editing Controller

- Edit point setting with large jog and search dial • Frame trim for simple revision of edit in and out points • Auto-promoting illuminated switches • Preview of programmed edit prior to actual editing • Easy, automatic review • LED frame counter (Green) readout in hours, minutes, and seconds • Free choice of editing mode • Preroll for both source machine and editor • Lap time display • Audio monitor level adjustment for both source machine and editor • Trigger output • On-line connection of up to three machines (using optional NV-J500 Multi-Source Switcher and NV-A505 Remote Search Controller)

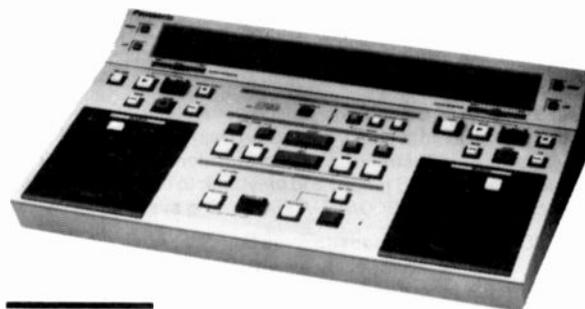
AG-A750\$1950.00

Options:

NV-J500 Multi-Source Switcher

Equipped with 3 input and 1 output terminals each for video, audio

NV-J500\$600.00



AG-A750

AG-7400 Hi-Fi S-VHS Portable VCR

- Excellent picture quality over 400 lines • Y/C comb filter • Digital servo circuitry (10 bits) for jitter reduction • Framing servo circuitry for clear editing • Ball-bearing equipped tape posts (P1, P2, back tension for jitter reduction) • Rotary erase heads • 14-pin camera connector for use of professional 3-tube camera • Battery alarm and tape-end alarm indication possible in viewfinder • 4-channel audio (linear 2-channel with Dolby NR, hi-fi 2-channel) • Auto backspace function • Camera-in switch (ENC/YC) • Camera selector (14-pin/10-pin) • Camera trigger (\pm) • SMPTE time code recording and playback • Separated S-Video terminals (4-pin) • External battery connector for long time operation • XLR 4-pin DC input • Audio dub selector (ch. 2 or ch. 1/ch. 2) • Detail switch • Picture adjustment VR • 1/4" phone mike jack • VHS mode selector • Frequency band 5.4MHz - 7.0MHz

AG-7400\$2900.00



AG-7400

NV-A505 Remote Search Controller

Bi-directional search dial, step-shift, pre-roll

NV-A505\$990.00

AG-560 Integrated 10" Receiver/VHS Player/Recorder

- Recording/playback in three speeds (SP/LP/SLP)
- High Quality (HQ) Picture System and comb filter result in horizontal resolution of > 300 lines
- Wireless remote control
- Super 4-head video system
- Double super fine slow motion for noise-free, jitter-free playback
- Double speed playback (without sound) for locating footage quickly
- Advanced automatic functions: auto power-on, auto playback, auto rewind, auto repeat playback
- Precision lap time counter (hours, minutes, seconds)
- Easy-to-read fluorescent (FL) multifunction display
- Audio and video in/out connectors enable direct recording another video source (camera, another VCR) and output to a video projector, other monitors or sound equipment
- 8-hour record/playback with NV-T 160 cassette in SLP mode
- 99-channel quartz synthesized tuning
- 1-month, 8-program calendar timer
- Tracking/slow tracking controls
- Memory stop/search lock button
- Cue and review functions
- Convenient front panel picture adjustment controls: V-hold, sharpness, contrast, brightness, tint, color



AG-560

- Audio mute button
- Tuner mute button
- 1-hour back-up system for calendar timer memory
- Dew indicator
- Headphone jack

AG-560POR

AG-500R Integrated 10" Monitor/VHS Player

- 3 heads
- Built-in infrared receiver
- Auto-repeat playback
- 10" color monitor with comb filter — > 300 lines resolution
- Audio and video in/out terminals
- Clear still freeze-frame
- Slow-motion and search
- Headphone jack
- Folding carrying handle
- Timer assisted auto-start and auto-stop
- Covered frontal controls include V-hold, sharpness, contrast, bright, tint and color control
- Memory stop and search lock
- Dew indicator
- Tracking control and slow tracking control
- Can play VHS video cassettes at all three speeds: SP/LP/SLP

The AG-500R is no larger than a portable TV set and has a fold-up handle for easy carrying. Use it in the office, as an educational tool, for employee training, in the rental business, for demonstration and promotional or as a video guide service in a hotel lobby.

AG-500R \$ 1250.00
 AG-A50 Remote control 30.00
 PC-500 Carrying case 90.00



AG-500R



CT-2000M

CT-2000M 19" 4-System Color Monitor

- 4-system capability enables display of CCIR or EIA standard signals in PAL/SECAM/NTSC color formats including M-NTSC videotape playback with 4.43MHz subcarrier
- Video impedance switch for termination or bridging
- Quick-on CRT uses no current when unit is off
- Automatic AC power source compensation from 80V to 260V, 50/60Hz
- Headphone jack
- Built-in speaker

CT-2000M\$1095.00

CT-1400MG 14" Video/Data Color Monitor

- Designed for a wide variety of applications
- 8-pin VCR connector, RGB linear (Teletext, etc.) and RGB (TTL), allows direct connection and easy switching
- Composite video and audio inputs allow you to hook up your VCR or other video devices easily
- Square corner data grade picture tube
- Built-in speaker

CT-1400MG\$875.00

MT-1340G 13" Medical Video/Data Color Monitor

- RGB linear and composite monitor for medical applications
- Resolution more than 400 lines (RGB)
- .52mm dot pitch data grade tube for crisp, fine detail
- U.L.-544 rating for critical environments
- 1.5V p-p linear RGB input for true rendition of subtle color tones
- Built-in speaker

MT-1340G\$725.00

CT-1380V 13" Color Monitor/Receiver

- CompuFocus system
- 94 channel capable tuner
- 14-position electronic tuner
- Panalock audio inputs
- Panabrite control
- Audio/video out
- Built-in speaker

CT-1380V.....\$399.00

CT-1030M 10" Color Monitor

- Solid-state IC chassis
- Automatic termination
- Comb filter
- Metal cabinet
- Front panel push controls
- BNC video/8-pin VCR connectors (selectable)
- RCA audio connector
- Rackmountable with optional brackets
- 300 lines resolution

CT-1030M\$495.00

BA-100 Rackmount bracketspr./55.00

ST-1000M 10" Color Monitor

- 100% solid-state IC chassis
- 300 lines resolution
- BNC video in/out with automatic termination
- Comb filter
- Metal cabinet and magnetic shield ring (for the deflection yoke) to reduce interference
- B/W color mode switch
- Front panel controls
- Optional rack angle brackets for rackmounting
- Use in security, medical, scientific/industrial process observation, fibroscope and studio monitoring, closed circuit TV applications

ST-1000M\$495.00

BA-100 Rackmount bracketspr./55.00



CT-2580VY

PRO SERIES S-VIDEO COMPONENT ANALOG VIDEO MONITORS

CT-2580VY 25" Pro Series Color Monitor/Receiver

- High quality performance with a 25" 110° tint face screen
- 420 lines resolution
- 155 channel tuning capability
- Programmable channel scan and S-Video input/output terminals for compatibility
- 20-function remote control unit with off-timer and last channel/alternate channel one button viewing
- Ideal variety of professional applications
- Input source selection
- Pushbuttons located on the front panel
- Two line inputs/VCR input—8-pin
- Built-in speaker

CT-2580VY\$995.00

CT-2010Y 20" Pro Series Color Monitor

- Ideal for business and educational applications
- Comb filter and advanced video circuitry
- 450 lines resolution
- 20" square-corner screen
- Source selection can be made using the three pushbuttons located on the front panel
- Two line inputs/VTR input
- Color, tint, brightness, contrast, sharpness, volume, and vertical hold can also be controlled via the front panel
- Audio can be monitored through the built-in speaker or headphones, and up to four video (and audio) inputs can be connected to the rear panel facilities
- Includes two sets of line input/output jacks, one set of S-Video input/output terminals and one 8-pin VTR terminal

CT-2010Y.....\$795.00



CT-1331Y

CT-1331Y 13" Pro Series Color Monitor

- Direct compatibility with the S-VHS format, for superb picture quality
- Ideal for a wide variety of educational, professional and corporate applications
- Interfaces with a wide variety of equipment
- 8-pin VCR input, line A/B video input/output (BNC), RCA audio input/output S-Video input/output connectors with bridging capability, for direct compatibility
- Input source is switch selectable from the front panel for line A/B, VCR, or Y/C
- Front panel controls also include color, tint, brightness, contrast, sharpness, volume, and vertical hold
- More than 420 lines resolution for NTSC inputs
- Headphone jack
- Front mounted speaker
- No termination switch—automatic 75 ohm termination

CT-1331Y.....\$595.00

BT-S700N 7" AC/DC Color Monitor

- Single lever selector for normal scan, pulse cross, under scan and blue-only operation • AC/DC operation • Built-in folding carrying handle • Selectable BNC/VTR inputs via front panel pushbutton • Audio monitoring with built-in speaker

BT-S700N \$715.00

BT-S701N 7" Color Monitor

- Line A/B selectable by front panel pushbutton • External sync switch • Front panel controls (concealed behind door) • Single level selector for normal scan, pulse cross, under scan and blue-only operation • Desktop construction design

BT-S701N \$660.00

BT-S702N Dual 7" Color Monitor

- Line A/B selectable by front panel pushbuttons • External sync switch • Rackmountable in standard 19" EIA rack • Single lever selector for normal scan, pulse cross, under scan and blue-only operation • Front panel controls (concealed behind door)

BT-S702N \$1375.00

BT-S1000N 10" AC/DC Color Monitor

- Normal/underscan switch • Built-in pulse-cross circuit • Blue-only capability • 300 lines of resolution with comb filter • AC/DC operation • Line/VCR selectable • Automatic 75 ohm termination • External sync switch • Rackmountable

BT-S1000N \$660.00

BT-S1300N 13" Color Monitor

- High resolution CompuFocus picture tube with overlapping field lens gun • Line/VTR selectable • Normal/underscan switch allows viewing of picture corners • Blue-only switch defeats red and green signals and makes hue and chrominance adjustment simpler • Pulse-cross display for easy observation of sync detail

BT-S1300N \$750.00

BT-S1900N 19" Color Monitor

- High resolution CompuFocus picture tube with overlapping field lens gun • Line 1/2/VTR selectability • External sync switch for use with non-composite video signal • Normal/underscan switch • Chroma switch for black and white display • Blue-only switch defeats red and green signals and makes hue, chrominance adjustment easier • Pulse cross switch (H-delay, V-delay) • Audio monitoring w/built-in speaker

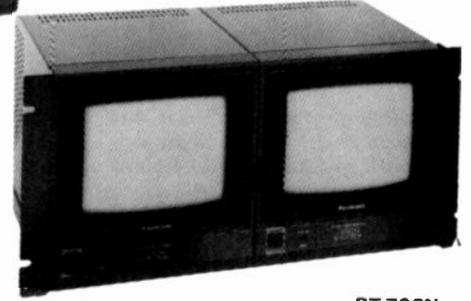
BT-S1900N \$935.00

BT-M1310Y 13" Pro Series S-Video Component Analog Color Monitor

- More than 560 lines of horizontal resolution • 0.39mm dot pitch and in-line gun CRT • A/B split, pulse cross, and underscan • Preset selector for contrast, brightness, chroma, phase and aperture • Blue only display • Switch selectable: AFC fast/slow, comb/trap filter, RGB cutoff, color/auto/mono mode internal/external sync • BNC connector with automatic termination • Manual degaussing • Front access white-balance adjustment • Tally light • A, B, or RGB selectors with loophrough; VTR selector • S-Video input with loophrough • Optional component input (R-Y, B-Y, Y) • 19" EIA rack-mountable, metal cabinet • Commercial U.L. listing



BT-S700N



BT-702N



BTS1000N



BT-S1300N



BT-M1310Y



BT-D1910Y



Standard Accessories

- AC power cord • Rackmount handles • Service and operations manual

BT-M1310Y \$1895.00

BT-D1910Y 19" Pro Series S-Video Component Analog Color Monitor

- All the features of the BT-M1310Y except for a 0.55mm dot pitch

BT-D1910Y \$2195.00

PT-105 DataMaster Color Video/Data Projector

- Automatic scanning capability • Connects with virtually any computer with a scanning frequency of 15-37kHz horizontally and 50-100Hz vertically • Automatic adjustment to all IBM PC/XT/AT* and IBM PS/2 graphics adaptors and compatible boards • Liquid-cooled projection tubes feature the IMF electron gun, I-cathode CRT, dynamic focus circuitry, and an optical coupling lens/CRT system • Accepts analog RGB, TTL RGB, S-Video and S-VHS composite video (line) inputs • Can automatically handle PAL, SECAM, NTSC 3.58 and NTSC 4.43 videotape formats • 3-mode test pattern generator • Illuminated, easy-access controls • Ceiling/floor and front/rear projection capabilities • Audio 1.5W audio amplifier/speaker

- **Variable scanning rate:** The PT-105 is capable of operation at virtually any scan frequency within the range of 15kHz to 37kHz horizontally and 50Hz to 100Hz vertically. It will adjust automatically and continuously to the input signal when driven by any standard IBM PC/XT/AT or IBM PS/2 color graphics adaptor or compatible board. In fact, this variable scan capability lets you connect the DataMaster directly to the nearest PC without worrying about compatibility problems. (Special interfaces may be required for some connections). So for business graphics, computer-aided design/drafting displays, computer-generated art or text, and on-lines services, the PT-105 DataMaster is the practical way to let large groups view video/data output in real time.

- **Line/S-Video/RGB1/RGB2 selectable:** With the PT-105, your sources for image projection are nearly unlimited. The "RGB1" BNC type connectors handle analog RGB computer and RGB camera input. With its 4-way color level selector, the "RGB2" 9-pin D-sub miniature connector adapts to a broad range of TTL computer inputs. The S-Video connector permits independent luminance and chrominance signal input from S-VHS and other video systems. For convenience you can leave four separate inputs connected, then select one for display at the touch of a button. In addition, a line out connector allows looping to other monitors.

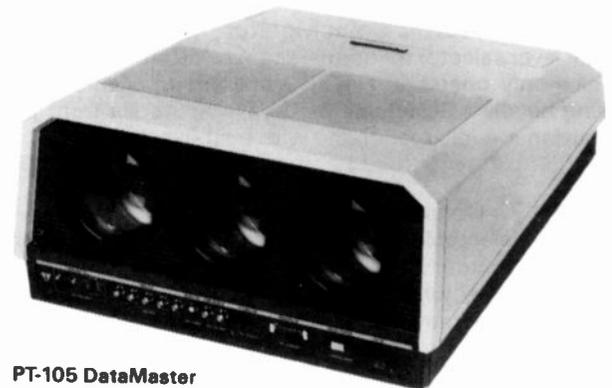
- **S-VHS compatible:** Standard S-Video connectors keep luminance and chrominance signals separate, maximizing signal quality from S-VHS and other video sources. And the wider video bandwidth (S-VHS over VHS) helps achieve improved performance with all video signals.

- **4-System compatibility PAL/SECAM/NTSC 3.58/NTSC 4.43:** When you wish to program video material from international sources, the PT-105 lets you view it immediately. It's no longer necessary to wait for expensive format conversions. The projector will adjust automatically to the video signal input, or you can select a particular format manually. Four system compatibility includes CCIR or EIA standard signals in PAL, SECAM, and NTSC color formats, including M-NTSC 4.43 videotape.

- **Easy access controls:** All of the operational controls for the PT-105 are conveniently arranged on the rear panel for easy access. And you can always see what you're doing, because the controls are illuminated whenever the panel cover is opened. Besides the full array of conventional controls, the DataMaster provides "H Shift" controls for RGB character positioning (centering), plus static convergence controls for aligning the projection beams. The TV system selector can be set for a particular signal format or for automatic switching.

- **Bright 550 lumens output and 1,100 line RGB resolution:** High luminous output is essential to the production of a clearly viewable image under typical indoor lighting conditions. High resolution is particularly important in a system to be used for data and graphics displays. The PT-105 delivers outstanding optical power of 550 lumens, plus horizontal resolution of 1,100 lines for RGB, or 650 lines for video.

- **Built-in audio amp/speaker:** The DataMaster is ready for audio input; just plug the source into the convenient front panel audio jack. A built-in 1.5W amp and speaker provide clear, crisp sound for monitoring in business and conference applications. An optional remote control permits convenient volume adjustment.



PT-105 DataMaster

- **Easy installation:** The projector will operate from a floor location, from a tabletop or movable cart, or when fitted into the optional ceiling mount plate. And to simplify setup, front or rear projection is possible. For added convenience and transportability the ET-CR101A height adjustable cart with locking casters is a practical option. And the optional PC-105 carrying case offers easy mobility when the projector will be used in several different buildings.

Specifications

Power Source:	120VAC, 50/60Hz
Power Consumption:	350W (average)
Luminous Output:	550 lumens (at white peak)
Resolution	
Video:	650 TV lines
RGB:	1470 dots/1100 lines horizontal 1100 dots vertical 30MHz bandwidth
Line In/ Out Level:	1 ± 0.3V p-p, 75 ohm or high impedance; Connectors: BNC
S-Video Input Level:	Y signal: 1V p-p C signal: 0.285V p-p Connector: Mini DIN 4-pin
RGB 1 Input Level:	R,G,B: 0.7V p-p, 75 ohm G Sync: 1V p-p, 75 ohm H/HV: 0.3-4V, 75 ohm V: 0.3-4V, 75 ohm Connectors: BNC
RGB 2 Input Level:	TTL input signal Connector: D-sub 9-pin
Dimensions:	12" H x 24" W x 30 1/8" D
Weight:	110.2 lbs. (50kg)
Screen Size	
PT-105/120":	80"-120"
PT-105/72":	60"-79"
Throw Distance	
60" Picture Size:	78 13/16"
72" Picture Size:	93 15/16"
100" Picture Size:	126 7/16"
120" Picture Size:	151"
PT-105.....	\$11,800.00

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PT-101Y/PT-301Y

Color Video/Data Projection Systems

With the PT-101Y and PT-301Y you can throw a clear, bright video image on the screen of your choice, from 50" diagonal to 300" diagonal (PT-101Y: 50"-120"; PT-301Y: 150"-300").

For teleconferencing, business, entertainment and education, Panasonic's advanced electronic and optical expertise gives you a big, bright outlook.

Panasonic's 4-element hybrid lens and dual focus configuration contribute directly to higher resolution, not only at the center, but around the edges as well. So you get better clarity all throughout the image. Liquid cooled CRTs and an improved QPF (Quadra-Potential Focus) gun design produce a brighter, better focused image. (When compared with the PT-101Y.)

- **Output of More Than 650 Lumens and High 1000-Line Resolution (RGB)**

The 7" CRTs have an additional glass plate enclosing a liquid coolant to reduce heat and permit greater power for higher luminous output. A fluorescent coating enhances color quality while doubling the life of the CRT. And Panasonic has improved its QPF electron gun by adding an electrode that results in sharper focus.

Both the PT-101Y and PT-301Y have a 4-element glass/polymer hybrid lens. They also feature an unusual dual focus configuration with separate adjustment for the edges and the full screen. These innovations improve focus accuracy, overall resolution, and raise the contrast level. It also enhances blue display clarity, and reduces loss of detail in bright white areas.

Improved circuitry widens the video bandwidth for better picture clarity. Dynamic-Focus circuitry helps keep the image sharp and clear at the edges of the picture.

- **Compact, Lightweight, Easy-to-Install**

These video projection systems are versatile enough for use in all kinds of locations, from small conference rooms to big department store displays. Either system can easily be moved from one location to another using the PC-101 Carrying Case or the ET-CR101 Custom Adjustable Cart. Both upright and ceiling mount are possible, and you can use front or rear projection. The lightweight, compact chassis and special mounting plate simplify ceiling installation.

Choose the model that meets your range of screen size requirements. The PT-101Y throws an image of 50" to 120" diagonally, while the PT-301Y attains 150" to 300".

- **4-System Capability: PAL/SECAM/NTSC 3.58/M-NTSC 4.43**

The PT-101Y and PT-301Y let you avoid the delay and expense of format conversion when you're picking up video programs from international sources. These advanced projection systems are compatible with CCIR or EIA standard signals in PAL, SECAM, and NTSC color formats, including M-NTSC 4.43 videotape playback. Let the projector adapt to the input signal automatically, or you can select the format manually.

- **Line/Video/RGB (TTL/Linear) Selectable**

Designed for a broad range of applications, the PT-101Y and PT-301Y can each accommodate three different inputs: Line, Video, and RGB. Select any of these sources instantly with the touch of a button on the control panel. And you have other input options as well. Most RGB cameras and analog RGB computers connect directly to the projector. RGB signals from many IBM PC-type computers can be accepted via the ET-10G RGB Interface (optional). There's also a selection of optional computer connector cables available, so you can project data and images in full color using popular computers. A pair of S-Video/BNC conversion adaptors is available as an option.



PT-101Y

- **2,000 Character Display and Blue Mode Selector**

Let the PT-101Y and PT-301Y bring the persuasive power of full color large-screen projection to your computer data and graphics. When using the RGB input, you can view up to 2,000 characters, the same number as on a typical 80-column by 25-line computer display. A special Blue Selector circuit lets you choose Fine Blue for enhanced visibility of the blue portions of RGB data displays. Or Blue Mono will produce white characters on an attractive blue background.

Additional Features:

- S-video input
- Built-in cross-hatch generator
- Sync inversion switch broadens computer signal compatibility
- Four-corner independent dynamic convergence controls for fast calibration
- Separate high voltage circuit for stabilized raster size
- The PT-101Y projector which is adjustable from 50"-120" diagonal will come factory preset in the following configurations

PT-101Y/72	Preset for 72" diagonal; ceiling mount	\$7040.00
PT-101Y/72F	Preset for 72" diagonal; floor mount	7040.00
PT-101Y/120	Preset for 120" diagonal; ceiling mount	7040.00
PT-101Y/120F	Preset for 120" diagonal; floor mount	7040.00
PT-301Y	Video/data projector for 150" to 300" screens	7800.00

Optional Accessories

ET-10G	PC/RGB interface with rackmount	\$495.00
PC-101	Custom carrying case with wheels	440.00
ET-CR101A	Heavy-duty adjustable cart with wheels	275.00
ET-721S	Semi-curved 72" screen with wall mount kit	990.00
ET-SS101	Screen stand for ET-721S	440.00
ET-11C15	(15 meter) Approx. 50' remote control cable	185.00
ET-11C30	(30 meter) Approx. 98' remote control cable	275.00
ET-11C50	(50 meter) Approx. 164' remote control cable	385.00
ET-11RY	Remote control with rackmount	300.00
ET-100C	Interface cable for IBM, IBM compatibles, Panasonic PCs	65.00
ET-101C	Interface cable for Apple PCs	65.00
ET-102C	Interface cable for NEC-PC-8001A	40.00
ET-103C	Computer interface cable for Atari-800 and Commodore 64	22.00
ET-100YC	S-Video/BNC Conversion Adaptor (2 pieces)	67.00

BT-P4500D

45" High Resolution Video Projector with Computer Interface and Stereo Audio

This self-contained, rear projection, portable unit is perfectly computer-compatible for use with small groups or for impromptu meetings. Easily set-up or stored, it is an excellent choice for sales meetings, board rooms, school rooms, exhibits, point-of-sales presentations and forms an essential component for management information systems.

The 45" diagonal color picture provides 5 times the viewing area of an ordinary 19" TV set, and features an 80° horizontal viewing angle and a brightness level of 120fl. The high resolution is attained through the use of 5 element glass lenses and special long persistence phosphors. These features enable a highly viewable display to be produced under normal room illumination so the audience can take notes or refer to written materials during the presentation.

The many modes of the BT-P4500D allow it to be used as a general purpose display device suitable for a wide variety of applications in business, education, entertainment, government and TV or film production. It can display computer generated, real time or stored, data and graphic displays, as well as standard or RGB video. It can demonstrate medical techniques, be used as a VCR or videodisc display or for teleconferencing. As a data display it can operate in a monochrome green mode or in full color.

The unit's height of 5' is high enough for seated audiences in many applications, and a matching base will be available for larger standing groups. Both the projector and matching base provide casters for easy transport.

The BT-P4500D incorporates interface circuitry and connectors which allow it to be fully compatible with most personal, business and industrial computers. A direct connection is usually all that is required. A total of 27 connectors and 7 mode switches give the projector unmatched interface capabilities. The unit also comes complete with stereo audio amplifiers and high quality speakers.

45" High Contrast Video Image for Presentation Impact

You can reach more people with greater impact when you use the BT-P4500D. The picture size is five times that of an ordinary 19" television and it has a viewing angle of ±40° horizontally. The image has very high contrast and is clearly visible in a well-lit room.

2000-Character Compugraphic Display

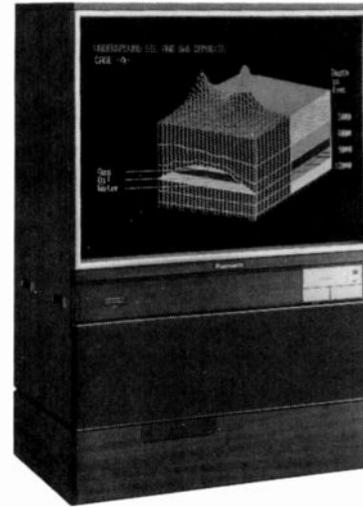
The superior resolution enables it to display computer graphics with up to 640 x 240 pixels on a non-interlaced display. 80 column, 2000 character displays in full color are sharp and clear. The 7" cathode ray tubes, using a P1 phosphor for the green tube, provide a significant improvement in flicker reduction and image clarity as compared to competitive 5" tubes.

Multiple Input/Output Jacks Featured as Well as 20-pin Computer Terminal

The BT-P4500D offers extensive connection facilities. At the top are standard 8-pin VTR, stereo audio (RCA) and video (BNC/RCA) connectors. In the lower section are RGB inputs used for high resolution video displays. Horizontal/vertical composite or separate sync signals can also be connected, or the sync may be superimposed on the green signal. The G-Mono input is used for a monochrome computer data display. A unique 20-pin input connector allows direct connection to IBM, Apple and most other small business and personal computers. Cables are optionally available.

Additional Features

- 2-way, 4-speaker system (two 6 1/2" woofers and two 2 3/8" tweeters) and two 8.5W amplifiers for stereo reproduction
- Through-out jacks for RGB, Sync, Video and Audio
- Two AC outlets (150W max. each, unswitched)
- Walnut grain finish
- Space-saving design has front panel controls
- Built-in cross-hatch test pattern generator



- Optional Cables:
ET-100C (IBM)
ET-101C (Apple III)
ET-102C (NEC, Panasonic)

NOTE: When using the BT-P4500D with an RGB (computer) input, reduce the brightness level to eliminate the spaces at the top and bottom of the screen. This may be caused by timing differences between computer systems.

Specifications

Projection Tube:	7" specially developed high-brightness CRT
Inputs	
Computer Interface:	eg. Apple III, IBM, NEC, Panasonic personal computers
Composite Color:	1V p-p, 1000 characters (75 ohm)
Composite Monochrome (Green):	1V p-p, 2000 characters (75 ohm)
RGB TTL:	Separate or composite sync (TTL)
RGB Linear:	1V p-p, separate or composite sync (TTL) or sync-on-green (75 ohm)
Audio:	Stereo/mono, 0.4Vrms
VTR:	Direct 8-pin connector
Power Input:	120VAC, 60Hz
Power Consumption:	215W (average)
Dimensions:	57.7"H x 38.2"W x 23.4"D (1466 x 970 x 595mm)
Weight:	204.6 lbs. (93kg)
Computer Compatibility:	(partial listing)
	IBM 3101, 3279 (+RGB out), 5292, personal computer
	IBM display writer 6580-25L
	Apple II, IIE, III
	Tektronix 4027
	Chromatics 1999
	Ramtek 6211-1
	DEC Rainbow, professional
	NEC personal computer
	Most 80 character by 25 line terminals
Rear Panel:	27 connectors and 7 mode switches permit any of the following connections:
	• RGB plus sync inputs with both BNC and RCA jacks
	• Sync can be switched from linear to TTL
	• Sync can be composite-external, sync-on-green or separate horizontal and vertical sync
	• Loop-through is possible with an additional set of 7 BNC connectors for all above functions
	• 8-pin VTR connector—EIAJ
	• 20-pin computer input
	• Monochrome data input—BNC and RCA
	• Stereo audio inputs—RCA
	• Two 117VAC convenience outlets, 150W
BT-P4500D	.....\$5495.00

AK-400 3-CCD Color Video Camera

- Frame interline transfer CCD image sensor (RGB) 574H x 499V pick-up element
- f/1.4 prism with quartz filter
- Dual concentric filter wheels
- Variable speed electronic shutter (1/125, 1/250, 1/500, 1/1000 sec.)
- 2000 lux (at f/5.6) high sensitivity
- High signal-to-noise ratio of 60dB
- 650 TV lines resolution
- 0.05% all zones registration
- Dynamic highlight compression
- 6dB black stretch (0-25%)
- Iris override $\pm 1/2$ f-stop
- Gain select: 0, +9, +18dB
- Automatic modes: auto black, auto white (A, B preset), pulse cancel
- 3 channel RGB linear color matrix
- RGB shading correction: white H/V, black H/V, extender
- Lens extender red/blue gain, master pedestal
- 2H vertical aperture correction
- Zebra level indicator



AK-400
(Docked to AU-400)

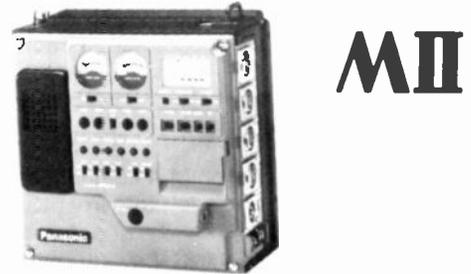
- Viewfinder character display: audio level, f-stop, filter-position, gain, auto, matrix, on/off, DC supply, shutter, lens extender, black stretch
- Viewfinder LED indicator: rec tally, VTR warning, auto, shutter, high gain, lens extender, black stretch, battery warning, tape remain

AK-400 Standard Configuration:

AK-400H camera head, AK-VF410 1.5" viewfinder, AK-Q470 tripod mounting adaptor, AKY-1044 shoulder strap

AU-400 Camera Recorder

- High picture quality, with 1" VTR performance, due to component analog CTCM recording and metal particle tape
- Compact, lightweight, rugged construction
- Dust and moisture resistant design and construction
- 20-minute recording with small 1/2" cassette. No adaptor is required to use the small cassette directly in other M-II VTRs
- Because of the dual video and audio heads, confidence video and audio can be checked on the built-in camera viewfinder and speaker during recording
- Playback can be monitored with the camera viewfinder or a B/W monitor via the video output connector
- Auto backspace editing is accurate within 3 ± 2 frames
- Built-in SMPTE time code generator (VITC/LTC) with separately addressable user bits
- Comes with external time code input
- Four audio channels: FM audio (CH3/CH4) and linear audio (CH1/CH2)
- Dolby C noise reduction circuitry for linear audio channels



AU-400

- Convenient in-the-camera viewfinder displays status, and provides an audible warning from the speaker should a problem occur
- Audio can be monitored on the side-mounted speaker
- Incorrect operation is prevented by the Inhibit switch

AU-S400 VTR Adaptor

- Selectable NTSC, Y/C, PR/PB input
- 26-pin camera connector input
- NTSC video BNC input
- Microphone level control for adjustment of input level from the camera microphone
- Tape indicator displays remaining time in 5-minute steps
- Battery compartment accepts two AU-BP220 Battery Packs

This VTR adaptor increases the range of applications of the AU-400, making it a stand-alone M-II portable recorder. It can be connected to a component or composite type ENG camera system.



AU-S400 (Docked to AU-400)

Accessories:

- AU-BP220** Rechargeable 2.2 AH 12VDC NiCad battery pack for the AU-400, AU-S400 and AU-500
- AU-BP402** Rechargeable 4 AH 12VDC NiCad battery pack for the AU-500
- AU-M400** AU-M400 camera-base mounted battery holder for the AU-BP220

- AU-B420** Battery charger for the AU-BP220 (1 hr. charge time) and AU-BP402 (2 hr. charge time)
- AU-B110** AC adaptor, supplies 12VDC at 10A for the AU-400, AU-S400, AU-500 and AU-505 via 4-pin XLR connector
- AU-B50** AC adaptor, supplies DC power for the AU-505
- AU-H400** Soft case for the AU-400/SU-400 combination

PANASONIC BROADCAST SYSTEMS

PORTABLE VTR/PLAYER/ TIME BASE CORRECTOR

MII

AU-500 Portable Recorder/Player

- High picture quality provides 1" VTR performance due to component analog CTCM recording and metal particle tape
- 90-minute recording/playback using standard 1/2" cassettes. A small cassette provides 20-minute recording/playback without requiring an adaptor
- Confidence playback of color video and audio is possible. Video can be monitored in the camera viewfinder and at the video output; audio can be monitored at the audio monitor output
- SMPTE time code generator (VITC/LTC) and reader (LTC)
- Time code data can be superimposed on the video output
- Four audio channels: 2 FM audio (CH3/CH4) and 2 linear audio (CH1/CH2)
- Built-in Dolby C noise reduction circuitry for linear audio
- Built-in RS-422 9-pin serial interface
- Field color playback, including a simplified DOC circuit, allows field viewing
- SC In and Sync In terminals for TBC connection
- Five times normal speed search, reverse and forward
- Audio dubbing on longitudinal tracks CH1/CH2
- Warning indicators (Dew, Servo, Tape End, Clog, Battery, Slack) inform the operator of VTR status
- Built-in RF modulator (CH3/CH4) for TV set monitoring
- Camera input (26-pin) can be switched among component, Y/C, and composite



AU-500

- One AU-BP402 or two AU-BP220 Battery Packs can be used

Accessories

- AU-BP220** Rechargeable battery pack, NiCad, 12VDC, 2.2AH, 1.5 lbs.
- AU-BP402** Rechargeable battery pack, NiCad, 12VDC, 4AH, 3.08 lbs.
- AU-B420** Battery charger for the AU-BP220 and AU-B420
- AU-B110** AC adaptor, supplies DC power
- AU-H500** Soft case for AU-500

AU-505 Field Player

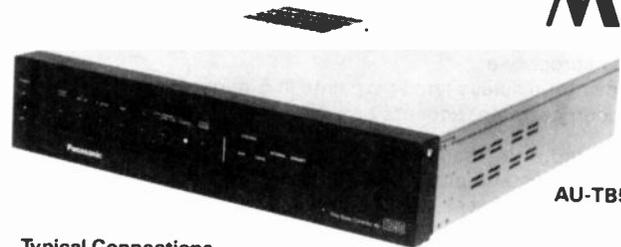
- High quality picture based on M-II component analog format
- Compact, lightweight, and easy-to-carry player
- 90-minute playback on standard 1/2" cassette, or 20-minute playback using the small cassette, without the need for an adaptor
- Four audio channels: 2 FM audio (CH3/CH4) and 2 linear audio (CH3/CH4)
- Dolby C noise reduction for linear audio (CH1/CH2)
- Built-in RF modulator (CH3/CH4) for playback
- 8-pin EIA-J connector for easy connection to a video monitor
- Wireless remote control with on-board storage space
- Built-in time code reader (LTC/UB)
- 8-digit LCD tape counter
- 2-way power supply (battery: one AU-BP402 or two AU-BP220. AC requires AU-B50 adaptor)



AU-505

AU-TB50 Time Base Corrector

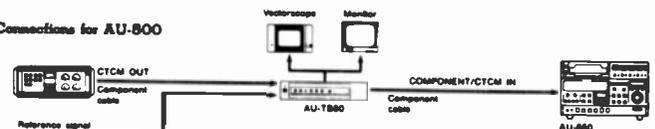
- Special component time base corrector is an optional companion for the AU-500 and AU-550 VTRs
- Correction window of 32H for three component baseband signals
- With the AU-550, broadcast quality reproduction with no guard band noise, is possible from (1x) normal speed in reverse to twice normal speed forward (+ 2x)
- S/N deterioration due to bandwidth and noise from digital conversion is minimized by 8-bit, 13.5MHz sampling
- Color framing editing
- Playback is synchronized with the reference signal up to ± 5 times normal speed; up to ± 16 times in monochrome
- Built-in digital 1H line component (Y, PR, PB) dropout compensation circuit
- Vertical blanking may be any line between 10H and 21H
- Internal sync generator may be synchronized externally
- Front panel video level, chroma level, set up, hue, sub-carrier phase, and sync phase controls
- Remote level and phase control is possible with the optional AU-ER65 Encoder Remote Control accessory



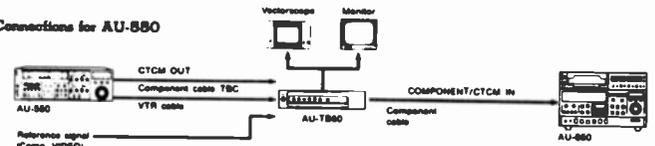
AU-TB50

Typical Connections

Connections for AU-800

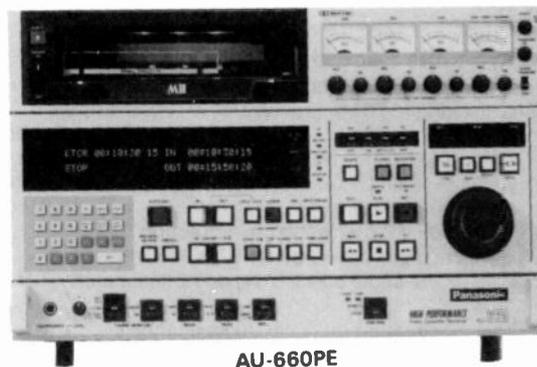


Connections for AU-550



AU-660PE Editing Studio Recorder/Player with Automatic Tracking

- 23-key editing control panel on detachable panel
- Auto tracking (AT) allows noiseless playback from -1X to +2X normal speed plus still frames
- In the variable (AT) mode, the operating conditions (tape direction and speed change) within the range extending from normal speed in reverse (-1X) to twice normal speed (+2X) can be memorized and played back (Variable Memory Playback)
- 2 built-in demodulators make possible "on-the-fly-editing" with instantaneous switching from auto tracking heads to the record/playback heads without picture distortion at the change-over
- Machine-to-machine synchronization and sync roll via simple connections
- When editing with a second VTR, the field select function allows you to select odd or even fields to match the fields of both VTRs
- Individual record inhibit for video, linear audio channels and time code
- Automatic standard/non-standard selection function automatically detects whether the input signal or the signal from the tape is standard (conforming to RS-170A) or non-standard and automatically selects the same signal type for recording or playback
- Independent black burst output for correct color framing, editing and genlock purposes
- High picture quality, due to component analog Chrominance Time-Compressed Multiplexing (CTCM), provides 1" VTR performance
- 90-minute recording and playback with standard-sized 1/2" cassette. A small, 20-minute cassette may also be used, without an adaptor
- Confidence playback of video and audio (CH1/CH2) is possible during recording for real-time monitoring

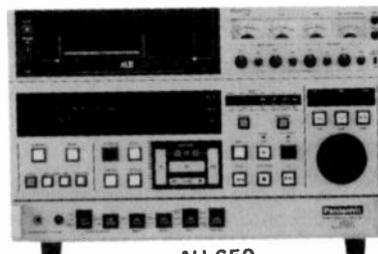


AU-660PE

- Built-in digital component TBC with 32-line correction
- Built-in SMPTE time code generator/reader (VITC/LTC)
- Four audio channels: 2 FM audio (CH3/CH4) and 2 linear audio (CH1/CH2)
- Built-in Dolby-C noise reduction for linear audio channels
- Large, 32 character, two line alphanumeric display
- Maximum of 32x normal speed forward and reverse search and jog are possible
- Full range of assemble and insert editing for video/FM audio (CH3/4), linear audio (CH1/2) and time code. Convenient functions like preview, review, Go-To, trim and auto tag provide maximum versatility for studio editing tasks
- Tape speed override (TSO) permits manual adjustment of playback speed differences between the AU-460 and a second VTR up to 15% of normal speed
- Program playback speed can be adjusted from 80-120% of normal in 0.1% steps, allowing time compression or expansion
- Built-in RS-422A 9-pin serial interface and 50-pin parallel interface
- 19" rackmountable

AU-650 Studio Recorder/Player

- High picture quality, due to component analog Chrominance Time-Compressed Multiplexing (CTCM), provides 1" VTR performance
- 90-minute recording and playback with standard-sized 1/2" cassette. A small, 20-minute cassette may also be used, without an adaptor
- Auto-tracking provides broadcasting pictures in still and slow motion, from normal speed reverse to twice normal speed forward, in 56 steps
- Confidence playback of video and audio (CH1/CH2, CH3/CH4) and time code is possible
- Built-in digital component TBC with 32-line correction
- Built-in SMPTE time code generator/reader (VITC/LTC)
- Four audio channels: FM audio (CH3/CH4) and linear audio (CH1/CH2)
- Built-in Dolby-C noise reduction circuitry for linear audio (CH1/CH2)
- Large, 32 character, two line alphanumeric display
- Maximum of 32x normal speed forward and reverse search and jog are possible
- Presettable smooth-action slow motion
- TSO (tape speed override) allows adjustment of playback speed within $\pm 7\%$



AU-650

- Time code data can be superimposed on one video output
- Built-in RS-422 9-pin serial interface and 50-pin parallel interface
- Waveform remote and encoder remote for system integration
- S.C. H-phase adjustment for proper NTSC signal output
- 19" rackmount, requiring only 6 rack units
- Tilttable operation panel may be removed and remoted

Preliminary AU-X80 Editing Studio Recorder/Player

- High picture quality, due to component analog CTCM, provides 1" VTR performance
- 90-minute recording and playback with standard-sized 1/2" cassette. A small, 20-minute cassette may also be used, without an adaptor
- The AU-X80 is equipped with a 12-pin multi-connector for CTCM/component input-output switching to give it both MII-to-MII and component editing capabilities
- A 7-pin connector outputs the luminance (Y) and chrominance (C) signals separately for editing/dubbing onto S-VHS system VTRs with minimal degradation
- For both insert and assemble editing, the video, audio 1 and audio 2 tracks can be selected independently and in any combination. The use of an external edit controller makes possible automatic editing, including single event editing by setting the in and out points, as well as Preview
- Quick and precise edit point setting with 17-step Jog and Shuttle dial
- 2 linear audio tracks with Dolby-C noise reduction
- Independent level meters for audio 1, audio 2 and video/tracking
- Digital time counter
- Auto head cleaning system
- Tilttable operation panel in 7 steps up to 90°
- 19" rackmountable

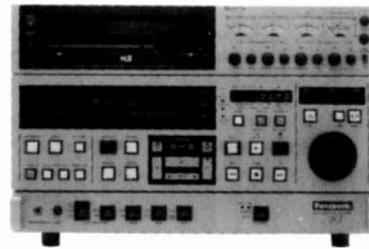


AU-X80

Preliminary

AU-640 Editing Studio Recorder/Player

- High picture quality, due to component analog Chrominance Time-Compressed Multiplexing (CTCM), provides 1" VTR performance
- 90-minute recording and playback with standard-sized 1/2" cassette. A small, 20-minute cassette may also be used, without an adaptor
- Confidence playback of video and audio (CH1/CH2) is possible during recording. For real-time monitoring
- Built-in digital component TBC with 32-line correction
- Built-in SMPTE time code generator/reader (VITC/LTC)
- Four audio channels: 2 FM audio (CH3/CH4) and 2 linear audio (CH1/CH2)
- Built-in Dolby-C noise reduction for linear audio channels
- Large, 32 character, two line alphanumeric display on detachable panel
- Maximum of 32X normal speed forward and reverse search and jog are possible
- Full range of assemble and insert editing for video/FM audio (CH3/4), linear audio (CH1/2) and time code. Convenient functions like Preview, Review, Go-To, Trim and Auto Tag provide maximum versatility for studio editing tasks
- Audio edit points can be set separately from video edit points (split editing)
- Color framing in a 4-field sequence prevents H-shift that occurs at editing points. This function assures optimum picture quality in editing and is especially effective for production work such as animation

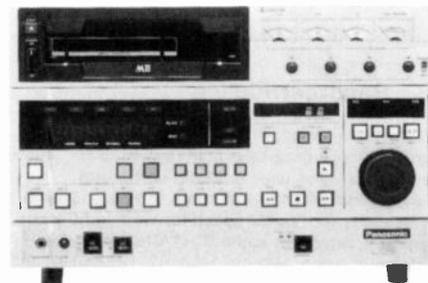
AU-620

- Vertical interval subcarrier control to prevent phase differences and preserve resolution during conversion from composite to component or vice versa
- Tape speed override (TSO) permits manual adjustment of playback speed differences between the AU-460 and a second VTR in ranges of $\pm 6.25\%$ or $\pm 12.25\%$
- Waveform, encoder, and TBC remote controls
- Audio mix output
- Built-in RS-422A 9-pin serial interface and 50-pin parallel interface
- 19" rackmount

Preliminary

AU-630 Studio Player with Auto Tracking

- Auto Tracking (AT) allows noiseless playback from -1X to +2X normal speed plus instant starts from still frames making the AU-630 ideal for broadcast use
- Slow-motion speed can be preset to 1/2, 1/8, 1/16 or 1/32 second for smooth transfer from normal speed playback with no disruption
- High picture quality provides 1" VTR performance due to component analog CTCM recording and metal particle tape
- 90-minute playback time with standard 1/2" cassette
- A small 20 minute videocassette can also be used without an adaptor
- When playing back tapes containing a color frame pulse, the AU-630 will control color framing in a 4-field sequence to prevent H-shift at edit points
- Adaptive Edge Comb Filter delivers outstanding vertical resolution in slow/still AT modes
- With the Variable Memory Playback, changes in tape speed and direction can be recorded in memory for freely selectable tape intervals when playing tapes recorded in the variable (AT) mode at -1X to +2X normal speed
- Tape Speed Override (TSO) permits manual adjustment of playback speed differences between the AU-630 and a second VTR in ranges of $\pm 6.25\%$ and $\pm 12.25\%$
- Program playback speed can be adjusted from 80-120% of normal in 0.1% steps, allowing time compression or expansion
- Up to 4 cue points can be registered with the Multi-Cue Button
- Waveform, encoder, and TBC remote controls

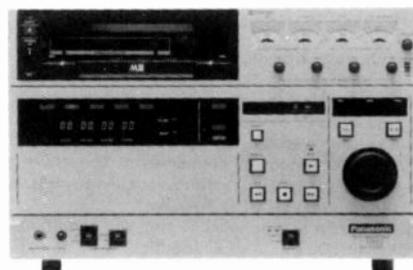



AU-630

- Audio mix output
- Built-in TBC with a 32H p-p correction capability
- Four audio channels: FM audio (CH3/CH4) and linear audio (CH1/CH2) with VU meter for each channel
- Built-in Dolby-C noise reduction circuitry for linear audio channels
- Built-in SMPTE time code reader (VITC/LTC)
- 8-digit display shows time code data, drop/non-drop frame mode of VITC/LTC and warning indications
- Maximum 32X shuttle search in forward and reverse with monochrome picture
- Built-in RS-422A 9-pin serial interface and 50-pin parallel interface
- 19" rackmountable

AU-620 Studio Player

- High picture quality provides 1" VTR performance due to component analog CTCM recording and metal particle tape
- 90-minute playback time with standard 1/2" cassette
- Built-in TBC with a 32H p-p correction capability
- Remote control of an externally connected TBC is possible
- Four audio channels: FM audio (CH3/CH4) and linear audio (CH1/CH2)
- Built-in Dolby-C noise reduction circuitry for linear audio
- Built-in SMPTE time code reader (VITC/LTC)
- 8-digit display shows time code data, drop/non-drop frame mode of VITC/LTC and warning indications
- Maximum 32X shuttle search in forward and reverse with monochrome picture. Viewable color video can be monitored up to 4X normal speed, forward and reverse, with frame by frame jog control
- Time code can be superimposed on the monitor

AU-640

- Built-in RS-422A 9-pin serial interface and 50-pin parallel interface
- Component/composite output is possible
- TSO allows adjustment of playback speed within $\pm 7\%$ for synchronization with other sources
- 19" rackmountable



AU-550 Field Edit Recorder with Auto Tracking

- High-quality picture, with 1" VTR performance, is made possible by component analog CTCM recording and the use of metal tape
- Standard-sized 1/2" metal tape cassettes permit more than 90 minutes of recording and playback, and small, 20-minute cassettes can be used without an adaptor
- Auto-Tracking allows noiseless playback at from -1 to +2 times normal speed, plus instant start from still frame (when used with the optional AU-TB50 Time Base Corrector)
- Confidence playback of video and audio (CH1/CH2) can be monitored during recording
- Built-in SMPTE time code generator and reader (VITC/LTC)
- Stable playback with viewable color at 5x normal speed, forward or reverse, is possible with the optional companion TBC (AU-TB50)
- Field color playback is possible through monitor or TV
- High FF and REW speed permits full rewinding of a 90-minute cassette in less than 6 minutes
- Two FM audio tracks (CH3/CH4) and two longitudinal tracks (CH1/CH2) provide a total of 4 audio channels, or two stereo pairs
- Built-in Dolby-C noise reduction on the longitudinal tracks
- Individual/combo editing is possible in video, FM, audio CH1/CH2, and time code modes

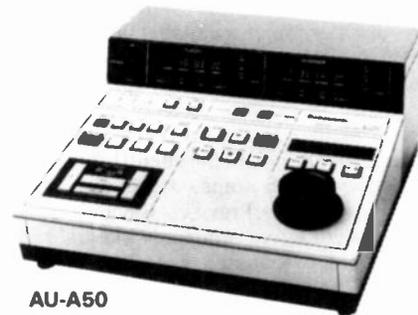


AU-550

- Picture search at ± 16 times normal speed, for quick program access and review
- Fine adjustment of capstan speed, up to $\pm 7\%$, is possible with Tape Speed Override (TSO) via the Trim button
- Preroll is presettable to 3, 5, 7, to 10 seconds
- Built-in RS-422 9-pin serial control interface
- AC or DC powered
- Built-in sync generator
- Tape speed override (TSO) allows a manual $\pm 20\%$ adjustment of playback phase differences between the two VTRs in 0.5% to 1.0% steps
- 19" rackmountable

AU-A50 Field Edit Controller

- Compact, lightweight, and designed for speed and mobility
- Rugged construction, sturdy enough for field work
- One-event memory for two-machine control and editing
- 8-digit LCD display shows present tape position, as well as Edit In/Out points (TC or CTL)
- Built-in RS-422 9-pin serial interface
- One-knob search operation. Once selected, the Jog, Variable, or Shuttle modes can be controlled by turning the Jog knob on either the player or the recorder
- Preview, Review, Go To, Auto-Edit, and Trim functions are all provided
- Built-in color bar and black burst generator with composite output
- Audio split editing



AU-A50



AU-MX50 Field Audio Mixer

- Compact and lightweight for easy mobility
- Rugged construction for tough field work
- 6x4 matrix audio mixer with linear faders
- Input levels of -60dB, -20dB, 0dB, +4dB, and +8dB, selectable
- Built-in audio equalizer for each output channel
- Four VU meters monitor output levels
- Built-in 400Hz or 1kHz tone generator
- Audio monitor output on the front panel
- Headphone terminal



AU-MX50



M-II 1/2" Metal Particle Tape Cassettes

- The use of pure iron particles boosts the magnetic characteristics far above conventional cobalt ferric oxide tape
- This high-density formulation of ultra-fine metal particles also boasts a -10dB improvement over conventional tape in the carrier-to-noise ratio

Standard Cassettes

- AU-MPL 90; 95 minutes
- 60; 65 minutes
- 30; 35 minutes
- 20; 23 minutes
- 10; 12 minutes

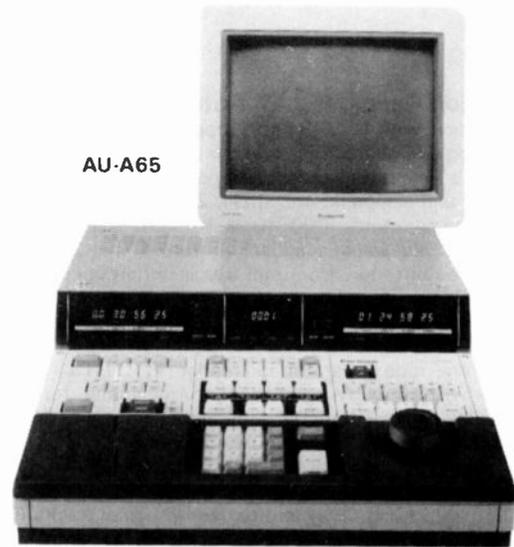
Small Cassettes

- AU-MPS 20; 23 minutes
- 10; 12 minutes



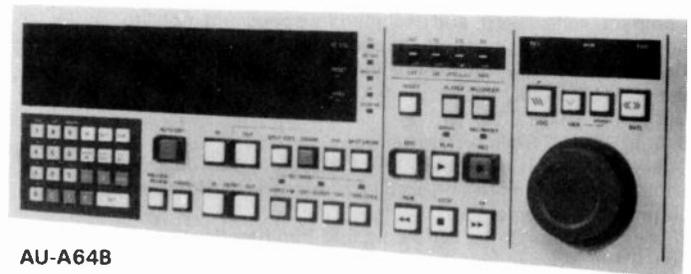
AU-A65 Editing Controller

- Optional AU-SW65 connects up to 4 VTRs via RS-422A
- Connection to optional CRT monitor • Editing using time code is frame-accurate • Maximum 250-event memory • Interface adaptor provides multi-format (3/4", 1", S-VHS) VTR compatibility
- Selectable CTL, LTC, VITC • Variable memory editing (VME)
- Audio split editing • First edit recording allows reference signal to be recorded onto blank tape prior to assemble editing • Color framing
- Shuttle from still up to 32 times normal playback in both forward and reverse. Jog and Slow Motion are possible from -1X to +2X normal speed • A/B roll transitions enable cut and dissolve (0 to 999 frames) • Errors are indicated by an audible alarm and error message display • V-V-V (preview), V-B-V, and B-V-B review editing are possible • Internal back-up battery protects data in EDL memory • 15-pin GPI port • Interface adaptor permits storage/retrieval of editing data onto/from 5" floppy disks • 36-pin parallel port allows printer connection • Editing points can be set with the Mark In/Out button • Preroll is presettable to 3, 5, 7, or 10 seconds



AU-A64B Production Edit Panel

- Programmable time code with 23 key control on the VTR front panel along with RS-422 source control • Variable speed memory playback allows memory storage of a variable playback sequence and recall on cue • 10 cue point memory for multiple cue recall
- Edit duration time displayed independently for video and audio edits • Audio split editing • Audio spot erase of audio CH1 or CH2 with preset in- and out-points • Search at up to 32X normal playback in both forward and reverse. Variable speed is possible from -1 to +2 times normal speed in 56 steps. Jog is also possible for frame-by-frame tape movement • Preview, Review, Go-To, Cue, and selectable preroll assist editing process • Manual tape speed override allows adjustment of capstan speed by $\pm 6.25\%$ and $\pm 1.25\%$ • 32 character 2 line display shows time code, operation mode, tape speed, edit-in and -out data, key pad entry and error messages • Rec inhibit for video, audio (CH1/CH2), or time code
- Multifunction LED display indicates color framing, SCH, etc.



M-II System Options, Accessories

AU-WR65 Waveform Remote Control Unit

- Controller for connecting four units, including AU-660PE, AU-650 and AU-620, and sending the signal from the selected VTR to the waveform monitor • Waveform remote function for up to four VTRs: Input, RF, Y/PR/PB, Encoder Out

AU-ER65 Encoder Remote Control Unit

- Controller for remote control of the encoder blocks of AU-660PE, AU-650, AU-620 and AU-TB50B • Encoder remote function: Video Level, Setup, C Level, Hue, System Subcarrier Phase (Fine/Coarse), Video Phase • On-air indication

AU-SW65 Audio Video Switcher

For switching and transmitting the 3-system component, composite, and audio L&R input signal.

- 3-input selection for component, composite, audio L&R signal
- Built-in fade (dissolve) function • A/B roll selection function
- Transition set, up to 999 frames • Interface with AU-A65

AU-IA35 Transcoder

- This unit converts M format signals to the MII format • Transcodes from Y, I, Q to Y, PR, PB

AU-A620 Remote Control Panel Case

- Case will mount on the front panel of the AU-660PE, AU-650 and AU-620 for use as a remote controller • Connection to the VTR via 20-pin cable

AU-A630 Remote Control Panel Case

- Case will mount on the front panel of the AU-660PE, AU-650 and AU-620 for use as a remote controller • Connection to the VTR via 20-pin cable

AU-A640 Remote Control Panel Case

- Case will mount on the front panel of the AU-660PE, AU-650 and AU-620 for use as a remote controller • Connection to the VTR via 15-pin cable • With 15-pin cable connection, extension of up to 33' (10m) is possible

AU-A650 Remote Control Panel Case

- Case will mount on the front panel of the AU-660PE, AU-650 and AU-620 for use as a remote controller • Designed for serial control (with 9-pin cable) using the RS-422A connector • With 9-pin serial cable connection, extension is possible for up to 3,300' (1,000m)

Wall Swivel Brackets

Peerless offers three distinct styles of wall brackets. Each particular design has features which could make one most desirable for your installation. Select the proper bracket for your application after comparing their features.

Single Arm Design

• Simple design—few parts • Easiest to assemble—quick installation • Provides security—cannot be disassembled once receiver is secured • Provides good swivel • Limited to 19" screen size maximum • Less headroom—arm protrudes below receiver

042-354-02	Wall swivel for 20" cube style set, tray size 20"W x 11"D flat tilt	\$57.00
042-356-02	Same as 042-354-02 but tilt is adjustable	75.00
043-530-02	Wall swivel for 16" to 19" set, tray measures 22"W x 13"D	63.00
043-531-02	Same as 043-530-02 but tilt is adjustable	77.00
043-532-02	Same as 043-530-02 but tilt is 10° fixed	68.00



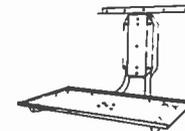
Single Arm Design

044-375-02	Wall swivel for large sets, tray size 24"W x 16"D flat tilt	\$91.00
044-376-02	Same as 044-375-02 but tilt is 10° fixed	94.00
2171-000	Non-locking Wall Swivel Bracket with universal tray for all 19" color TV receivers. Tray measures 24"W x 13 1/2"D	ea. 40.00
2172-000	Same as model 2171 except tray has fixed 10° tilt	ea. 42.00
2173-000	Same as model 2171 except tray has adjustable tilt from 0° to 15°	ea. 55.00
2176-000	Non-locking Wall Swivel Bracket for all 16" color receivers. Universal tray measures 19 1/4"W x 15"D	ea. 37.00

Double Arm Design

• Provides good head clearance • Limited swivel • Not as secure—can be disassembled • More complex design • More time to assemble and install • Limited to 21" screen size maximum

2121-000	Non-locking Universal Wall Swivel Bracket for all 19" color receivers. Tray measures 24"W x 13 1/2"D	ea. \$42.00
2121-010	Same as model 2121, with fixed 10° tilt	ea. 45.00
2123-000	Non-locking Universal Wall Swivel Bracket for 21" color receivers and 19" units with very large cabinets. Tray measures 25 7/8"W x 15 3/4"D	ea. 53.00



Double Arm Design

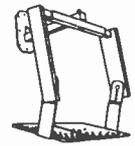
Yoke Bracket Design

• Handles all large receivers with ease • Unlimited swivel—unlimited tilt • Provides maximum head clearance • Fairly secure—difficult to disassemble • More complex design • More time to assemble and install

1469-170	Small Yoke Wall Bracket for 16" receivers, Complete with 13" deep random perforated telescoping tray for easy mounting. Width of yoke adjusts from 13 3/4" to 22". Height from 12" to 18"	\$172.00
1470-171	Yoke Bracket for 19" receivers. Complete with 13" deep adjustable perforated tray for easy mounting. Width adjusts from 22" to 36". Height from 12" to 18"	ea. 177.00



Yoke Bracket Design



Yoke Bracket Design

1470-173 Yoke Style Mounting for 21"-25" color receivers or other large products. Complete with 13" deep adjustable perforated tray for easy mounting. Width of yoke adjusts from 22" to 36". Height from 18" to 24" **ea. \$182.00**

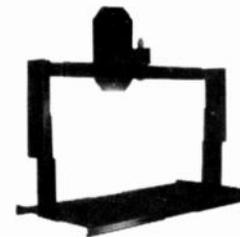
Yoke Style Ceiling Mounts

1479-160	Small yoke bracket for 16" set, 12" to 18"H x 13 3/4" to 22"W	\$141.00
1479-128	Small yoke bracket for 19" set, 18" to 24"H x 13 3/4" to 22"W	154.00
1480-161	Yoke bracket for 19" set, 12" to 18"H x 22" to 36"W	146.00
1480-163	Yoke bracket for 21" to 27" set, 18" to 24"H x 22" to 36"W	151.00
1481-234	Yoke bracket for tall 25" to 27" set, 24" to 30"H x 22" to 36"W	159.00
1433-460	Structural ceiling kit	22.00
1433-450	Suspended ceiling kit	177.00
1433-465	Finished ceiling kit	55.00
1445-000	Extension column w/woodgrain vinyl trim	11.00
1418-000	Ecutechon plate	8.00

Note: Check dimensions of set to be mounted when ordering bracket in order to assure proper fit.

Yoke Style Wall Mounts

Yoke style wall mounts feature unlimited swivel and tilt. Both height and width of the yoke bracket can be adjusted, and the 13" deep mounting tray is randomly perforated to accommodate virtually any make and model monitor, up to 27" screen size. Unit is finished in solar black baked enamel.



1469-128

The yoke style mount is also available with cabinet mounting plates in place of the perforated tray. These attach at the bottom edge on each side of the monitor cabinet. The yoke style bracket is also available as a ceiling mount.

1469-170	Small yoke wall mount for 16" set, 12" to 18"H x 13 3/4" to 22"W	\$72.00
1469-128	Small yoke wall mount for tall 19" set, 18" to 24"H x 13 3/4" to 22"W	185.00
1470-171	Yoke wall mount for 19" set, 12" to 18"H x 22" to 36"W	177.00
1470-173	Yoke wall mount for 21" to 27" set, 18" to 24"H x 22" to 36"W	182.00
1471-234	Large yoke wall mount for 25"-27" set, 24" to 30"H x 22" to 36"W	189.00

Small Monitor Ceiling Mounts

052-307-02	Small monitor ceiling mount, tray size 9"W x 9"D	\$71.00
052-310-02	Small monitor ceiling mount, tray size 9 1/2"W x 11 1/2"D	83.00
052-314-02	Small monitor ceiling mount tray size, 13"W x 12"D	90.00
052-334-02	Small monitor ceiling mount, tray size 17"W x 12"D	97.00

Small Monitor Wall Mounts

All of the models below offer 120 degrees of swivel and adjustable tilt. All are equipped with a security tray using a key-type lock. Finished in solar black baked enamel.

041-307-02	Small monitor wall swivel, tray size 9"W x 9"D, Adj. tilt, locking	\$56.00
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041-307-02

041-310-02	Small monitor wall swivel, tray size 9 1/2"W x 11 1/2"D, Adj. tilt, locking	\$58.00
042-314-02	Small monitor wall swivel, tray size 13"W x 12"D, Adj. tilt, locking	59.00
042-334-02	Wall swivel for 10" to 16" sets, tray size 17"W x 12"D, Adj. tilt, locking	64.00

PINNACLE SYSTEMS

3000E Graphic Design WorkStation—Includes Video WorkStation chassis; the Pinnacle Painter full-color 32-bit paint system; the Pinnacle Sculptor 3D modeling system; vector based anti-aliased multiple font package; digitizing tablet; pen with cancel button; keyboard; paint memory; 3D memory; 95M byte hard disk drive; AGP-3 accelerated central processor with accelerated floating point processor; Video WorkStation integration software. \$39,950.00

3000E Series Options

3000-40 Animation Option—Animation and machine control package including motion scripting; lighting choreography; real-time wireframe preview; in-betweening; trajectory calculations; serial VTR control; 3000E Series software integration package for animation, 3D, and paint. \$9,995.00

3000-20 FreezeFile™ Option—Adds FreezeFile capability to 3000 Series WorkStation. Standard system stores more than 150 frames or 300 fields. \$5,450.00

3000-10 Digital Effects Option—Adds real-time digital effects and montage capability to 3000 WorkStation (requires 2000 Series control panel). . . . \$12,950.00

2000 Series Control Panel with 25' cable \$4,500.00

ETB-4 Extended Texture Buffer Memory—Adds four additional texture buffer memory locations for use in texture mapping 3D models. For series 2030, 2033, 2040 and 3000E only. \$2,995.00

2010 Video WorkStation with Software-Based Digital Effects—Includes Video WorkStation chassis; control panel; effects system software; montage frame buffer; key processing channel; and 25' control cable. \$23,500.00

2020 WorkStation with FreezeFile—2010 plus a single channel still store. Standard system stores more than 150 frames or 300 fields. Stills can be stored and recalled randomly and can be arranged in a stack or sequence play list. Digital effects and transitions between stills or between stills and live video are possible using 2020 software. \$32,800.00

2020-2 WorkStation with Preview Channel—2020 with the preview channel output frame buffer and integration software. Output is full bandwidth RGB or monochrome, frame or field. \$39,900.00

2030 WorkStation with Paint—2020-2 plus Pinnacle Painter full-color 32-bit paint software; digitizing tablet; pen with cancel button; keyboard; extended paint memory package; vector based anti-aliased multiple font package; 2030 software and component digital video integration package for paint, FreezeFile and effects. \$49,200.00

2033 WorkStation with 3D Modeling—2030 plus Pinnacle 32-bit Sculptor 3D modeling; lighting; texture mapping software package; 8 additional bitstream fonts; floating point processor; extended 3D memory package, 2033 software and component digital video integration package for 3D, paint, FreezeFile and effects. \$57,950.00

2040 WorkStation with 3D Animation—2033 plus frame-by-frame animation and VTR control including motion scripting; lighting choreography; real-time wireframe preview; in-betweening; trajectory calculations; serial VTR control; and 2040 series software and component digital video integration package for animation, 3D modeling, paint, FreezeFile, and effects. \$67,850.00

AGP-3 Accelerated Graphics Processor—Acceleration option decreases 3D modeling and rendering time by more than 200%. For 2000 Series and 3000. Included with 3000E. \$4,995.00

SV-1000 Super V-1000 Desktop Video WorkStation—Includes system unit; control panel with joystick; 25' control cable. Standard features include variable smooth placement; cropping; borders; pushes and pulls; wipes; cuts; posterize; tint; negative; horizontal and vertical invert; and GPI in and out. . . . \$13,900.00

SV-1000E Super V-1000 Desktop Video WorkStation with Enhanced Digital Effects—SV-1000 plus enhanced effects package with variable smooth compression; field strobe; variable mosaics; limited sequencing and picture path acceleration. \$15,995.00

"S" Option Super V-1000 Still Store*—Still Store option adds the ability to randomly store, recall, and manipulate up to 100 stills with extremely fast access time. Stills are stored on internal Winchester disk drive. Option may be ordered as SV-1000S or SV-1000ES models. \$3,995.00

"AT" Option Super V-1000 WorkStation AT*—IBM-AT hardware and software compatible video workstation. Includes 20M byte hard disk and controller, AT-style keyboard; color graphics display adaptor with color and monochrome output; and IBM DOS 3.3. Not needed for "S" option. \$1,000.00

K1000-S WorkStation Still Store Upgrade Kit—Upgrade kit to field convert SV-1000 or SV-1000E to the "S" version. \$4,995.00

K1000-AT WorkStation AT Upgrade Kit—Field convert SV 1000 or SV 1000E into IBM-AT compatible computer, including 20M byte hard disk and controller; AT-style keyboard; color graphics display adaptor with color and monochrome output; IBM DOS 3.3.4. \$1,395.00

K1000-E Enhanced Digital Effects Kit—Upgrade SV 1000 to SV1000-E. \$2,990.00

DIGITAL VIDEO EFFECTS/GRAPHICS



2040 Video WorkStation™

PRIZM Option for the Video WorkStation—Adds complete Z-axis manipulations including rotation, perspective and the ability to integrate all other 2000 or 3000 series WorkStation functions. \$29,400.00

CEO PRIZM Option—Curved effects option adds the ability to bend and warp real time images. Adds such effects as page turns and fish eye. \$4,995.00

Linear Key Channel PRIZM Option—8-bit, full bandwidth \$12,500.00

CAO Component Analog I/O Option*—For Betacam and MII compatibility. For 2000 or 3000 Series Video WorkStation. \$950.00

Y/C Composite Switchable I/O Option*—For 2000/3000 series. \$495.00

DSK21 Component Analog Background Keyer—Downstream keyer to be used with Video WorkStations equipped with CAO or Y/C option. Gives component systems live videoc background capability. \$795.00

SX21 A/B Composite/Component Routing Switcher—Video WorkStation controlled or manual routing switcher for composite, component analog video (Betacam, Betacam SP, MII, S-VHS). \$895.00

DC-2000/DC-200C/DC-2000Y/C Dual Channel Digital Effects Combiner and Software—Two channel system requires two 2000/3000 Series Video WorkStations. Unique dual channel system when used in conjunction with montage memories and built-in background keyer, gives 5 active layers of video. \$995.00

DC-2000 Dual channel digital effects combiner and software \$1,695.00

DC-200C Component version \$1,695.00

DC-2000Y/C S-VHS version \$1,695.00

TD-60 Digital Cartridge Tape Backup System—Backs up to 120 NTSC (72 PAL) still frames; 240 NTSC (144 PAL) still fields on a single removable cartridge. Will also back up Painter and Sculptor images, animation files and sequences. \$2,950.00

Additional TC-50 Tape Cartridges. \$50.00

OD-800 Digital Optical Disk Drive—800M byte write-once (WORM) optical disk drive. Archives up to 1600 NTSC (967 PAL) still frames; 3200 NTSC (1934 PAL) still fields on a single removable optical cartridge. Can record and play Freeze-Files directly from the OD-800. Will also back-up Painter and Sculptor images, animation files and sequences. \$8,900.00

Additional OC-800 Optical Cartridges \$290.00

HD-200 200M Byte Hard Disk Option*—Doubles storage capacity of standard disk drive. Recommended for the 3000, 2030, 2033 and 2040. \$2,900.00

BE-150 Buffered Extension Cable for WorkStation AT Option—Used to place keyboard and RGB color monitor up to 150' away from system unit. . . . \$500.00

HCO Hard Copy Input/Output Interface—Supports a host of hard copy devices for graphics output including film recorders, laser printers, thermal printers and ink jet printers. Supports high resolution scanners. Can print out pixel or vector based images. Sculptor images can be output in high resolution up to 4000 x 4000 pixels. \$2,900.00

CMM-9 9" Color RGB Menu Monitor (includes 6' cable) \$695.00

KCA Component Analog Input/Output Kit—For existing composite system. \$5,100.00

KYC Switchable Y/C-Composite Upgrade Kit. \$3,800.00

KHD200 200M Byte Disk Drive Upgrade Kit \$5,500.00

K2020 Upgrade Kit for 2010—To a 2020. \$9,800.00

K2020-2 Preview Channel Upgrade Kit for 2020—To a 2020-2. \$7,700.00

K2030 Paint Upgrade Kit for 2020-2—To a 2030. \$10,400.00

K2033 3D Modeling Upgrade Kit for 2030—To a 2033. \$9,500.00

K2040 Animation Upgrade Kit for 2033—To a 2040. \$10,750.00

KAGP3 Accelerated Graphics Processor Kit. \$7,500.00

*Option must be specified at time of order.

LD-V2000 LaserDisc Player

A general purpose level 1 and level 3 player with a slimline profile and automatic disc loading system, the LD-V2000 supports both 12" and 8" discs with complete Standard Play (CAV) and Extended Play (CLV) features available during manual and computer modes.

The LD-V2000 performs frame searches to any of the CAV disc's 54,000 still frames in less than 8 seconds and will also time search to the nearest second on CLV discs. A wireless remote control is included.

Specifications

Output Video Level:	NTSC composite, 1V p-p (75 ohm terminated)
Horizontal Resolution:	400 lines
Computer Control Port:	8-pin DIN connector
Power Requirement:	120V, 50/60Hz
Power Consumption:	35W
Dimensions:	100H x 420W x 387Dmm
Weight:	18.9 lbs.
LD-V2000	.....\$635.00



LD-V2000

LD-V3000 8" LaserDisc Player

The LD-V3000 is a compact, portable player designed to play 8" LaserVision videodiscs exclusively. It can be controlled manually (level 1) via a hard-wired remote control; used as a standalone programmable interactive system (level 2); or controlled by an external computer (level 3).

The player includes an internal 1K programmable memory and utilizes a programming language compatible with existing Pioneer players.

Random access search to any of up to 25,000 video frames is performed in 4 seconds or less. The player features front loading disc access, rugged components and a semi-conductor laser diode light source.

The LD-V3000's compact size, light weight and extensive level 2 capabilities make it ideal for a wide variety of "on-the-road" demonstrations, training and educational applications, or in installations with especially tight space limitations.

Specifications

Output Video Signals:	NTSC composite
Output Audio Signals:	2 channels (L, R)
Interface Port:	8-pin DIN type
Max. Search Time:	< 4 seconds
Dimensions:	5.2" H x 9.9" W x 12.2" D
Weight:	11.7 lbs.
LD-V3000	.....\$1075.00
RU-V3000T Remote Control	.....\$45.00



LD-V3000

LD-V4200 LaserDisc Player

Designed for use as an economical, but high performance level 3 player, the LD-V4200 features an RS-232C interface, slimline profile, front panel player controls and player generated text overlay. Long distance frame searches are accomplished in less than 3.5 seconds, and short searches (less than 100 frames) do not produce a blanked video output. The LD-V4200 plays both 12" and 8" Standard Play (CAV) and Extended Play (CLV) discs. An optional hard wired remote control is available.

Specifications

Output Video Level:	NTSC composite, 1V p-p (75 ohm terminated)
Horizontal Resolution:	400 lines

Computer Control Port:	RS-232C, 15-pin D-sub connector
EFM Signal Out:	5-pin DIN connector
Max. Search Time:	< 3.5 seconds
Power Requirement:	120V, 50/60Hz
Power Consumption:	36W
Dimensions:	100H x 420W x 395Dmm
Weight:	19.8 lbs.
LD-V4200	.....\$1065.00
RU-V101 Remote Control	.....\$55.00
CC-03 RS-232C Cable (Male DB-15 to male DB-25DTE)	.....\$30.00
CC-04 RS-232C Interface Cable Kit For Apple Macintosh Plus/SE, Apple II GS, and Mac II. (Male DB-15 to Apple "Circular-8")	.....\$20.00



LD-V4200

LD-V6000A LaserDisc Player

The LD-V6000A videodisc player is capable of playing LaserVision videodiscs under 3 levels of control: in manual mode (level 1); as a standalone programmable interactive system (level 2); and under external computer control via a built-in RS-232C interface port (level 3).

The LD-V6000A provides external sync and subcarrier inputs with loopthrough terminals, and has the ability to communicate with computers using ASCII character codes or 8-bit binary commands.

The LD-V6000A offers a front loading design, rugged components and a semiconductor laser diode light source. An optional remote control unit is available.

The LD-V6000A has all the powerful functions found in the LD-V6000, plus several upward compatible performance improvements.

Maximum search time is less than 2 seconds. Level 1 control functions have been expanded to include Chapter Search, and CLV functions have been included. The LD-V6000A also features a "track jump" capability which allows almost instant access to nearby video frames.

Specifications

Output Video	
Signals:	NTSC composite, 1V p-p, 75 ohm; RF, channel 3/4
Horizontal Resolution:	370 lines



Output Audio	LD-V6000A
Signals:	2 channels (L, R), 20-20,000Hz, ± 3dB
Interface Port:	RS-232C, DCE baud rate from 300-9600
Max. Search Time:	< 2 seconds
Dimensions:	5 ¹⁵ / ₁₆ " H x 16 ¹¹ / ₃₂ " W x 16 ⁵ / ₁₆ " D
Weight:	30.9 lbs.
LD-V6000A	..... \$1925.00
RU-V6000T Remote Control	..... .60.00
CK-232 Interface Cable Kit. IBM InfoWindow	..... .95.00
CC-05 RS-232 Interface Cable Kit. For Apple Macintosh Plus/SE, Apple II GS, and Mac II. (Male DB-25 to Apple "Circular-8")	..... .20.00

LD-V6010A LaserDisc Players

The LD-V6010A is identical to the LD-V6000A, except that it utilizes a video circuit which eliminates the external sync and subcarrier inputs, which are not required by most standalone or single-player applications. The RS-232C interface and other performance and design features are unchanged from the LD-V6000A.

The LD-V6010A has all of the new features found in the LD-V6000A, including 2 second search time, "track jump" and CLV functions.

Specifications

Output Video	
Signals:	NTSC composite, 1V p-p, 75 ohm; RF, channel 3/4
Horizontal Resolution:	370 lines
Output Audio	
Signals:	2 channels (L, R), 20-20,000Hz, ± 3dB
Interface Port:	RS-232C, DCE baud rate from 300-9600
Max. Search Time:	< 2 seconds
Dimensions:	5 ¹⁵ / ₁₆ " H x 16 ¹⁷ / ₃₂ " W x 16 ⁵ / ₁₆ " D
Weight:	30.9 lbs.



LD-V6010A	..... \$1765.00
RU-V6000T Remote Control	..... .60.00
CK-232 Interface Cable Kit. IBM InfoWindow	..... .95.00
CC-05 RS-232 Interface Cable Kit For Apple Macintosh Plus/SE, Apple II GS, and Mac II. (Male DB-25 to Apple "Circular-8")	..... .20.00

LD-V6200A LaserDisc Players

The LD-V6200A maintains all the functions and performance of the basic LD-V6000A videodisc player, while substituting the IEEE-488 parallel interface port for the RS-232C interface found in the LD-V6000A and LD-V6010A players. The IEEE-488 interface is particularly well suited for multiple player control from a single external computer.

Specifications

Output Video	
Signals:	NTSC composite, 1V p-p, 75 ohm; RF, channel 3/4
Horizontal Resolution:	370 lines
Output Audio	
Signals:	2 channels (L, R), 20-20,000Hz, ± 3dB
External Sync:	+ 2V to -2V (min.) + 2V to -4V (max.)
External Subcarrier:	2V p-p
Interface Port:	IEEE-488
Max. Search Time:	< 3 seconds < 2 seconds "A" version
Dimensions:	5 ¹⁵ / ₁₆ " H x 16 ¹⁷ / ₃₂ " W x 16 ⁵ / ₁₆ " D
Weight:	30.9 lbs.



LD-V6200A	..... \$1995.00
RU-V6000T Remote Control	..... .60.00
CK-488 Interface Cable Kit. Includes IEEE-488 (GPIO) cable plus BNC-to-RCA video cable. Suitable for use with IBM InfoWindow and similar systems.	..... 135.00



PORTA-BRACE®

K and H Products, Ltd.

VIDEO CARTS/CASES

Porta-Brace® Shoulder Cases w/Rain-Top for Camcorders.



Sunny Days



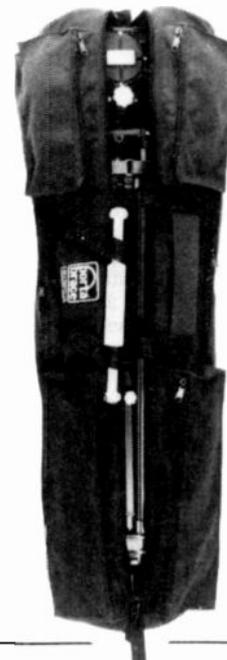
Rainy Days

Full-time Shoulder Case provides protection against bumps, scrapes, dust, heat and cold on your shoulder or off.

Extra feature added with the lightweight pop-out Rain-Top which is sewn to the main body so it can't be lost or left behind. (Stuff it into the slim side pocket when the sun shines).

When ordering your Shoulder Case be sure to send camera model number...recorder model number...and battery style to be used \$285.00

HB-40 CAM Heavy-duty Shoulder Strap—use Sony strap hardware \$35.00



TRIPOD MUMMY CASE

A case for professional tripods with fluid heads. A soft, lightweight, thickly padded Cordura® Case that is waterproof and durable. There are pockets for many accessories; handles, tripod platforms, fish poles and mics. Also will carry lighting kit with light stands. Comes with maple wooden handle and shoulder strap.

. \$228.00

Run Bag



Why should a run bag be cluttered? Speed is necessary, so be organized, find those spares and extras in a hurry.

RB-1 Small \$103.00
RB-2 Large 108.00

Porta-Brace® Monitor Cases

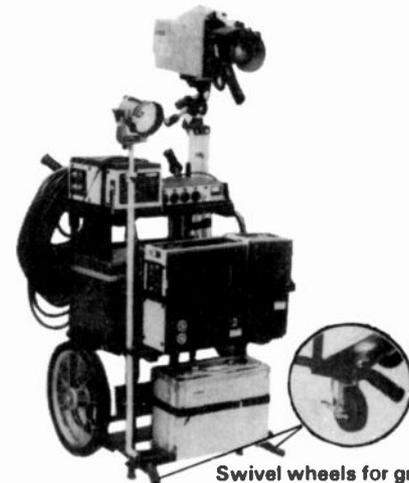


Protection and glare reduction guard with adjustable pedestal, also easy access to battery, switches, controls and cable connections.

Lightweight Field Monitors (stays in protective case)

- MO-8020 Sony PVM-8020/BVM-8021 8" Monitor . . \$115.00
- MO-CT500 Panasonic CT-500 5" Monitor115.00
- MO-22U JVC TM22U/44U/41U115.00
- MO-5863 Leader LVM-5863A Wave Form/Monitor115.00

Porta-Brace® "Grip"



Swivel wheels for grip

Versatile, heavy-duty carts for studio or field use. Optional light stands, tripod quivers, and carry-all cases available from \$615.00

Director Case



Room for Producer/Director tools of the trade plus a detachable SLR or small video camera bag to take for candid shots.

DC-1 \$150.00

Porta-Brace® Monitor/Player



Large Portable Monitors (remove from case to use)

- MO-AG500 Panasonic AG-500 10" Monitor/Player . . \$120.00
- MO-R9U JVC TM-R9U120.00
- MO-130 Panasonic CT-130 13" Monitor135.00

Heavy-duty shoulder strap included, firm grip hardwood handle, great lightweight transport case.

Porta-Brace® Waist Belt Production Pack



Basic Pack includes waist belt w/quick-release buckle and two multi-pocketed, general-purpose pouches, other specialized pouches can be added. (Designed for BETACAM users and others.)

BP-2 \$97.00



PORTA-BRACE®

K and H Products, Ltd.

VIDEO CASES

**Porta-Brace®
Video Recorder Cases**

Designed to provide custom-fitted protection in the field while allowing immediate access to controls, connections, and batteries through weather-protected openings.

Your choice of heavy-duty contoured suede leather strap HB-40 or 2" webbed strap HB-20 is supplied with purchase of recorder case. Comes with sewn-on front pockets for cassettes, batteries, mics, etc., two white balance cards (one removable). "Piggin Strings"™ available for organizing cables.

Your choice of Heavy-Duty Shoulder Strap, the HB-20 or HB-40 included with purchase of recorder case.

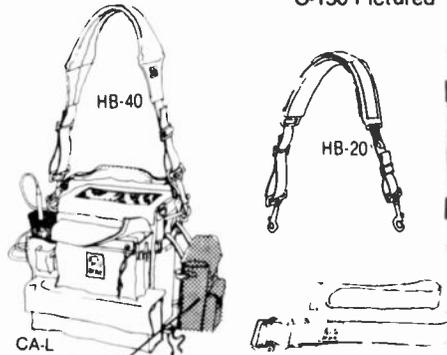
Model	Recorder Carried	List
C-50	Sony BVU-50	\$177.00
C-110	Sony BVU-110	177.00
C-150	Sony BVU-150	177.00
C-6800	Sony VO-6800	177.00
C-BVW-35	Sony BVW-35/Ampex CVR-35	177.00
C-7400	Panasonic AG-7400	165.00
C-4900	JVC CR-4900U, CR-4700, PR-4800E, Panasonic NV-9450	177.00
C-6200	JVC BR-6200U	177.00

Other and newer models available

IMPORTANT: Please designate HB-20 or HB-40 when ordering.



C-150 Pictured



CA-L
ACCESSORY
POUCH

VB-10 VIDEO BELT . . . \$15.00
(When ordered separately) . . 18.00

Time code, wireless, and all-purpose accessory pouches available.

..... from \$16.

**Porta-Brace®
Lightning Case**



Soft-shell, padded, lightweight water-proof carrying case for ENG, EFP lighting outfits. Will carry lights, stands, barn doors completely assembled. Rigid protective compartment for filters, scrims, gels, and bulbs. Carries umbrellas, reflectors, clamps, several tota lights and other lighting accessories.

..... from \$280.00

**Porta-Brace® Quick-Draw
Camera Case**

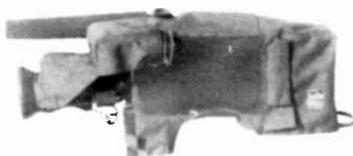


This professional camera case is a convenient way to carry and protect your camcorder on the ground, in your car and in the air. With its hard-shell construction and aluminum viewfinder guard, this padded nylon case means lightweight security for your camera. Heavy-duty Shoulder strap included.

Ask dealer to fit your camera \$285.00

**Porta-Brace®
Rain Covers**

Protection against dust as well as moisture damage with this tailored rain cover for individual three-tube models. You have easy access to all openings, adjustments and connections.

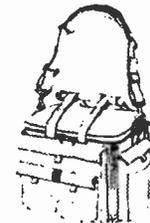


RAIN COVERS
for all popular three-tube cameras.
Specify camera model number.
RC—(No. your camera _____) \$122.00

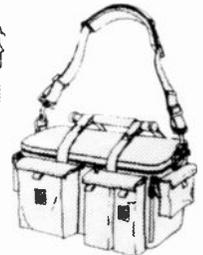
**Porta-Brace® Production
Cases**



PC-1,
9"W x 16"L x 16"W
INSIDE



PC-2,
8 3/4"W x 21 1/2"L
x 12 3/4"H
INSIDE

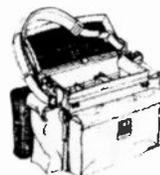


PC-3, 8 3/4"W x 27 1/2"L x 12 3/4"H INSIDE

**Large Capacity Organizer Cases
Heavy-Duty Shoulder Strap Included**
PC-1 one divider, five outside pockets, two mesh pockets \$273.00
PC-2 two dividers, five outside pockets, six see-through mesh pockets . . . 298.00
PC-3 seven outside pockets, three dividers, two extra end handles (for two-person carry), nine see-through mesh pockets. 325.00



PC-101
8"W x 13"L x 9"H INSIDE



PC-202
6 1/2"W x 11 1/2"L x 11 1/2"H INSIDE

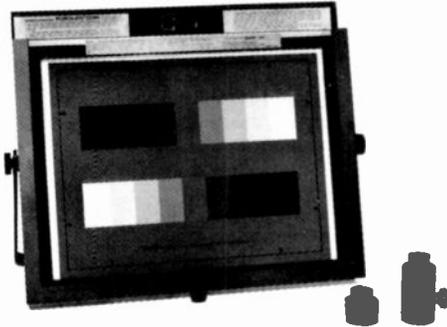
**Medium Capacity Organizer Cases
Heavy-Duty Shoulder Strap Included**
PC-101 Audio Case, one divider, one clip-on pouch, four see-through mesh pockets, three outside pockets \$174.00
PC-202 Lights and tapes case, one divider, one clip-on pouch, one see-through mesh pocket, five outside pockets 167.00

Test Chart System

The PORTA-PATTERN Test Chart System is a convenient, portable 9" x 12" chart package for studio or field use. The system has been designed to offer maximum versatility and protection for the test charts, thus providing faster, easier camera set-up and alignment.

The lightweight, self-standing aluminum Chart Holder provides three-point positional alignment. A spirit level is an integral part of the unit's design for horizontal alignment accuracy. Optional Microphone and Light Stand Mounting Adaptors allow the system to be stand mounted with the same alignment capabilities.

The system contains one each Resolution, Linearity, Registration and Logarithmic Reflectance Charts. The charts are mounted in recessed, high-impact plastic frames for chart surface protection. Each chart frame is color coded for ease of location in the holder. Charts are placed in order of usage. After use the front chart can be reversed so all chart surfaces are protected.



001-10*	Four Chart System with no adaptors	.....\$330.00
001-11*	Four Chart System with microphone stand adaptor	.....345.00
001-12*	Four Chart System with light stand adaptor	.....355.00
001-13*	Four Chart System with mike and light stand adaptors	.....375.00
001-15	Microphone stand adaptor	.....35.00
001-16	Light stand adaptor	.....40.00
001-17	Aluminum frame assembly, complete w/o adaptors	.....205.00
001-50	Dual system carrying case	.....85.00
001-51	Single Chart carrying case	.....60.00
001-24*	Resolution Chart	.....80.00
001-25*	Linearity (Ball) Chart	.....80.00
001-26*	Registration Chart	.....80.00
001-27*	Nine-Step Log Chip Chart	.....100.00
001-28	Production Slate	.....60.00
001-29	Blank plastic chart frame	.....50.00
001-30	BBC Zone Plate Chart, 525 line	.....155.00
001-31	BBC Zone Plate Chart, 625 line	.....155.00
001-32	Multi-Burst Chart	.....80.00
001-33	Window Chart	.....80.00
001-34	Chess Board Chart	.....80.00
001-35	Reverse Registration Chart	.....80.00
001-36	BBC #61P Flesh Tone Reference Chart	.....155.00
001-37	Pulse Bar Chart	.....160.00
001-38	CCIR Linearity (Ball) Chart	.....80.00
001-39	Auto-Registration Chart	.....80.00
001-40	Lens Focus Chart	.....80.00
001-42	Line Resolution Chart	.....80.00
001-43	Full-Field Color Bar Chart	.....145.00
001-44	Eleven-Step Log Chip Chart	.....110.00
001-45	Depth of Modulation Chart (Rev. 1984)	.....75.00
001-46	RCA P-200 Resolution Chart	.....85.00
001-47	RCA P-300 Resolution Chart	.....85.00
001-48	BBC #62 High Saturation Color Bar Chart	.....180.00
001-49	Lens Back Focus Chart	.....80.00

(* Includes Charts indicated)

Electronic Field Production (EFP) Three Chart System

In order to provide a greater range of available test patterns in a package better adapted to the portability of EFP camera systems, PORTA-PATTERN has developed a Three Chart System which will accept any combination of three charts presently available in the PORTA-PATTERN catalog.

The system consists of three protective plastic frames, similar to those used for all individual PORTA-PATTERN Test Charts, uniquely hinged end-to-end which allows the frames to be folded upon themselves, thus providing complete surface protection for all three charts and, when closed, takes up no more space than a single PORTA-PATTERN Test Chart.

The entire system is held closed by a Velcro™ closure system and a vinyl coated nylon case is included to provide a complete Three Chart System in a package 15"H x 18"W x 1 1/2" thick.



014-10	EFP Three Chart System with three Black and White Geometric Test Patterns, including case	.....\$240.00
014-11	EFP Three Chart System with two Black and White Geometric and one Nine-Step Log Chip Chart, including case	.....270.00
014-12	EFP Three Chart System with one Black and White Geometric, one Log Chip and one of either Color Bar, BBC #61P Flesh Tone or Pulse Bar Chart, including case	.....300.00

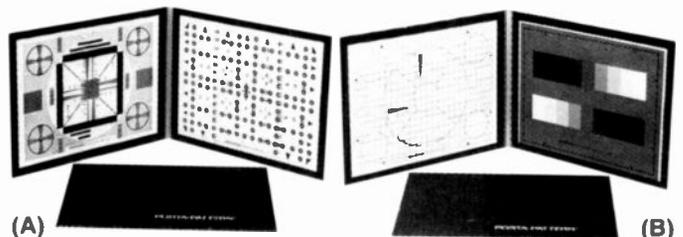
DUOCHART™ Systems

The PORTA-PATTERN DUOCHART System is a lightweight, durable portable video test chart package in the convenient PORTA-PATTERN 9" x 12" image size. Each chart is recess-mounted on lightweight, heavy-duty expanded PVC Foamex™ and hinged to fold face-to-face when not in use. Black Velcro™ provides a light and dirt seal when the system is closed. Each system includes a black vinyl case for carrying and storage. There are three DUOCHART systems to provide the right information for the required set-up and evaluation.

(A) **Resolution/Linearity.** This system contains the standard Resolution and Linearity Charts. The Resolution Image is designed as a standard reference for measuring and evaluating overall camera resolution as well as testing for camera streaking, ringing, interlace and aspect ratio. The Linearity image is designed for measuring and adjusting scan linearity. The image is a matrix of circles that provide reference when combined with the proper electronically generated grafting signal.

(B) **Registration/Log Grey Scale.** This system contains the standard Registration and Log Grey Scale Charts. The Registration Image is designed for adjustment of scan timing (registration) in multiple tube color cameras. The Log Grey Scale contains two rows of nine paint chips each, providing the range of reflectance from TV white (60%) to TV black (3%), scaled in increments to approximate the transfer characteristics of the color picture tube.

(C) **Multi-Burst/Flesh Tone Reference.** This system contains the Multi-Burst Chart and the BBC #61P Color Flesh Tone Chart. The Multi-Burst Image is a dual range grouping of bursts. The full scan range is from 1MHz to 8MHz in 1MHz steps. The half scan range is from 0.5MHz to 4MHz in 0.5MHz steps. The bursts are spaced by a solid black bar for separation of burst information on a waveform monitor. The BBC #61P Color Flesh Tone Image has been developed to provide a standard color reference for matching and evaluating cameras after normal color balance is achieved. The image is manufactured in close cooperation with the Research Department of the BBC with advanced electronic color separation to assure spectral characteristics and long lasting chromaticity.



020-10	Resolution/Linearity	.....\$135.00
020-11	Registration/Nine-Step Log Grey Scale	.....165.00
020-12	Multi-Burst/BBC #61P Flesh Tone Reference	.....195.00



TBC + /TBC•Sync + Time Base Correctors

- True color lock — full reverse, 5X forward, stop scan and slow motion
- Full 16 line, 8 bit system
- Compatible with dynamic tracking VTRs
- Front panel set up adjustments
- RF and TTL dropout correction
- Advanced vertical steering
- Genlock — stand alone operation
- Corrected output meets full RS-170A specs
- Super efficient construction; constructed of steel
- Incorporate a unique air intake and cooling system
- Occupies only 1 3/4" vertical rack space
- Weighs only 16 lbs. (TBC +) and 18 lbs. (TBC•Sync +)
- Requires only 50-55W

Plus — Digital Effects

Standard operator selectable, in channel digital effects for variable mosaic, posterization, and sepia tone enhancement of the video image. These effects may be used individually or in any combination and are adjustable over the full picture level range.

TBC•Sync +

Incorporates all of the features of the TBC +, plus provides for full frame or field synchronization between synchronous and asynchronous sources. TBC•Sync+ also provides for non-V locked recorders to be edited or mixed with camera or recorder inputs.

DUB•TBC + Dub Mode Time Base Corrector

The DUB•TBC+ provides up to twelve generations of clearer, crisper video tape copies for all commonly used dub mode video tape recorders having Y/C688 or R-Y/B-Y type capabilities. The DUB•TBC+ removes time base error and avoids degradation due to excessive signal processing — avoids up to four major encoding-decoding degrading processing steps for each generation of copying.

Specifications

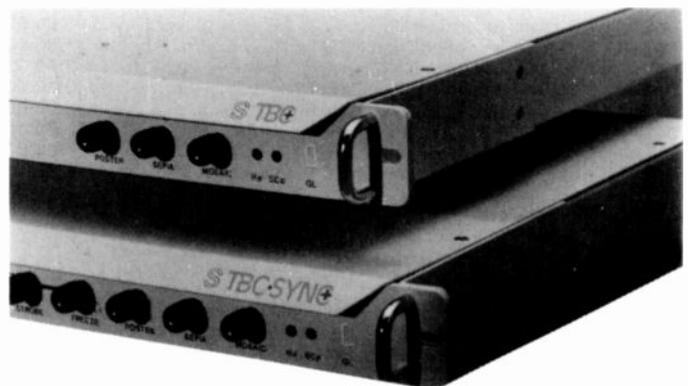
Video In:	1V p-p, 75 ohms, BNC
Genlock In:	High impedance, looping, 2 BNCs
DOC In:	RF or TTL, 100mV min., BNC
Vertical Sync In:	Composite sync, 300mV min., BNC
Video Out 1:	1V p-p, 75 ohms, BNC (bypassable)
Video Out 2:	1V p-p, 75 ohms, BNC (monitor output)
Advance Sync Out:	1V p-p, 75 ohms, BNC (not required for TBC•Sync +)
Bandwidth:	4.2MHz
S/N Ratio:	58dB
Differential Phase:	1.5°
Differential Gain:	1.5%
K Factor:	3%

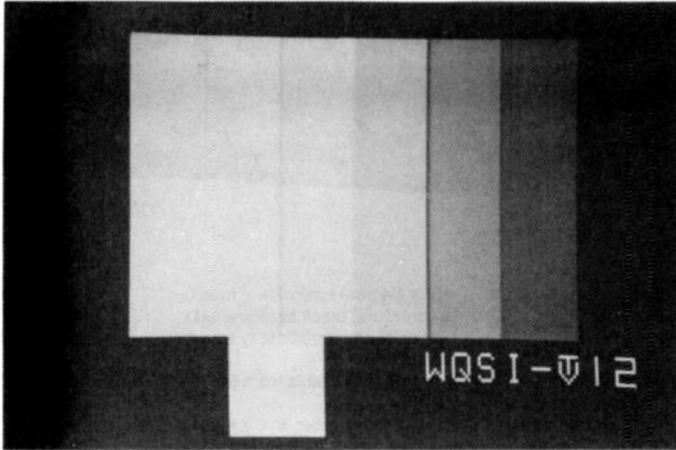
100-000 TBC+ with digital effects	\$5,555.00
150-000 TBC+ without digital effects	3,990.00
160-000 DUB•TBC+ without digital effects	5,200.00
165-000 DUB•TBC+ with digital effects	6,200.00
200-000 TBC•Sync+ with digital effects	8,888.00
250-000 TBC•Sync+ with limited digital effects	6,666.00
Upgrade TBC+ without digital effects to full TBC+ with digital effects	1,850.00
Upgrade TBC•Sync+ without digital effects to full TBC•Sync+ with digital effects	2,500.00
Optional dynamic tracking connector for Sony BVU820 type VTR	100.00
Optional additional maintenance or operating manual	100.00

S TBC + /S TBC•Sync + S-VHS Time Base Correctors

- True component processing
- Y/C (S-video) inputs and outputs
- Composite inputs and outputs
- Transcoding between Y/C to composite and composite to Y/C
- Compatible with Dynamic Tracking VCRs
- 8-bit chrominance and luminance sampling
- Corrected outputs conform to EIA RS-170A
- Genlock
- In addition to common features, S TBC+ with effects 100-000S has posterize, sepia and mosaic capabilities
- In addition to common features, S TBC•Sync+ with limited effects 250-000S is a full frame synchronizer with freeze frame (frame, field 1 or field 2), strobe and hot switch input capabilities
- In addition to common features, S TBC•Sync+ with full effects 200-000S is a full frame synchronizer with freeze frame (frame, field 1 or field 2), strobe, posterize, sepia, mosaic and hot switch input

150-000S S TBC+ without effects	\$3,990.00
100-000S S TBC+ with limited effects	5,555.00
250-000S S TBC•Sync+ with limited effects	6,666.00
200-000S S TBC•Sync+ with full effects	8,888.00





**BG-308/BG-316
Color Bar Generators**

- 1kHz audio test tone
- Internally switchable for either constant display or flashing mode
- Split-field NTSC bars patterns

BG-308 is a split-field color bar generator with a field programmable 8 character video source identifier positioned in the black block of the split-field pattern. The BG-308, one rack unit high, is perfect for the microwave equipped ENG truck.

Specifications

Video Output (color bar with 8 character ID):	1V p-p, 75 ohm source terminated, BNC connector
Blackburst Output:	75 ohm source terminated, BNC connector
Pulses:	Within RS-170 specifications
Subcarrier:	3.579545MHz ± 10Hz, 0-50°C
Vector Accuracy:	Within 1.5°
Audio Output:	Internally adjustable 0 to 8dBm, 600 ohms balanced, transformer isolated, male XLR
Tone:	1kHz sinewave, distortion < 3%
Power:	117VAC, 2W
Size:	1 3/4" H x 19" W x 12" D. Rackmount
BG-308	\$ 1695.00
BG-316 Same as BG-308 but with 16 character ID	1895.00

**VSID-82
Video Source Identifier**

- Switch selected 5 x 7 or 7 x 9 matrix
- Eight easily programmed alphanumeric characters
- Adjustable mattes
- Switchable background delete
- Line by line vertical positioning
- Adjustable horizontal and vertical size

Developed for security, broadcast, medical and industrial applications, the VSID-82 provides an efficient and effective visual indicator of video signal's identity. The VSID-82 generates eight alphanumeric characters and inserts them into a composite video signal. The ID is movable anywhere on-screen or into the vertical interval, with separate controls for character and background matte levels. It can also be adjusted for several sizes.

Switches on the board allow the user to select either a 5 x 7 or a 7 x 9 character matrix and, if desired, to delete the full-surround background. Because the ID is programmed with DIP switches, it can be easily changed at any time, even in the field.

Specifications

Power:	5VDC at 500mA per card
Size:	5/8" H x 4 1/2" W x 9" D
Video Input:	1.0V p-p nominal, on board termination
Video Output:	Adjustable to 1.0V p-p, 75 ohm source terminated
Frequency Response:	± .5dB to 8MHz
Differential Gain:	< 0.5%
Differential Phase:	< 0.5°
Display Size:	Horizontally adjustable from 1/4 to full screen. Vertically adjustable, three sizes per matrix. Character heights of 14, 28, and 42 raster lines in 5 x 7; 18, 36, and 54 raster lines in 7 x 9.



VSID Series Video Source Identifier — Dual Matrix Unit

VSID-82/101	Single Card in Rack Frame	\$ 1375.00
VSID-82/101BX	Same as above, except with remote data input	1675.00
VSID-83/102	Double Card in Rack Frame	2095.00
VSID-82/102BX	Same as VSID-82/102, except with dual remote data inputs	2595.00
VSID-82/103	Triple Card in Rack Frame.	2850.00
Cards		
VSID-82	Single Card	\$ 595.00
Frame with Power Supplies		
VSID-82/195RMPS	Sixteen (16) Card Frames.	\$ 1995.00
Systems Support Equipment		
"X" Board	Universal Extender Board for Frames	\$ 99.95

CB-2440 SMPTE Colorbar Generator/Video Source Identifier

• SMPTE colorbar pattern • Genlockable • Automatic switchover to internal synchronization upon loss of genlock signal • 24 character ID • 40 separate IDs in memory with minimum 72 hours battery back-up • ID inserted in VBI of input program video • Switchable 1kHz stereo test tone, locked out in live mode • 2 blackburst outputs and 1 isolated colorbar output • LED status indicators for genlock, ID programming and tone generators • 1 rack unit high

Specifications

Colorbar
Output: 1V p-p, blanking at 0VDC, 75 ohm source terminated
Pattern: SMPTE
Pulse Widths: Within RS-170 specifications
Subcarrier Frequency: 3.579545MHz \pm 10Hz from 10° to 50°C ambient, front panel adjustable
Vector Accuracy: Within 1.5°

Blackburst
Outputs: 2, 75 ohm source terminated, blanking at 0VDC
Pulse Widths: Within RS-170 specifications
Subcarrier Phase: Adjustable \pm 30° to match colorbars

Genlock
Input: Front panel switchable
H Phase: 75 ohm terminated, composite video
Subcarrier Phase: Front panel adjustable \pm 1 μ s minimum
Indicator: Front panel adjustable over 360° range
 Red LED

Audio
Tones: Left and right 1000Hz tones 600 ohm balanced, transformer isolated, individually switchable from front panel
Indicators: Red LEDs
Tone Levels: Internal jumper selection of 0, 4, or 8dB attenuation on each tone, adjustable to +10dB, factory set at +8dB

Inputs: L and R balanced, relay switched to outputs with BARS/LIVE switch in LIVE mode

Identifier
Input: 1V p-p nominal, internal 75 ohm termination
Display Length: 24 characters maximum
IDs in Memory: 40 maximum
Display Modes: Two, active area over internal colorbars, and vertical interval over external video, selected with BARS/LIVE switch



CB-2440

Character Display — Active area: ASCII 64 character, 7 x 9 matrix, full surround black background
Display Size: Vertically and horizontally adjustable within the active area

Character Matte: Internally adjustable from 60 to 110 IRE. Factory set at 78 IRE

Character Display — Vertical Interval: ASCII 64 character, 5 x 7 matrix insert horizontally adjustable, vertically fixed at 7 lines with adjustable start selection

Character Matte: Internally adjustable from 30 to 70 IRE. Factory set at 45 IRE

Output: Selection between colorbars or external video with the BARS/LIVE switch 75 ohm source terminated, 1V p-p nominal

Differential Gain: < 0.5%
Differential Phase: < 0.5°
Frequency Response: \pm 0.5dB, to 8MHz
Tilt and Overshoot: < 1%
Hum and Noise: -60dB below 1V p-p

Mechanical
Video Connectors: BNC
Audio Connectors: Output — 3 pin male XLR, input — 3 pin female XLR
Size: 3/4" H x 19" W x 16" D
Weight: 9.5 lbs.
Power: 117VAC \pm 15%, 50/60Hz, 22VA

CB-2440 \$3495.00

2400 Satellite Video Identifier

• No decoder required • Convenient, quick change numerics • Locking toggle switch for mode selection • Front panel numeric readouts • Excellent video transparency • Only one rack unit high

Specifications

Display Size and Position: **In Active Area** 7 x 9 matrix, 18 lines per field, positionable within the active area

Video Input: 1V p-p nominal, 75 ohm internal termination
Video Output: Unity gain, 75 ohm source terminated
Differential Phase: < 0.5°
Differential Gain: < 0.5%
Frequency Response: \pm 0.5dB to 8MHz
Tilt and Overshoot: < 1%
Hum and Noise: -60dB below 1V p-p

In All Modes
Video Display: 24 characters in a 10 numeric, 12 alphanumeric and 2 numeric format
Character Programming: Numeric: 3 front panel touch buttons. Alphanumeric: one internal switch bank per character.
Automatic Bypassing: Direct relay bypassing from video input to video output on power loss
Front Panel Controls: Locking toggle switch for Active Area/Vertical Interval. Touch buttons for Cursor, Count and Access.
Front Panel Displays: 10 digit numeric LEDs for Telephone Number, 2 digit numeric LEDs for Code
Internal User Controls: 2 16-position rotary switches (Fine and Coarse) for vertical positioning. 12 6 bit Dip switches for alphanumeric character programming.

Power: 117VAC, 50/60Hz, 13VA. Rear panel mounted power switch and fuseholder
Mechanical: Size 13/4" H x 19" W x 12" D, rackmountable

2400 Satellite Video Identifier \$1995.00



2400



PROMPTER SYSTEMS

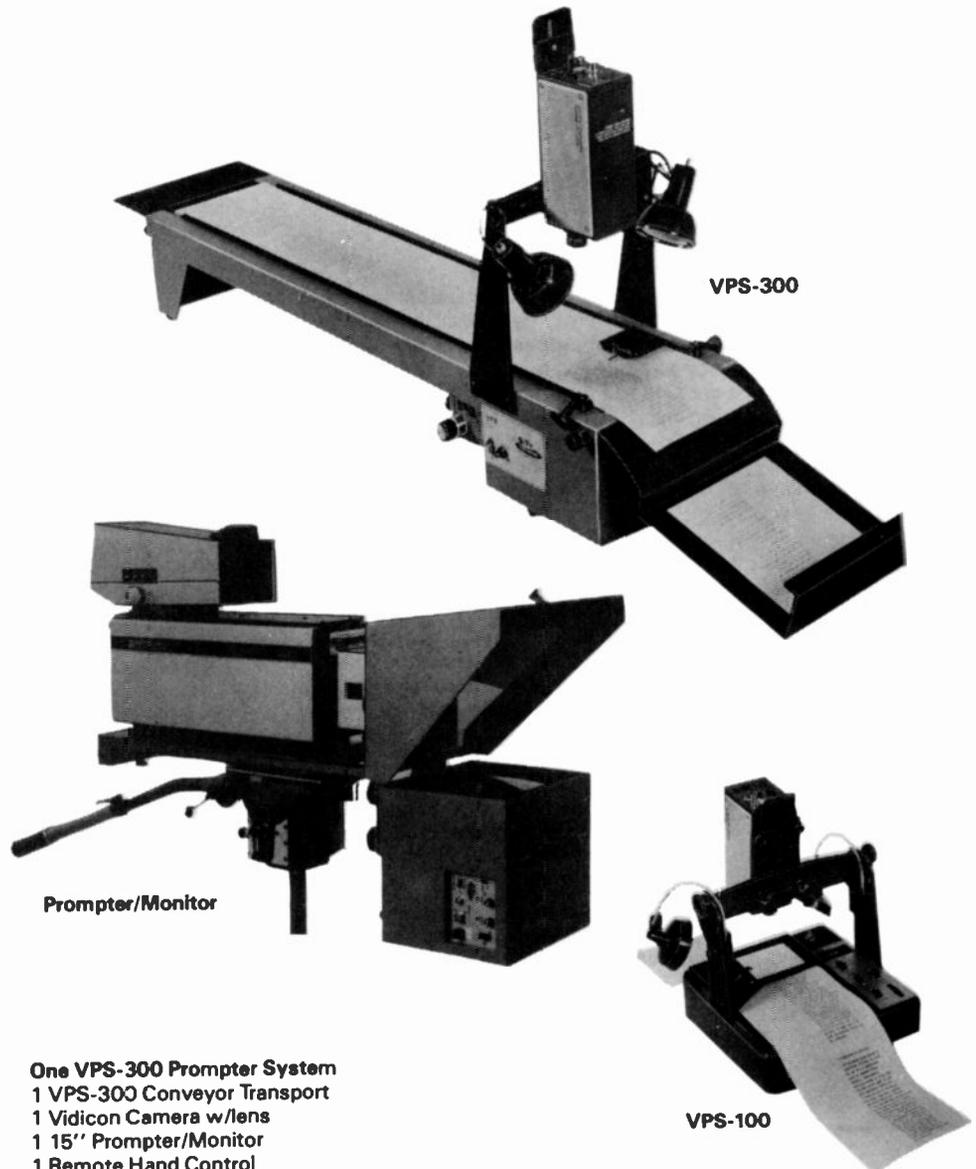
VPS-100 Console Transport/ VPS-300 Conveyor Transport Prompter Systems

The VPS-100 and VPS-300 prompting systems offer the broadcast industry and its allied fields a versatile, efficient and rapid method for providing prompter copy through a video signal.

Prompter copy is prepared on standard 8 1/2" x 11" single sheets of paper using any manual or electric typewriter. The prompter script is conveniently fed through the aperture of the VPS-100 by means of taping the individual sheets into a continuous roll; or by placing the individual sheets of copy on the conveyor belt of the VPS-300.

Prompter copy is scanned by the Vidicon camera and transmitted to one or more prompter/monitor readouts mounted on or off camera. The prompter script appears as clearly defined copy. Both units are equipped with a remote hand control for easy operator control.

When used with the VPS Eye-Line, prompter copy is superimposed directly over the taking lens of the television camera for direct "eye-to-eye" contact with the viewing audience. The high brilliance image is clearly visible to the speaker but in no way detectable by the camera lens.



VPS-300

Prompter/Monitor

VPS-100

One VPS-100 Prompter System

- 1 VPS-100 Console Transport
- 1 Vidicon Camera w/lens
- 1 15" Prompter/Monitor
- 1 Remote Hand Control
- 1 25' Coaxial Cable
- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line
- 1 Instructional Manual

\$4750.00

Two VPS-100 Prompter System

- 1 VPS-100 Console Transport
- 1 Vidicon Camera w/lens
- 2 15" Prompter/Monitor
- 1 Remote Hand Control
- 2 25' Coaxial Cable
- 2 Prompter Camera Mount
- 2 Camera Balancing Assembly
- 2 VPS Eye-Line
- 1 Instruction Manual

\$6500.00

Three VPS-100 Prompter System

- 1 VPS-100 Console Transport
- 1 Vidicon Camera w/lens
- 3 15" Prompter/Monitor
- 1 Remote Hand Control
- 3 25' Coaxial Cable
- 3 Prompter Camera Mount
- 3 Camera Balancing Assembly
- 3 VPS Eye-Line
- 1 Instruction Manual

\$8250.00

One VPS-300 Prompter System

- 1 VPS-300 Conveyor Transport
- 1 Vidicon Camera w/lens
- 1 15" Prompter/Monitor
- 1 Remote Hand Control
- 1 25' Coaxial Cable
- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line
- 1 Instruction Manual

\$5350.00

Two VPS-300 Prompter System

- 1 VPS-300 Conveyor Transport
- 1 Vidicon Camera w/lens
- 2 15" Prompter/Monitor
- 1 Remote Hand Control
- 2 25' Coaxial Cable
- 2 Prompter Camera Mount
- 2 Camera Balancing Assembly
- 2 VPS Eye-Line
- 1 Instruction Manual

\$7100.00

Three VPS-300 Prompter System

- 1 VPS-300 Conveyor Transport
- 1 Vidicon Camera w/lens
- 3 15" Prompter/Monitor
- 1 Remote Hand Control
- 3 25' Coaxial Cable
- 3 Prompter Camera Mount
- 3 Camera Balancing Assembly
- 3 VPS Eye-Line
- 1 Instruction Manual

\$8850.00

Videoprompter Equipment w/Monitor for On-Camera Prompting

- 1 15" Prompter Monitor
- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line

\$1910.00

VPS Equipment w/o Monitor for On-Camera Prompting

- 1 Prompter Camera Mount
- 1 Camera Balancing Assembly
- 1 VPS Eye-Line

\$1135.00

Roll-Away Stand Unit

- 1 Heavy-duty Elevated Tripod Stand w/ Casters
- 1 Stand Monitor Mount
- 1 VPS Eye-Line

\$1860.00

Display Monitor

- 1 15" Hi-Resolution Prompter Monitor (B & W)

\$775.00

- 1 13" Hi-Resolution Prompter Monitor (Color*)

*Color applicable to computer prompting only \$850.00



COMPUTER PROMPTER SYSTEMS

QCP Mark I Computerprompter Program

• IBM PC, XT, and AT compatibility • True variable-speed, bi-directional, smooth scrolling • Four fonts: two full upper- and lower-case fonts as well as two all uppercase fonts • Proportional spacing—for the most easy-to-read prompter copy • Comprehensive Word Processor for text creation and last-minute changes. Highlights: Automatic Wrap, dynamic Insert and Delete Modes, Transfer Text, Search-for Text, and more • Compatibility with any PC-DOS ASCII file. Use your own word processor and QCP Mark I will prompt the text by employing its unique "Convert" mode. Additionally, Convert enables you to prompt any ASCII file sent via telephone lines and other transmission schemes • Easy-to-understand menu of special functions, displaying such choices as: Character Size, All Upper-Or-Lower-Case, Eight Character and Background Colors, Position of Speaker Arrow, and more • Unlimited use of Special Markers to pinpoint specific areas of text to jump to • Text Underlining and Coloration to highlight any section of script • Large selection of international characters. The QCP Mark I is multilingual, allowing you to prompt such languages as Spanish, French, German, Italian and Portuguese • Printing in three convenient formats. Also, with a single keystroke, the program will automatically paginate your text so that pages end only between sentences • Compatibility with both Floppy and Hard Disk Drive systems. Once "booted up," the entire QCP Mark I is loaded in and you may remove the program disk • Thorough PC-DOS Disk Functions, available without having to leave the program. They include: Format and Copy Disk, Copy, Erase and Rename File

QCP Mark I is an innovative computerprompter program offering multi-purpose applications. It fully answers today's prompting requirements, be it in news, public speaking, commercials, or corporate television.

The QCP Mark I Computerprompter program allows you to compose a prompter text on an IBM compatible computer. Crisp, clean letters are displayed on a monochrome or color prompter monitor giving a speaker exceptional legibility of prompter text.



QCP Mark I includes:

- 1 QCP Mark I Computerprompter Program
- 1 Limited Backup Program
- 1 Composite Video Board
- 1 Variable Speed Script Control
- 1 Instruction Manual \$4975.00

VPS-500 II Computerprompter™

• Word processing • Clear, crisp copy • Quick access to all copy • Memory up to 1 hour, 45 minutes • Optional printer for hard copy • Smooth scrolling • Variable speed control • Various colors, underlining • Positive or negative display

The VPS-500 II is a fully self-contained program, written entirely in super fast machine code. It sets up, automatically, in 25 seconds flat. Everything you'll need to do your work is stored right inside the computer.

You don't even have to know what a computer looks like to operate the VPS-500 II.

It takes a minimum amount of instruction to learn. So even the first time you use it, you can be prompting quickly and confidently.

The VPS-500 II creates, edits, saves, erases, and prompts to an astounding 1 hour and 45 minutes.

What's more, it can assemble as much as 32 separate text files for prompting. Plus keep you informed of where they are with an easy-to-read run order list.

You can also highlight points and separate speakers with 10 color combinations and a handy underlining feature.

The VPS-500 II can provide you with immediate hard copy printouts of your prompter text, complete with emphasis and underlining indications. And, in 3 convenient styles: Prompt, Script, Draft.



VPS-500 II includes:

- 1 Computerprompter Keyboard
- 1 Disk Drive
- 1 VPS-500 II Computer Software
- 1 Variable Speed Script Control
- 1 Interconnecting Cable
- 1 Manual
- 1 Equipment Case \$4200.00

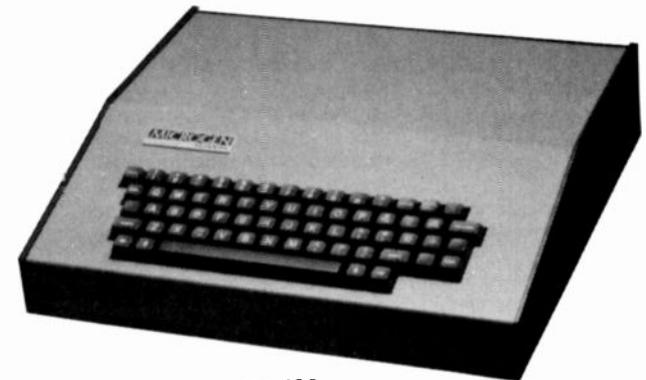
Microgen™ MG-100 Teleproduction Titler

- 2 sets of proportioned characters designed specifically for television graphics, and selectable by row
- 49-Page RAM with battery back-up
- Self-contained chassis
- NTSC or PAL
- Sync color lock
- Automatic page sequencing
- Full range of editing and display functions
- Roll and crawl at 9 speeds
- Complete system flexibility — upstream or downstream
- 256 color palette capability for row by row colorizing of characters or background
- Dual channel capability
- RS-232 Data I/O Port optional
- 100ns horizontal resolution
- Dimensions: 4 1/4" H x 15 3/4" W x 14 3/4" D

MG-100-S	Single channel	\$2295.00
MG-100-S/RS	Single channel, RS-232 data I/O port	2795.00
MG-100-D	Dual-channel	2995.00
MG-100-D/RS	Dual-channel RS-232 data I/O Port	3495.00

Microgen MG-100/PLUS Teleproduction Titler

- 50ns horizontal resolution
- Self-contained chassis
- NTSC or PAL
- Sync/color lock
- Four face styles, upper and lower case:
 - Helvetica Medium with border,
 - Rockwell Bold with border,
 - Souvenir Light with border,
 - Serpentine Bold with shadow
- 49-page RAM with battery back-up
- Automatic page sequencing



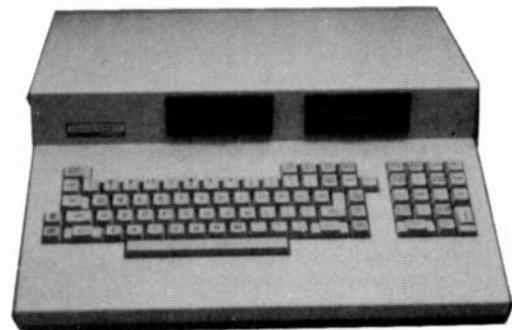
MG-100

- Full range of editing and display functions
- Roll and crawl at 9 speeds
- Complete system flexibility — upstream or downstream
- 256 color palette capability for row by row colorizing of characters or background
- Dual channel capability
- RS-232 data I/O Port optional
- Dimensions: 4 1/4" H x 15 3/4" W x 14 3/4" D

MG-100/PLUS-S	Single-channel	\$2995.00
MG-100/PLUS-S/RS	Single-channel RS-232 Data I/O Port	3495.00
MG-100/PLUS-D	Dual-channel	3995.00
MG-100/PLUS-D/RS	Dual-channel, RS-232 Data I/O Port	4495.00

QCG-304 Teleproduction Titling Generator

- Instant sizing — 8 to 64 scan line heights plus incremental extend/condense for face styles — keyboard accessed
- 512 colors — easy RGB palette selection of background and character colors
- True proportional spacing — upper and lower case, four styles
- 48 sizes per face
- 55ns horizontal resolution
- Edge selection — full surround border, 8 colors row selectable per page
- Easy edit — real time composition and editing capability — Quanta's exclusive text editing package
- Roll — 260 rows, 9 speeds plus pause, edit in roll compose, roll to fixed title
- Crawl — 260 rows, 9 speeds plus pause, edit in crawl compose
- Automatic page sequencing — random or sequential, date/time generator for real time sequences — dwell time selectable 1/4 to 99 seconds per page
- Manual page sequencing — random or sequential, forward or reverse, 0 second dwell time
- Built-in 3 1/2" Disk Drive — 400 pages — second drive optional
- Built-in full terminal complement — sync/genlock RS170, NTSC or PAL Encoder full studio timing
- Graphic blocks/graphic separators — variable size and color
- Real time clock and date generator
- Full battery back-up
- RS-232 Data I/O Port — optional



QCG-304

QCG-304/SD	Single disk drive	\$4995.00
QCG-304/DD	Dual disk drive	5490.00

Options

DD-304	Second disk drive — customer installed	\$ 495.00
RS232/304	RS232 data I/O port — factory installed. Plus shipping both ways (page transfer only)	500.00
OM-304	Operating manual	50.00
FD-3.5	10-pack of 3 1/2" diskettes	150.00
LCK-304	Language conversion kit	500.00

NOTE: The QCG-304 Series is available with French, French QWERTY, German-Nordic or Spanish-Portuguese keyboards. Contact your dealer for pricing and delivery.

Fully self-contained, the QCG-304 provides for either stand alone operation or may be integrated into a full television production studio. The proportionally spaced type face styles provide over 40 resident fonts per face style instantly on-line with Quanta's exclusive instant sizing.

QCG-38 Teleproduction Titling Generator

- Resolution of 25ns at 32 scan lines
- Instant sizing—8 to 64 scan line heights plus incremental extend/condense for both resident face styles—keyboard accessed
- 512 colors—easy RGB palette selection of background and character colors
- True proportional spacing—upper and lower case, two faces
- Edge selection—full surround border, 8 colors row selectable per page
- Easy edit—real time composition and editing capability—Quanta's exclusive text editing package
- Roll—260 rows, 9 speeds plus pause, edit in roll compose, roll to fixed title
- Crawl—260 rows, 9 speeds plus pause, edit in crawl compose
- Automatic page sequencing—random or sequential, date/time generator for real time sequences—dwell time selectable 1/4 to 99 seconds per page
- Manual page sequencing—random or sequential, forward or reverse, 0 second dwell time
- Built-in 3 1/2" Disk Drive—400 pages—second drive optional
- Built-in full terminal complement—sync/genlock RS170, NTSC or PAL Encoder full studio timing
- Graphic blocks/graphic separators—variable size and color
- Real time clock and date generator
- Full battery back-up
- RS-232 Data I/O Port—optional

The QCG-38 is a real time professional teleproduction titling system for use in broadcast or non-broadcast applications.

Fully self-contained, the QCG-38 provides for either stand alone operation or may be integrated into a full television production studio. The proportionally spaced type face styles provide over 40 resident fonts per face style instantly on-line with Quanta's exclusive instant sizing. Ease of operation, real time functions and dependability make the QCG-38 a versatile, multi-feature low-cost character generator.

Specifications

PERFORMANCE

Horizontal

Resolution: 18ns at 16 scan lines

Resident Type

Faces: Eight face styles, upper and lower case
 Helvetica medium with border
 Serifa with border
 Cooper Black with border
 Bolt Bold with shadow
 Optima Bold with border
 Rockwell Bold with shadow
 Bookman Bold with border
 Helvetica Bold with border (caps only)
 Graphic symbols

Faces proportionally spaced with upper and lower case. 48 sizes per face with 8 to 64 scan line heights plus widths of normal, condensed and extended

Color: 512 colors for colorizing characters by row or page and backgrounds by row or page. Maximum 34 colors per page (13 each characters and backgrounds, 8 each edges—available simultaneously)

Character

Edge: Full surround border, 8 colors per page selected by row. See-through characters through edge selection/background selection

Editing

Functions: Cursor up, down, right, left, home; line feed; return; key repeat; erase row, page; center row, page; justify row or page—right or left; move up, down; insert/delete character, word, row; variable size graphic separators; variable size graphic blocks; scan line pair adjustment of top or bottom leading, or both (row tuck); caps lock; 4 columnar tab settings per page; color palette selection of RGB colors



QCG-38

Memory: Single 3 1/2" disk; 400 pages (max. 40 characters per row, 13 rows per page). Second disk available (optional)

Display

Functions: Flash by character; recall page by number; recall next page, prior page; matte characters in/out of Program output; sequential or random page sequencing; real time clock and date generator displayable any size, color or location on page

Dynamic

Functions: Automatic or real time sequencing of any combination of pages; dwell time, 1/4-99 sec., selectable by page. Roll 260 rows max.; crawl 260 rows max.; position on any row, any size/color and mix with static text as required. Roll/crawl at 9 speeds plus stop with programmed speed changes imbedded in message or manual keyboard adjustment. All dynamic displays may be one time or continuous

ELECTRICAL

Battery

Back-Up: System has NiCad battery for RAM and real time clock. Automatic program restoration including dynamic displays after power failure

Video

Standards: Built-in RS170 Sync Generator with Genlock. Built-in NTSC or PAL encoder. Subcarrier phase and horizontal phase adjustment accessible from rear panel. Upstream or downstream operation. Chromalock plus regeneration of sync for proper genlock to non-time base corrected signals

Inputs:

Outputs:

1 composite video in, looping
 2 program, 1V p-p composite at 75 ohms
 1 edit, 1V p-p composite at 75 ohms
 1 key, 1V p-p composite monochrome at 75 ohms

Data I/O

Ports:

RS-232 (optional)

ELECTRICAL

Power

Requirements: 105-110/210-270VAC, 48/70Hz

MECHANICAL

Dimensions:

4 5/8" H x 17 1/2" W x 17 1/2" D

Color:

Almond and Black

QCG-38/SD Single disk drive \$7495.00

QCG-38/DD Dual disk drives 7990.00

Note: The QCG-38 series is available with French, French QWERTY, German-Nordic, or Spanish-Portuguese keyboards.

QCG-400

Teleproduction Graphics and Titling Generator

- 7 resident type faces — 56 fonts on-line
- Upper and lower case
- Fine or bold border
- 30 topical graphics display symbols
- Instant sizing — true proportional spacing
- 128 colors — each page is palette assignable
- Built-in 3 1/2" high density disk drive (400 pages) — second drive optional
- Built-in full terminal complement — sync/genlock and NTSC or PAL-1 encoder — full studio timing adjustments standard
- 224-row RAM with battery back-up — dynamic displays and automatic sequencing
- Patented NANOLOG™ character smooth and fill refinement — high resolution average rise time
- Four-quadrant positionable drop shadow
- LED front-panel operator prompting
- RS-232 data I/O port option

The QCG-400 Teleproduction Graphics and Titling Generator is designed for real time, easy operation in a wide variety of titling applications.

Incorporating the Easy Edit and quick, versatile composition features which have made Quanta the preferred standard of mid-range character generators world-wide, the QCG-400 is a modern, low-profile, ultra-portable self-contained unit.



- Clock Displays:** Real time clock (hours, minutes) or event timer (minutes, seconds)
- Tab Positions:** 8 columnar tabs with vertical tabbing
- Editing Functions:** Insert row or character; delete row or character; center row or page; justify row or page left or right; row move left or right; reduce top leading; reduce intercharacter spacing (selected characters); erase row or page; capture character attributes; Get, save or exchange row or page. Applicable editing functions operate right of the cursor on a row or from the cursor to end of page
- Resident Memory:** 224 rows (RAM) with battery back-up for non-volatile retention. Battery will last in excess of 24 hours
- Automatic Sequencing:** Full 14-page resident memory
- Disk Memory:** 400 pages plus 2 blocks per disk
- Page Access:** Random or sequential
- Disk Access Time:** Page: average .4 sec; max. 1.2 sec. Block: average .6 sec; max. 1.5 sec.
- Electrical Television Standards:** Built-in RS-170 sync generator with genlock. Built-in NTSC or PAL encoder. Genlock/Color lock; built-in 360° subcarrier; horizontal drive phase adjustable ± 1.5 usec. on back panel
- Stand-Alone Operation:** Yes
- Input:** One, external video in, looping
- Edit Output:** One, 1.0V p-p composite at 75 ohms
- Program Output:** Two, 1.0V p-p composite at 75 ohms
- Key Output:** One, character plus edge, 1.0V p-p composite at 75 ohms
- Power: (PC Card Selectable):** 117VAC, 60Hz, 150W max. 220VAC, 50Hz, 150W max.
- Data I/O Port:** One, RS-232 Optional
- Mechanical Dimensions:** Self-contained chassis: 5"H x 18"W x 17 1/2"D
- Ventilation:** Filtered, forced-air cooled
- Color:** Dark brown and almond
- QCG-400/SD** Single disk drive \$6595.00
- QCG-400/DD** Dual disk drives 7090.00
- QCG-400/RM/SD** Rackmount chassis with single disk drive built-in and remote keyboard 8995.00
- QCG-400/RM/DD** As above but with dual disk drives 9490.00
- Options**
- DD-400** Second 3 1/2" disk drive for QCG-400 units customer installed \$ 495.00
- RS-232/400** RS-232 Data I/O port for QCG-400 units factory installed 500.00
- KBD-400** Remote keyboard for "daisy-chain" operation with QCG-400 rackmount chassis 1995.00
- OM-400** Operating manual 50.00
- SMM-400** Service and maintenance manual 150.00
- FD-3.5** 10-pack of 3 1/2" diskettes 150.00
- LCK-400** Language conversion kit 1000.00
- Note: QCG-400/SD or QCG-400/DD also available with French, French QWERTY, German-Nordic or Spanish-Portuguese keyboards.

Specifications

Performance

- Resident Faces:** 7 faces at 6 vertical sizes each (from 8 to 64 lines high)
- Face #1 Helvetica Medium proportional upper and lower case
- Face #2 Bolt Bold, caps non-proportional, lower case proportional
- Face #3 Serifa, proportional upper and lower case
- Face #4 Cooper Black, proportional upper and lower case
- Face #5 Helvetica Medium Italic, proportional upper and lower case
- Face #6 Grotesque 9, proportional upper and lower case
- Face #7 Upper Case: Helvetica Bold (all caps) proportional Lower Case: 30 selected symbols

- Graphic Symbols:** Weather, sports, transportation, medical, communications, miscellaneous
- Face Selection:** By character, maximum of two faces can be mixed on a row. All 7 faces may be used on a page
- Character Color:** Select any of 16 pre-defined palettes of 8 colors each. Palette is stored with page. Character color by word

- Background Selection:** Select either of 2 pre-defined palettes of 8 colors each or external video. Palette is stored with page. Background color by row
- Edge Styles:** Selectable by row: fine border, bold border, 4-quadrant drop shadow positionable

- Edge Luminance:** Eight levels black to white, stored with page
- Page Size:** 16 rows (max.) 32 characters on a row available with Grotesque 9

- System Parameters:** Stored within a block: tabs, memory protect, roll/crawl pointers and speeds, shadow quadrants, status line size, user-defined center of screen, last selected face description, flash speed

- Roll Message Length:** 224 rows

- Crawl Message Length:** 6,110 characters
- Roll Speed:** 9 plus pause (start and re-start). Programmable roll to stop function provided

- Crawl Speed:** 4 plus pause (start and re-start)

- Roll/Crawl Display Areas:** Blanking to blanking. Crawl displays can include static text area

- Character Flash:** By word. Flash speeds: 2

- Special Display Elements:** Graphic separators, graphic blocks, underline accents, special symbols (optional on international language versions)

QCG-500 Professional Teleproduction Graphics and Titling System

- Rackmount electronics chassis
- Single scanline FONT-FLEX™ instant sizing in single scan line increments
- 16.7 million color palette
- Styles at 64 and 32 scanlines
- Color menu allows positive color matching and key-in of RGB values
- Rackmount kit and slides
- Easy edit
- Built-in sync/genlock and encoder
- Full studio timing for simple system integration
- Base resolution of 29ns
- Single 3 1/2" disk drive
- Optional second disk drive
- 28 face library disk
- Remote keyboard
- NTSC or PAL

The QCG-500 is a fully disk loadable, broadcast quality character generator and graphics system designed for cost effective teleproduction titling and text efficiency.

A powerful software intensive system, the QCG-500 offers real time speed and convenience. No slow, time consuming menu selections are required—all functions are immediately accessible from the keyboard and happen as the operator commands them.

A low profile remote keyboard accesses the rackmounted electronics with built-in 3 1/2" disk. The entire electronics chassis requires only 7" of vertical rack space. Big system features provide a degree of professional flexibility never before attainable in the QCG-500 price range. Disk compatibility with the Q8 Teleproduction Graphics System also makes the QCG-500 an ideal remote unit or addition to an existing Q8 graphics production facility.

Graphics enhancement accessories provide for a full paint system and digital effects, all conveniently controlled from the QCG-500 tri-level keyboard permitting interaction between text, paint or effects operations.

Specifications

Disk Loadable:	Program, faces, pages
Rackmount:	Chassis includes electronics, single drive, power supply
Number of Keyboards:	One standard
Disk:	Single 3 1/2" double density, double sided; second drive optional
Pages per Disk:	600 maximum
Power Requirements:	150W power supply; 110/120VAC switchable
Stand-Alone Operation:	Yes
Encoder:	Built-in, NTSC RS-170 or PAL
Genlock/Colorlock:	Built-in, horizontal and subcarrier phase adjustments
Phasing:	External, 360° subcarrier, horizontal drive ± 1.5µs
System Integration:	Keyboard selectable upstream/downstream, or jumper selectable
Edit Output:	One, 1.0V p-p composite at 75 ohms
Program Output:	Two, 1.0V p-p composite at 75 ohms
Key Output:	One, character + edge or full page, 1.0V p-p composite at 75 ohms
Sync Output:	4.0V p-p composite
External Video Input:	One, looping



QCG-500

Electronic Video

Paint:	Yes, addressed by QCG-500 keyboard
Digital Video Effects:	Yes, addressed by QCG-500 keyboard
Camera Capture Digitizer:	Yes, addressed by QCG-500 keyboard
QCG-500/SD	Single disk drive \$11,995.00
QCG-500/DD	Dual disk drives 12,490.00
QCG-500/SD/PVW/ENC-RGB	Single drive with preview and encoder 16,995.00
QCG-500/DD/PVW/ENC-RGB	Dual drives with preview and encoder 17,490.00
QCG-500/SD/RGB	Single drive with RGB/NTSC encoder 13,995.00
QCG-500/DD/RGB	Dual drives with RGB/NTSC encoder 14,490.00
DD-20/500IN	Optional 20M byte hard disk 2,495.00

Options

DD-20/500	20M byte Hard Disk, includes: 3 1/2" Rackmount Chassis, Power Supply, Host Adaptor, Controller Board (not available with RS232-500 or clock option) \$3,995.00
QCC-1/500	Camera Capture Font/Logo Compose (Card mounts in chassis) 495.00
DD-500	3 1/2" Disk Drive Expansion Kit (Customer Installed) 495.00
RS232-500	RS232 Data I/O and Protocol, includes: 2 Port Serial I/O Boards (unavailable with DD-20) 795.00
KB-500	Keyboard, English (Multiple keyboards require external switch, customer supplied) 1,995.00
FD-3.5	10-Pack of 3 1/2" Diskettes 150.00
PVW-500	Preview update kit, includes: Rackmount chassis with Frame Grab Board, NTSC Encoder, Interface Board, Power Supply, Ribbon Cable, Software, Rackmount Kit with Slides (No simultaneous preview and program of dynamic displays such as roll and crawl) \$5,495.00
RGB-500	RGB Encoder Update Kit, includes: Power Supply, Word/Word Board (exchange) Palette RAM Board (exchange), Rear Panel RGB/NTSC Encoder, One 3/4" Rackmount Chassis Rackmount Kit with Slides \$2,995.00
QST-500	Automated Subtitling System via Time-code Input. Includes: Plug-in Time Code Reader Board, Audio Connector, Software and Manual. Indicate language and standard. Dual Disks are required. (Not available with RS232 or clock options.) \$1,495.00
OM-500	Operating Manual 50.00
SMM-500	Service and Maintenance Manual 300.00

QVP-100/QVP-200 Series

Quantapaint™ Electronic Paint Systems

• 640 x 486 NTSC (768 x 576 PAL-I) pixel resolution • Pixel-keying • 16.7 million available colors • RGB camera capture, a unique "undo" function allowing the artist to erase his/her last operation • Text mode with five font selection • Seven levels of zoom for picture magnification • Offers NTSC, composite downstream keying, simultaneous RGB out, graphics chassis, bit pad and stylus • Optional business graphics and animation software • Pop-up menu • Sixteen predefined brushes or patterns • Windows and slide shows • Drawing tools • Painting and display effects • Quantapaint QVP-200 is exactly like the QVP-100 but includes an IBM XT-compatible computer • Complete stand-alone system • Computer comes with a floppy disk controller, realtime clock chip, IBM-PC XT-compatible BIOS, video display card, 640K, and 1M byte of above board RAM

QVP-100	Computer Required* Rackmount chassis with encoder, composite keying, and graphics card, sync/genlock/NTSC/RGB (PAL available), bit pad and stylus, rackmount kit with slides, Quantapaint software with RGB camera capture	\$ 9,995.00
QVP-115	QVP-100 with business graphics software	11,495.00
QVP-120	QVP-100 with animation software and animation machine controller. Specify VTR: BVH 2000 Betacam™ Series, BVU-800, BVW-15/40, VPR3, VPR6, and VPR-80. (Requires VTR with time code reader)	13,495.00
QVP-125	QVP-100 with business graphics and animation software with animation machine controller. Specify VTR: same as QVP-120 above. (Requires VTR with time code reader)	14,995.00

QVP-200 Series

QVP-200	QVP-100 with 100% IBM™ XT-compatible computer with: One 5 1/4" floppy drive (360K per diskette), monochrome green screen with swivel base, two RS-232 serial ports and one parallel port, 640K RAM and Intel above board RAM, 8088-2 microprocessor and keyboard	\$13,995.00
QVP-210	QVP-200 with 30M byte hard disk	15,995.00
QVP-215	QVP-210 with business graphics	17,495.00
QVP-220	QVP-210 with animation software and animation machine controller. Specify VTR: BVH 2000 Betacam series, BVU-800, BVW-15/40, VPR3, VPR6, and VPR-80. (Requires VTR with time code reader)	19,495.00
QVP-225	QVP-210 with business graphics and animation software with animation machine controller. Specify VTR: BVH-2000, BVW-15/40, Betacam series, BVU-800, VPR3, VPR6, VPR-80	20,995.00

*Minimum requirements for your computer to work with Quantapaint QVP-100

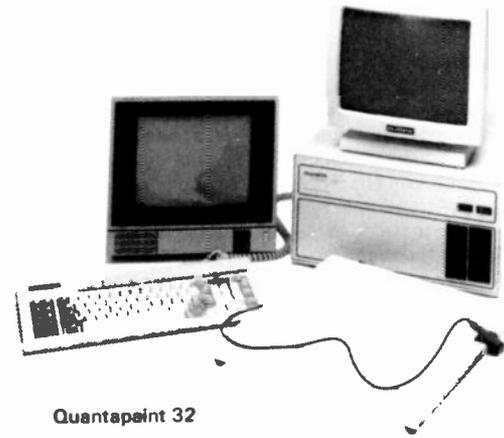
8MHz processor, 100% IBM compatible, 640K bytes of RAM, Intel above board with 1M byte of RAM, one 5 1/4" floppy disk drive, One 20M byte hard disk and controller, keyboard, CRT display screen (monochrome) and controller, available slot for Quantapaint interface board, Com1 serial port available for bit pad, Com2 serial port available for animation control or character generator interface options, LPT1 parallel port available for ink jet printer option, DOS version 3.1 or later

QVP-2502

Quantapaint Electronic Paint System

• Basic automatic drawing functions with individual enhancements • Dynamic painting functions • Illustration aids • Palette of 16.7 million colors may be called upon to create individual page palettes of 256 colors each

QVP-2502	Rackmount chassis with microcomputer, graphics card, above board RAM, sync/genlock/encoder/NTSC (PAL available), RGB 256 color digitizer (camera capture), Quantapaint II software, computer monitor, business graphics software, 2-D animation software, rackmount kit with slides, 3 1/2" floppy disk drive, 30M byte hard disk, bit pad and stylus, operator manual, keyboard	\$24,995.00
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Quantapaint 32 Electronic Paint Systems

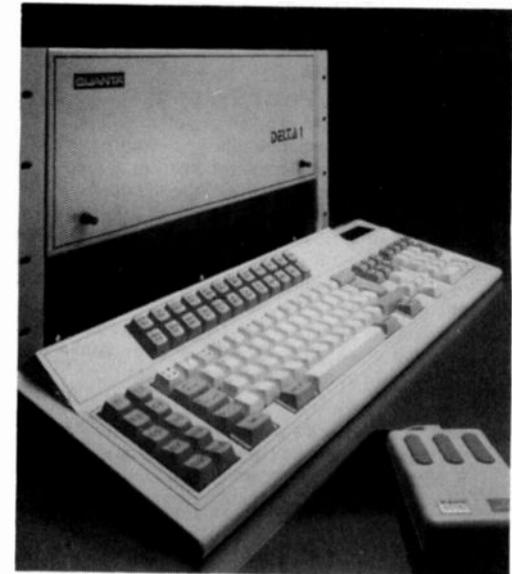
QVP-3000

• Complete stand-alone system • Powered by Texas Instruments' 34010 dedicated 32-bit graphics processor that runs at a clock rate of 49MHz • System includes 4M bytes of onboard CMOS video RAM, a single floppy disk drive, and a graphics tablet with stylus, control keyboard and status monitor • 720 x 486 NTSC (720 x 576 PAL) broadcast-quality resolution and a total of 16.7 million colors • Outputs include RGB and, with the optional encoder, NTSC or PAL • 32-bits per pixel allows every pixel on the screen to be a different color, each with a transparency level from invisible to opaque—256 increments in all • All painting, drawing, and special effects can be selected from the graphics tablet and executed with the tip of the stylus from the on-screen, pop-up menu • Fourteen natural drawing tools • Variety of electronic brushes ranging from 1 pixel in diameter up to 50 pixels • Numerous "tricks" effects • Screen clear command • Quick save function • Paint mixing palette • Penstroke animation

QVP-3000	Rackmount Electronics Chassis with: 32-bit graphics board with flash digitizer, Quantapaint 32 software with full-color camera capture and text rendering, 80286 microprocessor, 1M byte RAM, RGB video in/out, single 3 1/2" floppy disk drive, 720K, single 30M byte hard disk, 2 RS-232 serial ports, 1 parallel port, 5 typeface styles with accents, software enable module, DOS version 3.3, computer monitor, monochrome, bit pad and stylus, keyboard	\$24,995.00
QVP-3002	QVP-3000 with 160M byte high-speed hard disk	27,995.00
QVP-32-ENCI	(Replacing the 30M byte disk in chassis) Optional plug-in sync/genlock encoder	1,195.00
QVP-3300 3D	Rackmount electronics chassis with: 32-bit graphics board with flash digitizer, 80386 microprocessor, math co-processor, above board RAM, Quantapaint 32 software with full-color camera capture and text rendering, Topas-32 three dimensional modeling and animation software, RGB video in/out, 3 1/2" floppy disk drive, 720K, single 30M byte hard disk, 2 RS-232 serial ports, 1 parallel port, 5 typeface styles with accents, DOS version 3.3, software enable module, computer monitor, monochrome, keyboard, bit pad and stylus (requires QVP32-AMC for single frame recording to tape)	\$48,500.00
QVP-3302	QVP-3300 with 160M byte high speed hard disk	51,500.00
QVP-32-ENCI	(Replacing 30M byte disk in chassis) Optional plug-in sync/genlock encoder	1,195.00

Delta 1 Text Generator

- Anti-aliased characters for an apparent resolution of 4.6ns
- Fast character rendering during text entry
- Real-time operation with rendered fonts
- Text entry at any angle
- Subscan rolls (smooth motion)
- Texture mapping of characters, borders, shadows, and backgrounds
- Font and attribute selection, character by character as you type
- Rotation character by character for "rainbow" effects
- Rotatable grids for multiple typing surfaces
- Dozens of online fonts
- Unlimited colors for character, borders, shadows and backgrounds
- Variable blurs for softening characters, borders and shadows
- Shear (italicize) any type face from the keyboard
- Size any type face by height or width
- Hundreds of variable shadow positions and border widths
- International character sets with accents
- Easy composition
- Automatic character kerning
- Page and keystroke sequencing
- Dynamic functions roll and crawl in any speed, slow reveal, and flash
- Dynamic wrap of frame buffers
- On-air functions geared especially for live broadcasting
- Adjustable "intercharacter" spacing
- 40 selection keys for storing user-defined attributes
- 32-bit microprocessor
- Hard disk, standard
- Disk loadable fonts, menu text, and setups
- Custom engraved keyboard
- 5M byte of video RAM on-board
- 4M bytes of program memory
- RGB or Y, R-Y, B-Y outputs
- Pages stored to floppy or hard disk
- NTSC, PAL and PAL-M compatible
- High-capacity hard disk drive
- Standalone hardware
- Unlimited characters per row
- Unlimited rows per page



Delta 1

- Image files (texture, background) compatible with Quantapaint 32
- Software controlled horizontal and subcarrier phase adjustment
- Real-time clock
- Dual frame buffers for preview/air and multi-level effects
- Dynamic digital compositing (mixing)
- High-speed proprietary accelerating processor (Bit Blitter)
- Math co-processor for fast rendering
- Downstream video linear keyer
- Rackmount electronics chassis
- 4 bit status buffer, dual 32 bit frame buffers
- Digital/analog video compositor
- Single 3 1/2" floppy disk drive
- Linear Downstream keyer/fader
- 20M byte hard disk
- System software, 5 master typeface styles
- Sync/genlock/encoder, provides RGB and encoded outputs
- NTSC (PAL available)

Delta 1 \$35,995.00

Orion Character Generator

- 16 levels of anti-aliasing, 256 levels of transparency
- Effective resolution of 5nsec
- Typographic-quality characters
- 5 standard anti-aliased face styles in 8 sizes each
- Up to 32 resident fonts, all anti-aliased
- Real-time operation
- Next-page buffering
- On-screen status information for fast and easy composition
- Font cache (automatic font load)
- Automatic kerning between fonts
- 16 million colors
- Color spreads for background, character, or edge
- International character sets with accents
- Selectable edge types
- Automatic page sequences
- Reveal by character, word, or row
- Keyboard character animation
- Vertical wipe
- Fade
- Visible, adjustable safe-title and tab indicators
- Display clock with up/down timer
- Character overlap (overstrike)
- 700 pages of storage per diskette
- ROM-based operating system, 2 1/2M byte internal memory
- Broadcast quality sync generator/encoder/keyer
- Provides RGB and encoded outputs
- Linear downstream keying for anti-aliased text



Orion

- 68000 microprocessor
- Proprietary hardware, including customized ASICs
- Single 3 1/2" floppy disk drive in electronics chassis
- NTSC (PAL available)

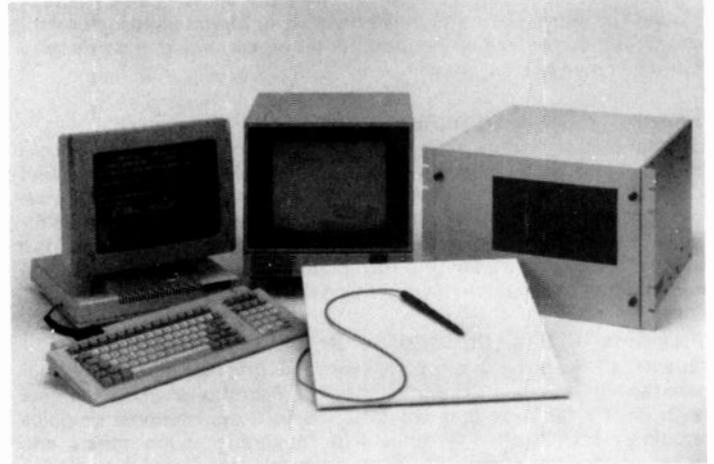
ORI-SD Single disk drive \$14,995.00
 ORI-DD Dual disk drive 15,595.00
 ORI-HD ORI-SD with 20M byte hard disk and SCSI interface 18,750.00

Artista™ Graphics System

• Full color graphics system providing full-color paint, typographic quality, anti-aliased fonts, 3D modeling, and animation capabilities in a single system • Extraordinary effects with extraordinary painting tools—airbrush, full-color flash camera capture, stencil, wash, cut and paste, etc. • Flash digitizer for instant full-color camera capture • Five multi-colored and anti-aliased fonts are standard with 3D edges or drop shadows • Business graphics—easy generation of colorful, dramatic charts and graphs • Color selection—16.7 million available, pop-up color palette with on-screen color mixing or select, and user-defined spectra • User-definable brushes and brush effects; brush types are anti-aliased, transparent, neon, chrome, movie, dither, and pastel • Tools—pixel precise positioning; magnification; user-defined boxes, rectangles, circles, and ellipses; rubber-band connect; and image archiving on storage media • Full-shaded backgrounds; horizontal, vertical, up/down slope, and automatic tile backgrounds • Stencil cutting by drawing or text, reverse stenciling, color-selectable and opacity controllable stencils • Cut and paste—X and Y perspective, proportional enlargement and reduction, simple stamp, rotations, ellipsoid/elliptical paste, and filtering • Area fills—boundary fill of an area defined by interior or boundary color, transparent fill • Cut and paste with transparency—move, rotate, resize any section of the screen • Powerful 2D animation tool allows the artist to cut out up to 20 sections of a picture, rotate them separately in 2^{1/2}D space, and describe a separate path for each to follow. Completed animations are single-frame recorded to a video tape recorder via an optional Quanta machine controller • Powerful 3D modeling and animation • All of three dimensional space is available to position objects, cameras, or lights • 13-inch high rack-mountable chassis • Two 5^{1/4}" floppy disk drives • 190M byte hard disk, 32M byte cartridge tape streamer for hard disk backup and archiving • 24-bits-per-pixel with eight additional bits for transparency and stencils • Resolution of 756 pixels by 486 lines in NTSC (740 x 577 PAL) • Two separate frame buffers (genlocked RGB, NTSC, or PAL) • High-performance 16.7MHz 68020 CPU with a 68881 fast math coprocessor provides increased processing speed • Display terminal, bit pad, stylus, and keyboard combine strong ergonomic features with high-performance functions • Terminal features a 14-inch nonglare screen, a fast screen refresh rate, and tilt-and-swivel capability • All paint, text, 3D, and animation functions are displayed on the terminal menu and easily accessed by the stylus on the bit pad or from the keyboard • Eight "hot" buttons reside on the bit pad for instant access to frequently-used functions

Artista Specifications

Processor:	68020
RAM:	4M bytes
Serial Interface:	RS-232
Floppy Disk Storage:	2-390K bytes
Hard Disk Storage:	190M bytes
Tape Streamer:	32M bytes, unformatted
Power:	Operated from 110/220V, 50/60 cycle
Power Consumption:	500W
Dimensions:	12 ^{1/4} "H x 19"W x 20 ^{3/4} "D
Weight:	65 lbs.
Mounting:	For rackmounting
Operating Environment:	10-40° C



Artista

Keyboard and Display Specifications

Power Requirements:	115VAC (+ 10%, -15%), 0.5A, 60Hz, 230VAC (+ 10%, -15%), 0.25A, 50Hz, 55W nominal
Dimensions:	
Display:	14.5"H x 13.5"W x 13.5"D
Keyboard:	1.5"H x 19"W x 7.5"D
Weight:	
Display:	19.4 lbs.
Keyboard:	2 lbs.

ART-5000 Includes:

Rackmount Electronics Chassis with:

- Microcomputer • 4M bytes RAM • Graphics board • Flash digitizer
- Composite NTSC (PAL available) • Decoder NTSC (PAL available) for rolling video capture

Artista Software includes:

- Complete 32 bit paint tools and functions • Instant full-color camera capture • Five anti-aliased typeface styles • Texture mapping • 2D cut-out animation • 3D modeling • 3D animation with Hierarchical motion • Two 5^{1/4}" floppy disks • One 190M byte hard drive • One 32M byte tape streamer • Sync/Genlock encoder, NTSC (PAL available), RGB • Green screen • Black box RS-422 to RS-232 interface • Keyboard • Bit pad with stylus

ART-5000 \$77,500.00

Options

ART-AMC

- Animation machine control interface for single frame recording to tape, specify VTR: BVH-2000, Betacam™ Series, BVU-800, VPR-3, VPR-6, VPR-80 (requires VTR with Time Code Reader)

ART-AMC \$1,995.00

Video Outputs:

- Green—7V (no sync) • Blue—7V (no sync) • Red 7V (no sync)
- Sync—2V • Key pulse—2V • Video one—1V p-p • Video two—1V p-p
- Subcarrier—1V p-p • PAL flag—1V p-p

Video Inputs:

- Green—7V (no sync) • Blue—7V (no sync) • Red—7V (no sync)
- Sync—4V • Video one—1V p-p • Video two—1V p-p

Mirage™ — Three-Dimensional TV Images In Motion

The Mirage system brings to reality that which has never been done before in realtime: the concept of forming live television pictures into three-dimensional shapes and moving them in three-dimensional space. Effects are accomplished with live video or during post-production in the edit suite. Mirage will process any shape that can be conceived including globes, cylinders and cones. Using Mirage's Floating Viewpoint Control, the user can take the viewer's eye not only around the image but through it as well. The Morph shape generator allows creative people without computer programming experience to form their own custom shapes.

Encore™ — Multi-Dimensional Images

Second only to Mirage in its video manipulation capabilities, Encore also provides three-dimensional perspective with Floating Viewpoint Control, plus compression, expansion, flips, rotation, mosaic, posterization and more. Its integral combiner lets the user connect 14 units for multi-channel operation. And using Mirage as an Encore channel, the system will produce free-form manipulation of flat pictures including such effects as an Encore picture flying down a Mirage cylinder.

Paintbox® — The Ultimate TV Graphics System

Quantel's Paintbox is a complete electronic graphics and design system that has become the world standard. Paintbox provides the user with all the facilities that are available in a conventional graphics studio—electronically. Working with a simple touch tablet and pressure-sensitive stylus, pictures are displayed in front of the artist on a TV screen. Live video may be captured and designers have complete freedom to create or change images in real-time in whatever art medium they select, ranging from oils, water color, chalk, pencil and crayon to air brush. Paintbox animates, produces TV's finest typography, and perspective may be added as an option. Instant access to thousands of pictures is available through Quantel's Central Lending Library in addition to its own library storage capabilities.

Cypher Graphics Generator

Much more than just a perfect caption generator with print-quality type faces and logos, Cypher also has the manipulative power of Encore available for each and every character. Cypher can generate any character from an enormous resource of type faces. With Floating Viewpoint Control, Cypher users can orchestrate the movement of the caption or its individual characters with the utmost ease. Each visible character can be modified separately or together in size position, rotation or perspective. Each color in a caption can be different, multi-colored, and even animated to produce unusual color changes and effects. Traditional typographic capabilities such as kerning, letter spacing, word spacing, text justification and line spacing are designed into the Cypher system, as well as rolls and crawls.

Harry-Digital CEL Recorder

Harry, is a digital cel recorder for use with Paintbox digital art/graphics system.

Harry allows cel animation, video retouching, matte work, and video rotoscoping to be performed directly from a Paintbox touch tablet.

This capability eliminates the need for complicated frame-by-frame editing sessions with video tape recorders. Harry can do it easier, faster, and in digital form.

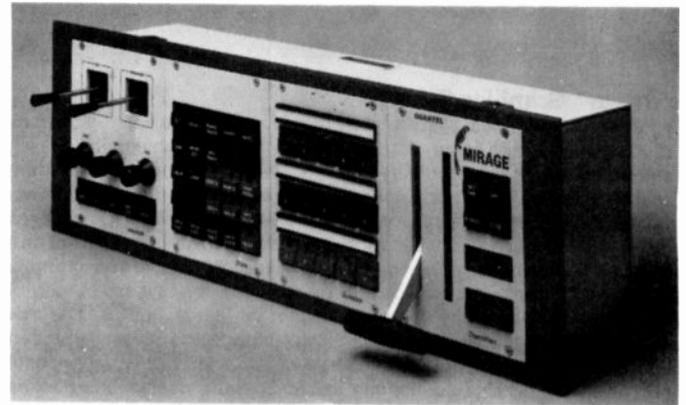
Harry is a real time random access record/replay system fully integrated with the Paintbox. Cels can be prepared one at a time on the Paintbox and then automatically stored in Harry. Capacity is 2,700 cels.

During rehearsal or sequence build-up, Harry can replay at any speed. Any cel can be edited or repeated for twinning purposes. Cels can be replayed at normal video frame rates for program output.

Harry can also record approximately 90 seconds of live video which can then be retouched one frame or field at a time. The modified video can be edited and replayed in real time.

Complex matte preparation and rotoscoping can likewise be performed frame-by-frame from a live source returning to a live replay.

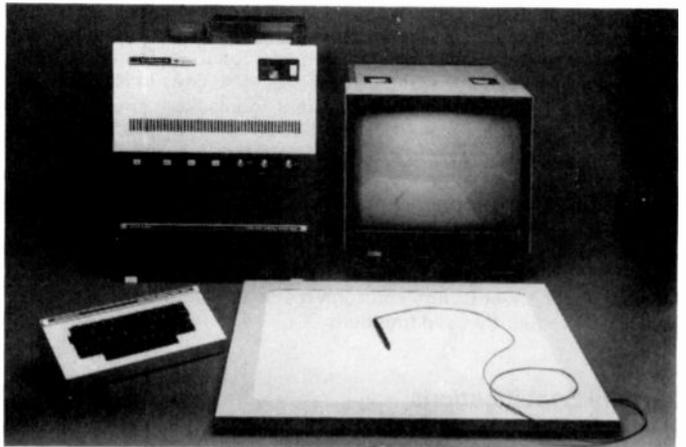
All these functions can be done easily using the Paintbox menu. No additional control panels are required. Like the Paintbox, Harry has been designed to be used by artists and graphics designers.



Mirage



Viewpoint Control Panel



Paintbox System

Options for Harry

Rainbow bringing several important enhancements together in a single package. Included are: Color Grading, Color Changing, Track and Trail, Differencing and Averaging.

Dynamic Rounding This feature allows the combining of digitally generated pictures without the intrusion of annoying interference artifacts.

Paradoxically, the totally pure, noise-free nature of digital pictures generates noise when two such pictures are added together—an inherent problem with the digital standard. The option package eliminates this problem, taking the Harry one step beyond the digital standard.

Audio Scratch Track This feature gives Harry a 60 second random access internal audio scratch track facility (optionally 120 seconds), allowing operators to make perfectly timed cuts against audio—frequently the controlling factor in an editing job.

Operating System Refinements Are:

- Non-additive Mixing—neatly complementing Harry's existing additive mixing capabilities
- Enhanced clip library management system for easier and faster access to stored clips; these are now organized alphabetically and a keyword search facility has been added
- Library for storing keyer set-ups—invaluable in complex multi-generation edits

QuickSet Samson (Wt. Capacity 70 lbs.)

QST-1 ENG/EFP Tripod

Load Capacity 70 lbs. (31.8kg)
Maximum Height 58" (147.3cm)
Minimum Height 32" (81.3cm)
Weight 9 lbs. (4.1kg)

QST-1

Strong, lightweight tripod, struts, extendable legs. Without elevator column.

QST-3 Tripod With Elevator

Load Capacity 40 lbs. (18.2kg)
Maximum Height 76" (193cm)
Minimum Height 34" (86.4cm)
Weight 10 lbs. (4.5kg)

QST-3

Strong, easily portable tripod with geared elevator center column.

QST-5

3/4 size version of QST-3
Maximum Height 55" (139.7cm)
Minimum Height 21" (53.3cm)

QST-9 Trolley

Load Capacity 40 lbs. (18.2kg)
Maximum Height 54" (137.2cm)
Minimum Height 36" (91.4cm)
Column Height 18" (45.7cm)
Wheel Circle 34" (86.4cm)
Weight 13 lbs. (5.9kg)

QST-9

Trolley, tubular, single section legs with wheels permanently attached. Geared elevator column.

QSP-1 Mobile Pedestal

Load Capacity 40 lbs. (18.2kg)
Maximum Height 55" (139.7cm)
Minimum Height 37" (94cm)
Wheel Circle 28" (71.1cm)
Weight 23 lbs. (10.5kg)

QSP-1

Mobile pedestal has geared elevator column housed within 4" diameter vertical tube. Three radiating arms, at the base, house 4" wheels.

QSC-1 Stationary Column

(includes Side Arm and Head)
Load Capacity 15 lbs. (6.8kg)
Maximum Height 30" (76.2cm)
Minimum Height 37" (94cm)
Horizontal Reach 10" (25.4cm)
Weight 8 lbs. (3.6kg)

QSC-3 Safety Elevator Column Unit

Load Capacity 25 lbs. (11.4kg)
Maximum Height 24" (60.9cm)
Minimum Height 6" (15.2cm)
Weight 6 lbs. (2.7kg)

QSC-3

Geared elevator column with mounting flange.

QSD-1 Dolly

Load Capacity 50 lbs. (22.7kg)
Wheel Size 4" x 3/4" (10.2 x 1.9cm)
Wheel Circle 42" (106.7cm)
Folds to 6 1/2" x 7 1/2" x 21 1/2"
(16.5 x 19.0 x 54.6cm)
Weight 9 lbs. (4.1kg)

Video Friction Head

Load Capacity 25-35 lbs. (11.4-15.9kg)
Tilt Angle 45° up, 90° down
Pan Rotation 360°
Dimensions 5 1/2" x 6 1/2" x 6 1/2"
(14.1 x 16.6 x 16.6cm)

Weight 2 1/2 lbs. (1kg)
Mountings 1/4 x 20 camera screw

QSH-4

Standard Counterbalance Spring (25 lb. cap.)

QSH-3

Heavy-Duty Counterbalance Spring (35 lb. cap.)

3/8 x 16 mounting screw available on special order.

QSH-6 CAM Head

Load Capacity 40 lbs. (18.1kg)
Tilt Angle 30° up, 40° down
Pan Rotation 360°
Dimensions 8 1/2" x 6 1/2" x 4 1/2"
(21.6 x 16.6 x 11.5cm)

Mountings 1/4 x 20 camera screw

3/8 x 16 mounting screw available on special order.

QSH-9 Photographic Geared Still Head

Load Capacity 25 lbs. (11.4kg)
Tilt Angle 45° up, 90° down, ± 15° side
Pan Rotation 360°
Dimensions 8 1/2" x 6 1/2" x 6"
(21.6 x 16.5 x 15.2cm)

Weight 2 1/2 lbs. (1.1kg)

QSH-11 Geared Movie Head

Load Capacity 25 lbs. (11.4kg)
Tilt Angle 45° up, 90° down
Pan Rotation 360°
Dimensions 6" x 6 1/2" x 7 1/2"
(15.2 x 16.5 x 19cm)

Weight 2 lbs. (1kg)

Tripods, Pedestals, Trolley and Columns

QST-1	ENG/EFP Tripod (Use with QSH-27 or QSH-19 only) (Wt. Cap. 70 lbs.) (Max. Ht. 58")	\$350.00
QST-3	Tripod, Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 76")	\$395.00
QST-5	Tripod, 3/4 Size, Compact Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 55")	\$390.00
QST-9	Trolley, Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 54")	\$435.00
QSP-1	Mobile Pedestal, Safety Elevator Column (Wt. Cap. 40 lbs.) (Max. Ht. 55")	\$650.00
QSC-1	Stationary Column Unit (Incl. Side Arm and Panhead) (Wt. Cap. 15 lbs.) (Max. Ht. 30")	\$305.00
QSC-3	Safety Elevator Column Unit for bench or cart mount (Wt. Cap. 25 lbs.) (Max. Ht. 24")	\$230.00

Heads-Video, Cam and Gear Type

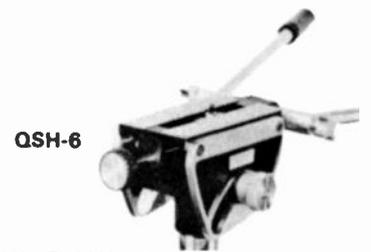
QSH-4	Video Friction Head w/Counterbalance Spring (Wt. Cap. 25 lbs.)	\$185.00
QSH-3	Video Friction Head w/Heavy-Duty Counterbalance Spring (Wt. Cap. 35 lbs.)	\$195.00
QSH-6	Cam Head (Wt. Cap. 40 lbs.)	\$490.00
QSH-9	Photographic Geared Still Head (Wt. Cap. 25 lbs.)	\$360.00
QSH-11	Geared Movie Head (Wt. Cap. 25 lbs.)	\$335.00

Fluid Heads

QSH-15	"Mini" (Wt. Cap. 10 lbs.) For tripods with Samson columns	\$435.00
QSH-17	"Junior" (Wt. Cap. 30 lbs.) For tripods with Samson columns	\$820.00
QSH-19	"Junior" (Wt. Cap. 30 lbs.) For QST-1 Tripod	\$805.00
QSH-25	"Super-Hydro" (Wt. Cap. 50 lbs.) For tripods with Samson columns	\$1040.00
QSH-27	"Super-Hydro" (Wt. Cap. 50 lbs.) For QST-1 Tripod	\$1020.00

Dolly and Accessories

QSD-1	Dolly for QST-1 and QST-3 tripods	\$165.00
QSM-1	Second Control Arm for Video, Cam and Fluid Heads	\$48.00



QSH-6

QSH-15 Mini Fluid Head

Load Capacity 10 lbs. (4.5kg)
Tilt Angle ± 90°
Pan Rotation 360°
Dimensions 4" x 5" x 6"
(10.2 x 12.7 x 15.2cm)

Base For Samson Column
Weight 4.5 lbs. (2.0kg)

Junior Fluid Heads

Load Capacity 30 lbs. (13.6kg)
Tilt Angle ± 85°
Pan Rotation 360°
Dimensions 4" x 6" x 6"
(10.2 x 15.2 x 15.2cm)

Weight 7.0 lbs. (3.2kg)

QSH-17

For Tripods w/Samson Columns

QSH-19

For QST-1 Tripod

Super-Hydro Fluid Head

Load Capacity 50 lbs. (22.6kg)
Tilt Angle ± 80°
Pan Rotation 360°
Dimensions 6 3/4" x 6" x 7"
(17.1 x 15.2 x 17.8cm)

Weight 10 3/4 lbs. (4.9kg)

QSH-25

For Tripods w/Samson Columns

QSH-27

For QST-1 Tripod

QuickSet Rainbow (Wt. Capacity 100 lbs.)

QRT-1 Tripod

Load Capacity 100 lbs. (45.4kg)
Maximum Height 61" (154.9cm)
Minimum Height 32" (81.3cm)
Weight 9.7 lbs. (4.4kg)

QRT-1P Platinum QRT-1E Emerald
QRT-1B Blue QRT-1K Black
QRT-1V Violet QRT-1S Silver
QRT-1R Red QRT-1C Custom
QRT-1G Gold

QRT-1x*

Sturdy aluminum and composite tripod with spreaders, retractable spike tips, calibrated expandable leg. Working height of 32" to 61". Available in colors.

*x represents color code

QRH-1 Pro 1000 Fluid Head

Load Capacity 20 lbs. (9.0kg)
Tilt Angle 65° up, 90° down
Pan Rotation 360°
Dimensions 4 1/2" x 5" x 5 1/2"
(11.4 x 15.2 x 13.9cm)
Base 75mm claw ball
Weight 6 lbs. (2.7kg)

QRH-2 Pro 2000 Fluid Head

Load Capacity 35 lbs. (15.9kg)
Tilt Angle ± 45°
Pan Rotation 360°
Dimensions 6" x 4 1/2" x 6"
(15.2 x 11.4 x 15.2cm)
Base 100mm claw ball
Weight 11 lbs. (5.0kg)

QRH-3 Fluid Head 10

Load Capacity 10 lbs. (4.5kg)
Tilt Angle ± 90°
Pan Rotation 360°
Dimensions 4" x 5" x 6"
(11.4 x 12.7 x 15.2cm)
Base 100mm claw ball
Weight 4.5 lbs. (2.0kg)

QRH-6 Cam Head

Load Capacity 10-40 lbs. (4.5-18kg)
Tilt Angle 30° up, 40° down
Pan Rotation 360°
Dimensions 4" x 6 3/4" x 4"
(10 x 17 x 10cm)
Base Column Mount
Weight 5 lbs. (2.3kg)

QRH-7 Camfluid Pro Head

Load Capacity 5-50 lbs. (2.3-22.7kg)
Tilt Angle ± 45°
Pan Rotation 360°
Dimensions 5" x 5" x 7 1/2"
(2.7 x 12.7 x 19.0cm)
Base 100mm ball
Weight 11 lbs. (5kg)

QRH-15 Fluid Head 30

Load Capacity 30 lbs. (13.6kg)
Tilt Angle ± 85°
Pan Rotation 360°
Dimensions 4" x 6" x 6"
(10.2 x 15.2 x 15.2cm)
Base 178mm ball
Weight 7 lbs. (3.2kg)

QCH-23 Fluid Head 50

Load Capacity 50 lbs. (22.6kg)
Tilt Angle ± 80°
Pan Rotation 360°
Dimensions 6 3/4" x 6" x 7"
(17.1 x 15.2 x 17.8cm)
Base 178mm ball
Weight 10 3/4 lbs. (4.9kg)

QRC-1 Safety Elevator

Column Assembly
Load Capacity 35 lbs. (15.9kg)
Maximum Height 23" (5.8cm)
Minimum Height 5" (12.7cm)
Weight 7 lbs. (3.9kg)

QRD-1 Dolly

Load Capacity 100 lbs. (22.7kg)
Wheel Size 4" x 3/4" (10.2 x 1.9cm)
Wheel Circle 43" (109cm)
Folds to 9" x 8 1/2" x 25 3/4"
(22.9 x 21.6 x 65cm)
Weight 10 lbs. (4.5kg)
QRD-1
Lightweight dolly with carrying handle. 4" wheels.

Tripods (Max. Ht. 61" , 178mm base)

QRT-1P Platinum	QRT-1B Blue	
QRT-1V Violet	QRT-1R Red	
QRT-1G Gold	QRT-1E Emerald	
QRT-1K Black	QRT-1S Silver	
QRT-1 (All above colors)		\$295.00
QRT-1C Custom		POR

Heads

QRH-1	Pro 1000 Fluid Head-75mm ball	\$ 494.00
QRH-2	Pro 2000 Fluid Head-100mm ball	1750.00
QRH-3	Fluid Head 10-100mm ball	635.00
QRH-15	Fluid Head 30-178mm ball	835.00
QRH-23	Fluid Head 50-178mm ball	1060.00
QRH-6	Cam Head (For Elevator Column)	295.00
QRH-7	Cam/Fluid Pro Head-100mm ball	POR

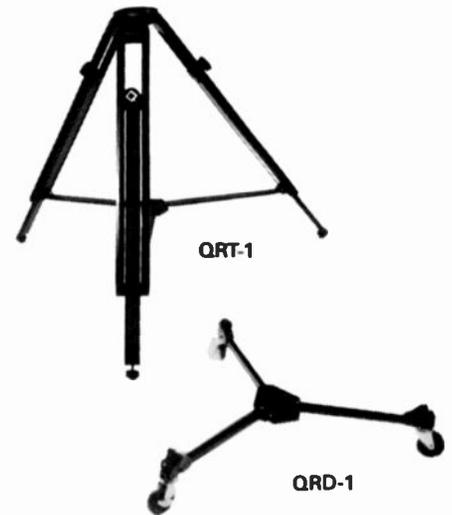
Systems

Consists of: Rainbow Tripod with Pro 1000 Head and 75mm adaptor

QRTH-1P Platinum	QRTH-1B Blue	
QRTH-1V Violet	QRTH-1R Red	
QRTH-1G Gold	QRTH-1E Emerald	
QRTH-1K Black	QRTH-1S Silver	
QRTH-1 (All above colors)		\$750.00
QRTH-1C Custom		POR

Dolly and Accessories

QRD-1	Dolly	\$179.00
QRM-1	Adjustable Spreaders	40.00
QRM-3	Carrying Strap	18.00
QRM-5	Carrying Case	POR
QRC-1	Safety Elevator Column Assembly. Use w/Samson Heads. (Max. Ht. 23" extra)	336.00
24081	75mm Ball Base Adaptor for Tripod	5.00
24080	100mm Ball Base Adaptor for Tripod	5.00
24083	Adaptor for QRH-1 Head to Safety Elevator Column	30.00
24084	Adaptor for QRH-6 to Tripod	50.00



QRTH-1 Tripod/Head Combination
Tripod QRT-1
Head QRH-1 (Pro 1000)
Adaptor 24081 (75mm ball)
QRTH-1P Platinum QRTH-1E Emerald
QRTH-1B Blue QRTH-1K Black
QRTH-1V Violet QRTH-1S Silver
QRTH-1R Red QRTH-1C Custom
QRTH-1G Gold

QuickSet Hercules (Wt. Capacity 150 lbs.)

QHT-1 Tripod With Elevator
Load Capacity150 lbs. (68.2kg)
Maximum Height73" (185.4cm)
Minimum Height33" (83.8cm)
Weight19 lbs. (8.6kg)

QHT-3
3/4 size version of QHT-1
Maximum Height55" (139.7cm)
Minimum Height26" (66.0cm)

QHT-1
Strong, heavy-duty tripod with geared center column.

QHT-3
Same as QHT-1, but in 3/4 size where lower operating height is required.

QHP-1 Mobile Pedestal
Load Capacity80 lbs. (36.4kg)
Maximum Height56" (142.3cm)
Minimum Height38" (96.5cm)
Weight35 lbs. (15.9kg)
Wheel Circle34" (86.4cm)

QHP-1
Heavy-duty mobile pedestal. Geared elevator column housed within a 6" diameter vertical tube. Three radiating arms, at the base, hold double lock 4" wheels.

QHH-3 Instrument Geared Head
Load Capacity15-50 lbs. (6.8-22.7kg)*
Tilt Angle45° up, 90° down
Pan Rotation360°
Dimensions7" x 6" x 6 3/4"
(17.8 x 15.2 x 17.1cm)
Weight7 lbs. (3.2kg)
*Choice of counterbalance spring

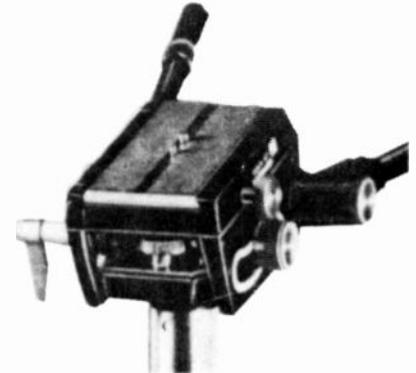
QHH-5 Cam Head
Load Capacity80 lbs. (36.3kg)
Tilt Angle35° up, 45° down
Pan Rotation360°
Dimensions5" x 9" x 10"
(12.7 x 22.9 x 25.4cm)
Weight21 lbs. (9.5kg)

QHH-7 Cam Head
Load Capacity140 lbs. (63.3kg)
Tilt Angle± 50°
Pan Rotation360°
Dimensions8 1/2" x 9 1/2" x 9 1/2"
(21.6 x 24.1 x 24.1cm)
Weight25 1/2 lbs. (11.6kg)

QHH-11 Instrument Geared Head, Calibrated
Same as QHH-3 with calibrations and verniers.
Calibrations: Azimuth in 1° (0°-360°) w/
Verniers; Elevation in 1° (+90° to -45°) w/
Verniers; Verniers at 15 minutes



**QHP-1
Mobile Pedestal**



QHH-5 Cam Head

QHD-1 Dolly
Load Capacity500 lbs. (226.8kg)
Wheel Size4" x 1" (10.2 x 2.5cm)
Wheel Circle45" (114.3cm)
Folds to7" x 13" x 28"
(17.8 x 33.0 x 71.1cm)
Weight17 lbs. (7.7kg)

QHD-1
Dolly with 4" wheels

QHD-7
Dolly with 8" wheels and cable guards.

Tripods, Pedestals, and Columns

QHT-1 Tripod, Safety Elevator Column (Wt. Cap. 150 lbs.) (Max. Ht. 73") \$780.00
QHT-3 Tripod, 3/4 Size, Safety Elevator Column (Wt. Cap. 150 lbs.) (Max. Ht. 44") \$765.00
QHP-1 Mobile Pedestal, Safety Elevator Column (Wt. Cap. 80 lbs.) (Max. Ht. 56") \$985.00

Heads

QHH-3 Instrument Geared Head (Wt. Cap. 50 lbs.) \$ 735.00
QHH-11 Instrument Geared Head, Calibrated, Verniers on Pan and Tilt (Wt. Cap. 50 lbs.) \$1575.00
QHH-5 Cam Head (Wt. Cap. 80 lbs.) \$810.00
QHH-7 Cam Head (Wt. Cap. 140 lbs.) \$1120.00

Dollies

QHD-1 Dolly, 4" Wheels (Use with QHT-1 Tripod) \$ 450.00
QHD-7 Dolly, 8" Wheels, Cable Guards (Use with QHT-1 Tripod). \$1095.00

Microscope Stand

QHM-MS Microscope Stand with Pan/Tilt Head (Wt. Cap. 25 lbs.) \$400.00
QHM-MB Base for Microscope Stand \$95.00

Accessories

QHM-2 Second Control Arm for QHH-5, 7 Cam Heads \$ 70.00
QHM-WP Wedge Plate and Adaptor Assy, for QHH-5, 7 Heads \$400.00
QHM-ST Spike Tips (Set of 3) \$100.00
QHM-HH Hi-Hat \$150.00
QHM-3 "Quick-On" Instrument Mount (Wt. Cap. 60 lbs.) \$190.00



WP-9220

WP-9055/WP-9110/WP-9220/WP-9440

Power Amplifiers

- Balanced inputs • Precision input attenuators • Built-in and remote status monitoring • Multiple amplifier protection systems • Stereo/mono/bridge • Frequency Response: 20Hz-2kHz (± 0.5 dB) • High slew rate • Controlled rise time • No transient intermodulation distortion • Dual voltage design

WP-9055	2 x 50W (8 ohms) 1.75" rack space	.....\$ 590.00
WP-9110	2 x 100W (8 ohms) 3.5" rack space	.....840.00
WP-9220	2 x 200W (8 ohms) 5.25" rack space	.....1090.00
WP-9440	2 x 400W (8 ohms) 5.25" rack space	.....2090.00

WS-A10 Compact Speaker

- Heat resistant voice coil • Built-in magnetic shield • Built-in thermal protection circuit • Heavy-duty construction • Multiple mounting possibilities • Input terminals • Power capacity: 80W • Sensitivity: 88dB (1W/1m) • Amplitude response: 80Hz to 16kHz (-10dB) • White or black finish

Applications for the WS-A10 include small-speaker monitoring in recording studios, on-stage keyboard and personal monitoring, distributed music systems, audio for video monitoring and many others.

WS-A10\$120.00

WS-A70-K Compact Monitor Speaker

- Easy to set up • Maximum input power: 160W • Momentary peak input: 400W • Auto gain control built-in • Constant-directional Twin Bessel Horn (120° x 120°) • Anti-magnetic design • 8" Woofer • Heat resistant voice coil

WS-A70-K\$240.00

WS-A80 Compact Speaker

- Two-way loudspeaker • 8" Low frequency driver for extended low frequency response, high efficiency and low distortion • Consistent and reliable under conditions of very high input power • Constant directivity Twin Bessel Horn • Thermal protection circuit • Heavy-duty construction • Multiple mounting possibilities • Input terminals • Power capacity: 80W • Crossover frequency: 2.5kHz

The WS-A80 features extended amplitude response, uniform coverage and high output capability. Housed in a virtually indestructible molded cabinet for portable service that incorporates multiple mounting provisions, the WS-A80 is an ideal system for the working musician. Applications for the WS-A80 include on-stage monitoring, vocal PA reinforcement, distributed music systems, high-quality playback.

WS-A80\$280.00

WS-A200/WS-240 Compact Speaker System

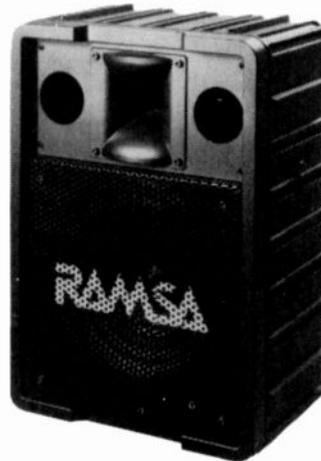
- Maximum input power: 250W • Constant-directional Twin Bessel Horn (60° x 40°) • Frequency range: 70 to 20,000Hz • One-piece molded plastic enclosures • Unique stacking structure

The Twin Bessel Horn features accurate control of horizontal and vertical directivity. The improved design of the open end horn reduces reflection and adds greater uniformity in regard to sound direction. This horn offers flexibility adaptability to the use of the speaker in either the horizontal or vertical direction.

The WS-A240/WS-SP2 Subwoofer System extends the low frequency response to create greater impact in the bass frequencies.

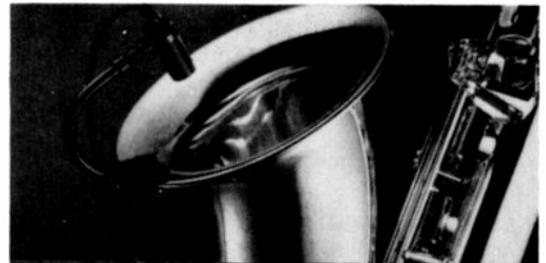
WS-A200	.....\$560.00
WS-A240 Compact subwoofer system (12" driver)	.....450.00
WS-SP2 Subwoofer processor (required for WS-A240)	.....210.00

WS-A200

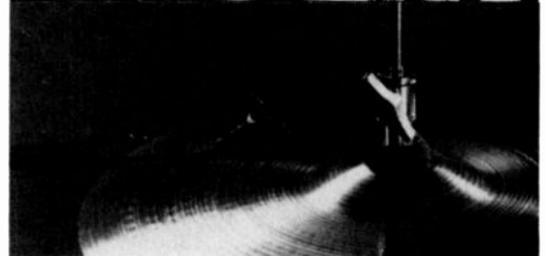


WS-A10

WM-S2



WM-S1



WM-S1/WM-S2/WM-S5/WM-S10 Miniature Condenser Microphones

- Four miniature condenser microphones specifically designed to replace the bulky microphones that have become the industry standard • Application for application, these tiny powerhouses easily match the performance of larger microphones, and in blind listening tests have been chosen by some of the world's leading professionals as superior to presently available microphones

WM-S1	High SPL mini-condenser (Phantom power only)	\$199.00
WM-S2	Mini-condenser mike (Batteries or phantom power operation)	160.00
WM-S5	High SPL mini-condenser mike (Phantom power only)	270.00
WM-S10	Headset mini-condenser mike (Batteries or phantom power operation)	210.00
WM-Q01	Telescoping mini-boom (for WM-S1, WM-S2 and WM-S5)	55.00

WR-8428 Post Production/Recording Console

• 28 x 4 x 2 x 2 x 4 x 1 • Video and broadcast post production • Multi-core input plugs (RS-232) • Capable of connecting a second 24-track recorder • 28 input channels • Modular design • Furnishes total of ten mixing bus lines; four group, two master, and two echo buses • Group and master lines can be monitored in stereo • User can set up separate program and audition stereo monitoring modes • Each module contains 100mm stroke input fader and three-band equalizer • Variety of modules to choose from

WR-8428 Base Mainframe includes these standard modules: WU-8113 x 2 (Master Output); WU-8114 (Monitor Output); WU-8115 (Talk-Back/Oscillator) and WU-8085 (Power Supply)

WR-8428 \$8,130.00

WU-Z300

Mixer stand side bars for WR-8428 (requires WU-Z316) \$359.00

WU-Z316

Mixer stand cross bar for WR-8428 (requires WU-Z300) 148.00

WR-8616 Post Production/Recording Console

• 16 x 4 x 2 x 1 • Left and right stereo outputs, XFMR balanced • Phantom mike power, at each input 48V • Meets broadcast configuration standards • Remote start-stop control for cart machines, turntables, etc. • Extensive metering facilities, 8 Gan-Graph 6 VU meters • Modular construction • Variety of modules to choose from

WR-8616 Base mainframe includes 4 standard modules: WV-8103 x 2 (Master Output); WV-8104 (Monitor Output); WV-8105 (Talkback/Oscillator) and WV-8083 (Power Supply)

WR-8616 \$5,530.00

WU-Z300

Mixer stand side bars for WR-8616 (requires WU-Z316) \$369.00

WU-Z316

Mixer stand cross bar for WR-8616 (requires WU-Z300) 148.00

WR-T820B Recording Console

• Extensive metering capabilities • 20 inputs and is capable of 8- and 16-track recording • Ability to simultaneously mix incoming signals w/tape playback signals during overdubbing • Pushbutton selection of electronically balanced mike, line or unbalanced tape signals • 48V Phantom power switchable for each channel • Mono-solo monitoring on output signals • Built-in talkback oscillator

WR-T820 \$8,500.00

WU-Z200

Mixer stand side bars for WR-T820B (requires WU-Z220) \$233.00

WU-Z220

Mixer stand cross bar for WR-T820B (requires WU-Z200) 83.00

WR-8210A Recording Console

• 10 inputs, 4 group outputs designed for versatile multitrack recording applications • 48V Phantom power • Left and right stereo outputs and 10 tape recorder sub-mix inputs • 4 LED peak reading meters • Direct outputs and access points on inputs are included • Stereo effects returns, group outputs and monitor controls are simple to operate • Sub-in section can be used for tape or echo monitoring during recording and overdubbing

WR-8210A \$2,500.00

WR-8112/WR-8118

Sound Reinforcement/Recording Consoles

• PA mixer use with up to 18 microphone and line signal inputs • 48V Phantom power • Pushbutton tape input accommodation easily handles multi-channel recording, overdubbing and mixdown • 3 band equalization section on each input for high, mid-range and low frequencies • Diverse metering capabilities with 12-point LED bargraph meters • Sweepable peak-dip mid-range controls • Lightweight, compact design • 4 group, 2 master and 1 mono master outputs

WR-8112 12 x 4 x 2 x 1 \$2,900.00

WR-8118 18 x 4 x 2 x 1 3,900.00



WR-8428

WR-S208/WR-S212/WR-S216

Stereo Mixing Consoles

• 2 channels on each console have stereo inputs on both line and phono/recorder inputs • With the exception of the two inputs, all inputs are mono, electronically balanced mike/line inputs • Each model offers three send circuits; a pre-fader monitor foldback circuit; a post-fader effect send and a switchable pre/post-fader send for foldback monitoring of effects • 48V phantom power • Peak indicators • Solo buttons allow monitoring each channel individually • 60mm faders standard on input channels

WR-S208 (2 stereo, 6 mono mike/line inputs) \$1,600.00

WR-S212 (2 stereo, 10 mono mike/line inputs) 2,200.00

WR-S216 (2 stereo, 14 mono mike/line inputs) 2,700.00

WR-Q208 Rackmount adaptor for WR-S208 85.00

WR-S840 House/Stage Mixing Console

• Extensive RF protection • Matsushita Resistive Plastic (MRP) faders and input attenuators • Module design allows for variety of configurations • Each input features 4-band EQ, variable HP filter, phantom power, PFL, channel-on switch, more • Standard 40 input, 8 bus configuration includes five standard modules: WU-S84 group output module (X8), WU-S85 Master Output Module (X2), WU-S86 Effect Return Module (X2), WU-S87 Monitor Module (X1), WU-S88 Talk-Back/Oscillator Module (X1) and the WU-PS80 Power Supply • Other modules to choose from

WR-S840 (Standard configuration) \$13,900.00

WR-133 Portable 8 Input/2 Output Audio Mixer

• High quality performance characteristics—extended frequency response, wide dynamic range and noise-free performance • Switchable remote broadcasts, recording or sound reinforcement modes • Can be connected to cue to echo effect unit through pre-mix outputs, and to echo effect unit through from echo and to echo • Peak-level LED indicators • Two VU meters • Frequency response: 20Hz to 20,000Hz • Rugged construction designed to withstand rough handling

WR-133 \$1,200.00

WR-Q51 Rackmount adaptor 85.00

WR-M10 Compact Audio Mixer

• 4 mono input circuits • 6 stereo input circuits • 2 stereo phono input circuits • I/O connector panel can be moved to the rear, top, or bottom surface • Rackmount angle fittings allow installation flexibility • Can be mounted on a standard 19" EIA rack or a wall surface • Can also be flush-mounted in the wall or on a tabletop • Main output frequency response (with output transformer): 30Hz to 20kHz, +0.5dB, -2dB • THD: 0.3% max. (+18dB output, 50Hz to 15kHz, main output)

WR-M10 \$900.00

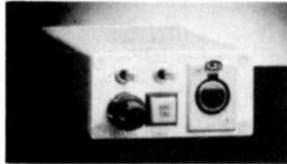
TW Intercom System

- Over 25 different components and accessories
- Operates in full duplex mode, simultaneous talk and listen, to and from each user station

- Up to 75 user stations can be employed
- Phase III circuitry permits 12V power operation, multi-channel selection, 10 mile range, and balanced line operation



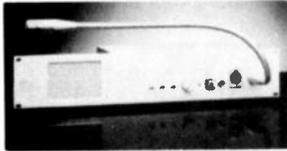
BP300 Belt Pack User Station
Lightweight user station provides two channel operation. May be used in portable, semi-portable, and fixed position applications. \$292.00
BP300L w/call light 364.00



BP320 Belt Pack Stereo User Station
Portable user station designed for personnel requiring stereo operation between two channels. Typically, a split-feed dual headphone headset is used. \$505.00
BP320L w/call light 577.00



RM300 Rackmount User Station
Designed to mount in one unit of standard rack space. Provides same features as the BP300. \$360.00
RM300L w/call light 432.00



RMS300 Rackmount User Station
Allows for "hands-free" operation with panel microphone and speaker or headset/handset operation for private listening. \$699.00
RMS300L w/call light 771.00



SPK300 Portable Speaker User Station
Can operate in an open-listening mode with a speaker and push-to-talk microphone or privately with a headset or a handset. \$546.00
SPK300L w/call light 618.00



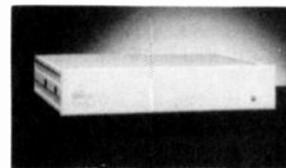
CM300 Console Mount User Station
Designed to be secured in a desktop or console top. Identical in features to the BP300 and RM300. \$360.00
CM300L w/call light 429.00



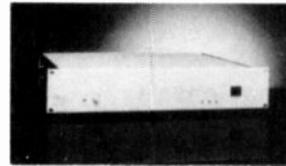
WMS300 Wall Mount Speaker Station
Designed to fit into a standard 4-gang electrical box. Augments headset/handset operation with a loudspeaker for monitoring the line. \$486.00



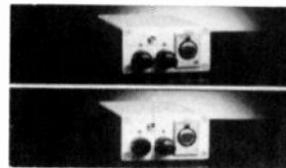
LH267 Headset
Single headphone, dynamic mike, 6' cord w/A4M conn. \$70.00
LH268 Headset
Dual headphone, dynamic mike, 6' cord w/A4M conn. \$87.00



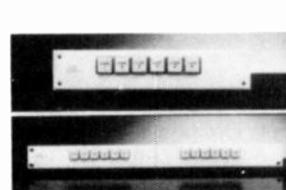
PS8 Power Supply
A single PS8 (two-channels) can power: 12 user stations w/o call lights, 7 speaker stations w/o call lights, 7 user stations with call lights, 5 speaker stations with call lights, or a combination of above. \$437.00



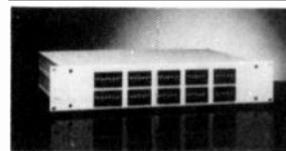
PS31 Power Supply
A single PS31 can power approximately 30 user stations on any combination of 3 powered output channels. A program audio input can be added to any one of the three channels. \$1150.00



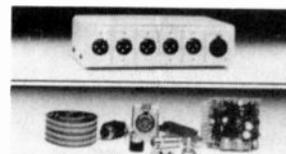
TW1222, TW1224, System Interfaces
Designed to provide the best possible coupling between the TW Intercom system and other types of intercom and communications systems.
TW1222. \$558.00
TW1224. 488.00



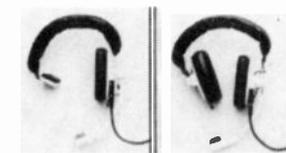
VCP6A, VCP12A, VIE306 Station ISO
Provides the necessary control, switching and interface functions for private communications between any of 3 control stations and 6 user stations.
VCP6A \$ 931.00
VCP12A 1197.00
VIE306. 3087.00



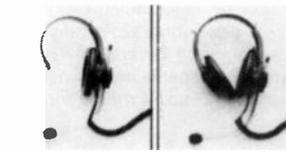
SAP1626 Source Assignment
Multiple switch assembly assigns any one of 12 intercom channels and/or 3 program audio channels to 26 separate intercom 2 channel user stations. \$2749.00



TW5W Splitter
A completely passive 1 x 5 connector splitter assembly. \$125.00
CPK61 Circuit Card Kit
Small-size user station plug-in circuit card. External controls and connectors are provided. \$217.00

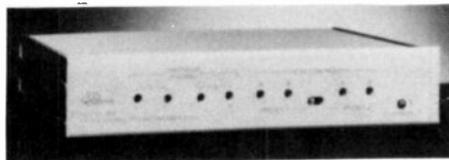


DT108 Headset
Single headphone (50 ohms), dynamic mike, 6' cord w/A4M conn. . \$200.00
DT109 Headset
Dual headphone (50 ohms), dynamic mike, 6' cord w/A4M conn. . \$220.00



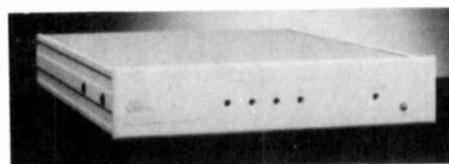
51103XD Headset
Single headphone, dynamic mike, 6' coil cord w/A4M conn. \$120.00
51303XD Headset
Dual headphone, dynamic mike, 6' coil cord w/A4M conn. \$140.00

Series 400 Professional Audio Products



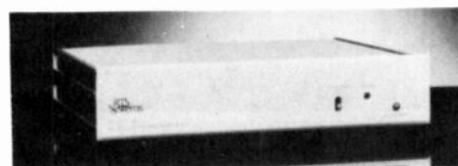
405 Professional Phono Preamplifier

High performance two-channel preamplifier designed for critical use in disc mastering, broadcast stations and commercial installations. It features adjustable cartridge termination, switchable rumble filter, and two output formats. \$437.00



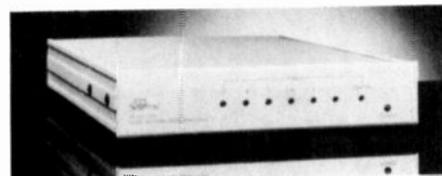
424 Distribution Amplifier

High performance 1 x 4 audio distribution amplifier with balanced input and four individually amplified transformer balanced outputs. \$453.00



465 Microphone Preamplifier

Single-channel, high performance wideband preamplifier with transformer balanced input and output, this unit features a switchable limiter, switchable phantom mic power, and adjustable gain. . . . \$477.00



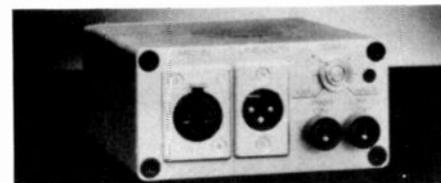
416 Distribution Amplifier

Expanded version of the 424 with six outputs. Both units provide outstanding performance specifications and feature individual output level controls, a master gain control, and 33dB of gain adjustment. . . \$631.00



444 Dual Two-Channel Buffer Amplifier

Designed to couple consumer, semi-pro, and industrial equipment with professional systems, the 444 provides the necessary electronic interface between +4dBm Lo-Z balanced circuits and -10dBV Hi-Z unbalanced circuits. \$368.00



1400 In-Line Microphone Preamplifier

Battery powered high performance microphone preamplifier that features impression specifications, a switchable limiter circuit, and adjustable gain; all packaged in a durable compact housing. \$264.00



Series 2500 Amplifier System

Consists of a series of high performance audio amplifiers and other associated circuitry items that are designed to be part of a versatile card frame system. Up to eight plug-in circuit cards and two power supplies can fit into the three rack unit frame.

Specifications common to 2500 Amplifiers are: +28dBm into 600 ohm loads from 30Hz to 20kHz all outputs driven; +32dBV maximum input level; SNR > 100dB; input CMRR typ 75dB at 50Hz; 4μsec rise time; maximum phase shift +22.5° at 20Hz, -22.5° at 20kHz; output source impedances of 80 ohms or less.

2501 Card Frame Assembly

Consists of the basic card cage housing and related components: rear rackmount supports, strain relief bars, front cover, and interconnect housings and crimp terminals. \$550.00

2503 Extender Card Assembly

Designed to allow any one of the 2500 amplifier circuit cards to extend out from the card frame for servicing or adjustment. \$164.00

2505 Power Supply Assembly

A ±26V at 4A unregulated power supply mounted on a bent metal frame. It is expressly designed to fit into the 2500 card frame. Two 2505 power supplies for each card frame are recommended for backup power. \$365.00

2510 1 x 6 Audio Distribution Amplifier

Consists of a single differential balanced input and six individually amplified transformer balanced outs. \$495.00

2512 Stereo 1 x 6 Audio Distribution Amplifier

Can be used as a single 1 x 12 or a dual 1 x 6 distribution amplifier. Optional remote gain VCA circuitry is available. \$435.00

2514 Quad Line Amplifier

Can be used as four discrete amplifiers or two stereo pairs. Optional remote gain VCA circuitry is available. \$489.00

2516 Quad Buffer Amplifier

Primarily designed to interface unbalanced -10dBV IHF level equipment +4/+8dBm professional equipment. \$495.00

2522 Universal Relay Card

Comprises ten individual DPDT relays with buffered logic inputs. \$259.00

2524 Universal Dual Summing Amplifier

Consists of a pair of six input, one output summing amplifiers with balanced input/output circuitry. \$368.00

2528 Dual Microphone Preamplifier

Features phantom power, variable gain, balanced inputs and outputs, and very low noise. TBA

2540 Mix-Minus Matrix

A 24 input by 8 output monitoring device used to delete one of 24 inputs from each combined output for 8 different output groups. . TBA

2542 Switcher

A single 16 input by 1 output or dual 8 input by 1 output remotely controlled audio switching network. TBA



Series 17 Intercom System

- Conference-line intercom with up to 40 stations
- Adaptable for portable or fixed level operations
- Cost-effective and easy-to-use
- Telephone modular cables for instant connections
- Field-proven, high-performance circuit design

The Series 17 Intercom System is a low-cost, easy-to-use conference line intercom designed specifically for light duty applications that require a single channel of communications. Featuring clean, clear sound quality—even over long distances—the system is easily installed and can be configured in a variety of system arrangements.

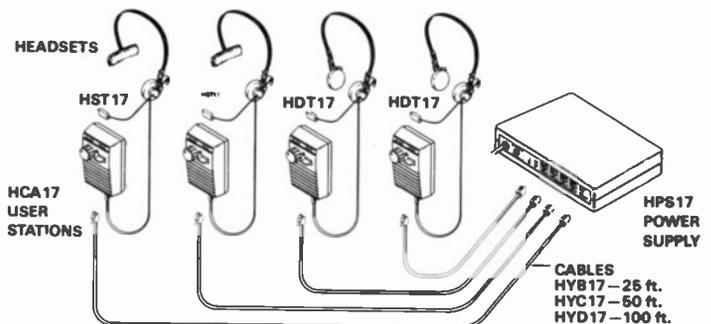
Series 17 Intercom components are simple to install, operate and maintain. Designed to be dedicated components within a system, they satisfy a broad range of communications requirements. A Series 17 system can be as few as two stations on a single channel to over 40 stations operating on multiple channels with ancillary support equipment.

The standard Series 17 system is a single-channel, three wire system. A simple modification allows the user stations to work with an RTS Systems' TW Intercom System power supply, thus allowing single channel operations on only two wires. However, most often a single channel is all that's necessary for effective, uncomplicated operations.

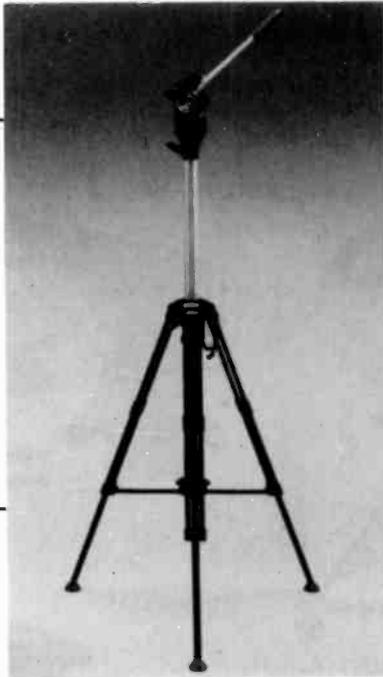
The compact, lightweight user stations are small enough to fit into a shirt pocket and the headsets are trim and unobtrusive. Simple and inexpensive interconnections are made using standard modular telephone plugs with flat cable of varying lengths. Additionally, a variety of cable adaptors and accessories are available to support a wide range of system configurations.

A typical Series 17 system consists of a power supply, a number of user stations and headsets, interconnecting cables and associated cable accessories. The power supply serves a dual purpose: it provides DC voltage for the user stations, and establishes a 200 ohm terminating impedance for the audio line.

HCA/HST17	User Station w/Single Phone Open Air Headset	\$197.00
HCA/HDT17	User Station w/Dual Phone Open Air Headset	216.00
HCA17	User Station w/o Headset	116.00
HDT17	Dual Phone Open Air Headset/6 ft. cord/ QC terminals	100.00
HST17	Single Phone Open Air Headset/6 ft. cord/ QC terminals	81.00
HPS17	Power Supply	310.00
HSA17	1x2 Modular Phone Plug Splitter	6.00
HSB17	1x5 Modular Phone Plug Splitter	18.00
HFF17	Modular Phone Plug Line Cord Coupler	4.00
HRA17	Universal Line Adaptor/Modular Phone Jack to Screw Terminals	5.00
HXF17	Cable Adaptor/Series 17 to TW Intercom System.	24.00
HCC17	Cable Adaptor/HCA17 w/External Headset Connector (A4F)	22.00
HYB17	Modular Line Cord—25 ft.	6.00
HYC17	Modular Line Cord—50 ft.	16.00
HYD17	Modular Line Cord—100 ft.	28.00



SERIES 17 SMALL-SIZE INTERCOM SYSTEM



Hot Pod

The Hot Pod—designed for moments when a fraction of a minute can make all the difference.

Features

- Locked when folded, handy grip
- Central lock for easy set-up
- Self-locking lever for camera leveling
- Self-locking center column for increased rise and height

Hot Pod with spring 22 lbs. for use with Panorama 7 + 7 fluid head for ENG cameras \$1275.00
 Hot Pod with spring 31 lbs. for use with Video 20 fluid head for recording cameras \$1275.00

Video 14 II System Video 14 II Fluid Head

With 3 step dial-in drag adjustment, plus free-wheeling for pan and tilt, sliding quick-release wedge plate (1/4" + 3/8" screws) for center-of-gravity compensation, built-in counter balance spring, tilt ± 60°, two adjustable pan arms, tripod interface: flat base for Video 14 pedestal/75mm bowl tripod \$1295.00

Pedestal 14

Tripod with pneumatically supported center column, range

15.75" \$1250.00

Tripod 14 Long

75mm bowl leveling, black anodized aluminum \$315.00

Dolly 14 Rolling Triangle

For pedestal and 75mm bowl tripod \$295.00

Spreader 14

For 75mm bowl tripod \$120.00



EFP Video 30 II Fluid Head

For studio and field production using the new generation of easy-to-carry cameras. Sliding camera platform to compensate for center of gravity displacements.

Camera Interface: Heavy-duty touch and go system or Debrue wedge plate

Tripod Interface: 150mm bowl, Mitchell intermediate, Vinten

Video 30 II \$6395.00

Tripods

Sachtler tripods are extremely lightweight, robust and twistfree with 100mm resp. 150mm bowl leveling. Height clamping of legs requires little effort with the fast and secure ball-ring clamp. The pre-set end pressure point of this clamp prevents damage by over-tightening. Double claws are provided for using the tripod with the triangle or rolling triangle. Stainless steel spikes provide rigid standing on soft ground. For the weight minded travelling cameraman the 100mm bowl tripod is available with carbonfiber legs, saving 2.8kg in weight, when using it with the lightweight triangle saving is 4.2kg.



Video 30 II



Long Tripod: Available in three materials: Duraluminum, Inox, Carbonfiber

..... From \$675.00

Medium Tripod: Available in three materials: Duraluminum, Inox, Carbonfiber

..... From \$635.00

Short Tripod: Available in Duraluminum

..... From \$530.00

Video 80 Fluid Head

- OB/Studio applications • Leakproof, zero-friction fluid head • Fluid damping modules control very precisely camera/lens combinations weighing up to approx. 80kg • Damping modules guarantee grades of drag which can be reproduced exactly at all temperatures at which cameras can still be operated • Seven settings of drag for the horizontal and vertical position • Locks for the horizontal and vertical direction are working independent of the damping and counterbalancing system. They bring the camera to a stop, wherever desired, without transmitting vibrations • Maximum load: approx; 198 lbs. • Drag can be completely turned off, if one has to make sudden movements with the camera • Grades of drag: horizontally and vertically 7 each and 0 • V-shaped wedge plate is used to mount the camera to the sliding balance plate • Tilt angle: $\pm 60^\circ$

OB 2 Tripod/OB Dolly

- Developed especially for outside broadcasting • Can be extended twice • Crank operated elevation unit • OB Dolly can have pneumatic tires of 8" diameter. As a special feature Sachtler offers an extender for the OB dolly. This extender, on the one side increases the size of the supporting base and on the other side it takes the weight off the wheels

8080 Video 80 \$7,935.00
 Tripod OB 2 (optional: with elevation unit) 4,595.00
 OB Dolly (optional: with base extender, pneumatic tires) . . . 3,245.00

Video 20 II Fluid Head ENG/EFP

- Powerful counterbalancing spring • Positive operational pan and tilt lock • Safety lock • 100mm bowl, Pro-Junior intermediate tripod interface • 15kg capacity • 5.5kg

A medium sized ENG/EFP fluid head for the ultimate in mobility. Lightweight but stable enough to accept ENG camera with EFP accessories.

Video 16 II 1 step on/off drag control for pan + tilt \$2,295.00
 Video 17 II 3 step on/off drag control for pan + tilt 2,875.00
 Video 18 II 7 step on/off drag control for pan + tilt 3,165.00
 Video 20 II 7 step on/off drag control for pan + tilt 4,165.00

Video 25 II Fluid Head ENG/EFP

- Balancing momentum adjustable in 4 steps • Positive operational pan and tilt lock • Optional adjustable lens-support • Safety lock • 150mm bowl, Mitchell intermediate tripod interface • 25kg capacity • 6.5kg

A medium sized ENG/EFP fluid head optimized for on location shooting combining the stability and pan and tilt comfort previously offered only by significantly larger and heavier camera supporting systems.

Video 25 II \$4,995.00

Panorama 7 + 7 Fluid Head ENG

- Touch and go quick-release system • One adjustable pan arm • 7 adjustable positions for pan and tilt • $\pm 90^\circ$ tilt range • 100mm bowl Pro-Junior intermediate tripod interface • 14mm pan arm ϕ • Touch and go system camera interface • Black enamel finish • 10kg capacity • 2.8kg

A small, lightweight fluid head for real news gathering, with an integrated counterbalance spring adequate for today's ENG cameras.

Panorama 7 + 7 \$2,975.00
 Panorama 1 + 1 1 step on/off drag control for pan + tilt . . . 2,195.00
 Panorama 3 + 3 3 step on/off drag control for pan + tilt . . . 2,695.00
 Panorama to come with flat base in exchange for 100mm ball add 100.00



Video 80



Video 20 Series II



Combi Pedestal



Video 25 Series II



Panorama 7 + 7

Combi Pedestal

- Studio and field operation • Compact, modular set-up • Long-time wheel alignment of casters based on overload protection at each wheel case and after half a cycle of the steering wheel, all casters are aligned again • Double-wheeled casters with plained treads • Center column is supported with a low pressure pneumatic spring. A hand pump which is attached to the pedestal can be used to make readjustments while on location • Primary filling is made with a manual compressor • Brake for the center column • Make use of the pedestal's "on air" height adjustments without attaching the dolly • On slippery or delicate surfaces clip-on rubber feet for the pedestal are taking effect • Three-legged support construction • Safety catch prevents the center column from raising. Transport-clips at the center column prevent the tripod from unfolding while being carried • Precisely steerable dolly can be changed from a one-wheel to a 3-wheel steering mode (crab and steer) • Big steering wheel and telescopic transmission • Cable guards (height is adjustable) • Overload protection within each wheel guard ensures that the casters continue to run parallel • Transport and operation lock for the dolly arms • Folding design for pedestal and dolly to ease transport, no tools required; built-in handles • Twin wheels with a 4" diameter. Option: 6" • Maximum load: 55kg • Weight: 21kg

5198 Combi Pedestal \$ 7,395.00
 5198/1801 with Video 18 II Fluid head 10,660.00
 5198/2021 with Video 20 II Fluid head 11,660.00
 5198/2501 with Video 25 II Fluid head 13,030.00
 5198/3001 with Video 30 II Fluid head 14,430.00
 5196 Combi Pedestal/154 Dolly with twin wheels of 6" (154mm) diameter 8,495.00



**Gyrozoom® 60/300 and FP-1
Image Stabilizer Lenses**

- 60 to 300mm zoom of subjects up to 1000'
- Compact and lightweight
- Easy to operate
- Variable speed servo zoom control
- Auto iris with momentary manual mode
- Standard lens flange and detachable power cable
- C-Mount adaptor available
- Low battery indicator
- Computer-designed optics
- Ultra high resolution and contrast

Gyrozoom image stabilizer lenses eliminate virtually all image vibration. They fit most ENG/EFP cameras and free you from bulky, unwieldy mechanical stabilizers and mounts.

Use it from any unstable platform—motor vehicle, helicopter, airplane, boat, or a camera operator's shoulder. Gyrozoom lets you get the shot right the first time.

Gyrozoom is available in two versions, the 60/300 or the fast-pan FP-1.

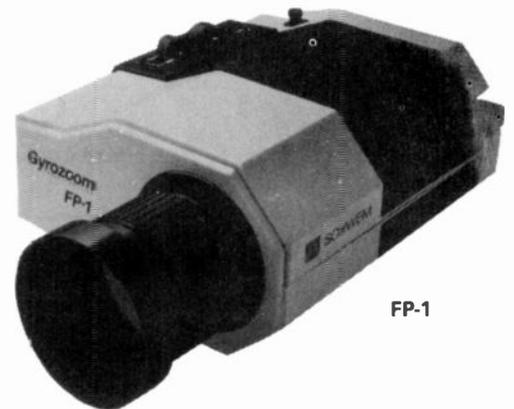
Specifications

	60/300	FP-1
Image Format	2/3" video (11mm diag., 6.6 x 8.8mm)	2/3" video (11mm diag., 6.6 x 8.8mm)
Focal Length	60µ300mm	60µ300mm
Zoom Ratio	5X	5X
Maximum Aperture Ratio	1:6.2	1:6.2
Focus Range	10' to infinity	10' to infinity
Field Angle	Horiz: 8.38° µ 1.68° Vertical: 6.28° µ 1.26° Ø 72mm P = 0.75mm	Horiz: 8.38° µ 1.68° Vertical: 6.28° µ 1.26° Ø 72mm P = 0.75mm
Filter Size	Ø 72mm P = 0.75mm	Ø 72mm P = 0.75mm
Stabilization (± 1/2° tremor)	.4Hz-85% (-16dB attenuation) 1Hz-94% (-24dB attenuation) > 4Hz-98% (-34dB attenuation)	.4Hz-85% (-16dB attenuation) 1Hz-94% (-24dB attenuation) > 4Hz-98% (-34dB attenuation)
Pan/tilt Rate	6° per second	30° per second
Power source required	12V (operating range 11.5-15V)	12V (operating range 11.5-15V)
Minimum supply rating (recommended)	200mA	1.3A
Power draw		
Nominal (quiescent) current	120mA	390mA
Warm-up (starting) current	150mA	570mA
Panning current	125mA	i (mA) = 390 + 15 x rate (°/second)
Additional battery usage at quiescent (referenced to 1.9 Å camera)	3 min/hr	10 min/hr
Battery usage when panning at maximum pan rate	3 min/hr	approximately 15 min/hr (50% DC at 30°/sec)
Operating temperature range	14 to 122°F	14 to 122°F
Dimensions	47/16" H x 13" L x 73/4" W	47/16" H x 13" L x 73/4" W
Weight	7.4 lbs.	7.9 lbs.

- 60/300 with deluxe travel and storage case \$12,500.00
- FP-1 with one cable and deluxe carry case16,250.00
- FP-1 Image Stabilizer Upgrade4,000.00
- Manual Focus Module290.00
- Nova II Night Vision Device6,800.00
- C-mount adaptor210.00



Gyrozoom 60/300



FP-1

Accessories

Wide Angle Attachment

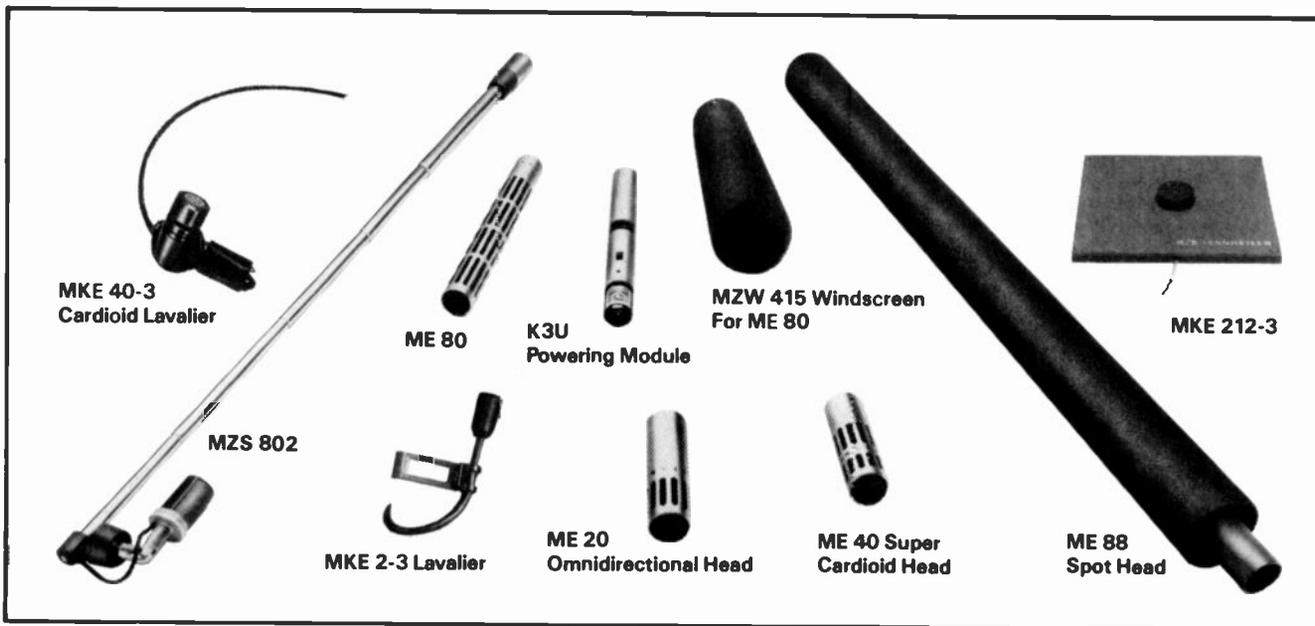
- Reduces the focal length by 5X (12mm to 60mm) (Note: When the wide angle is attached the 12mm to 60mm focal range is not stabilized)
 - Attaches quickly to the front of the Gyrozoom lens with a threaded mount
 - f/6.2 at all focal lengths
 - Minimum operating distance is 3"
 - Computer designed optics ensure ultra high resolution and contrast
 - Anti-reflective multilayer coatings on all air-to-glass surfaces for maximum light transmission
- Wide Angle Attachment (12mm to 60mm) \$1,495.00

Remote Control System*

- Provides remote control of focus, stabilization, iris and zoom functions
 - Operator can be positioned up to 150' from camera. (When powered by 115VAC)
 - Compatible with several pan and tilt mechanisms
 - Power requirements: 115VAC or 28VDC
- Remote Control System \$2,250.00
- * (Requires factory retrofit)

Soft Travel Bag

- Padded, soft travel bag assures convenient, safe transport of your Gyrozoom lens
 - Separate compartments are provided to hold the wide angle attachment and additional lens cables
 - Lightweight yet sturdy
- Soft Travel Bag \$98.00



PROFESSIONAL MICROPHONE SYSTEM

K3U Powering Module

Equipped with a 5.6V battery—or remote controlled with a recorder or console via a 12 to 48V phantom circuit—the K3U powers any one of the five modular heads. Battery life is approximately 600 hours. An LED indicator flashes when the K3U is switched on, indicating at least 20 hours of remaining battery life.

A 3-position roll-off switch (flat, -7dB and -20dB at 50-Hz) permits reduction of wind and handling noise without affecting voice pickup.

The K3U has a balanced, low-impedance output.

K3U \$210.00

ME 20 Omnidirectional Head

The ME 20 preserves the entire acoustic ambience. For interviews and meetings in quiet surroundings, or when pickup of background noise is essential. Internal acoustic isolation to minimize handling noise.

ME 20 \$112.00

ME 40 Super Cardioid Head

The ME 40 has sharp attenuation of sound arriving from behind to eliminate ambient reverberations and feedback from loudspeakers. For interviews in noisy surroundings, film dubbing, PA...wide frequency response in musical applications.

ME 40 \$165.00

ME 80 Super Cardioid Shotgun Head

The ME 80 has pressure gradient interference transducer for accurate, noise-free sound pickup at a distance, even in acoustically poor environments. Can also be used to solve extremely severe PA system feedback problems.

ME 80 \$239.00

ME 88 Spot Head

The ME 88 provides clarity, even at long distances. A long interference tube transducer for an almost beam-like pickup pattern. Extremely lightweight (2 oz.) to permit direct mounting on a handheld camera or attachment to the MZS 802 Telescopic Boom. Fixed windscreen for imperviousness to wind and handling noise.

ME 88 \$315.00

MKE 2-3 Subminiature Omnidirectional Lavalier

Clip-on microphone, black, for electret microphone modular system. Also available in flesh color at same price.

MKE 2-3 \$254.00

MKE 2-3 + K3U Combination Package

Miniature clip-on microphone and grip/power supply, also available in flesh color.

MKE 2-3 + K3U \$409.00

MKE 40-3 Cardioid Lavalier

Clip-on directional microphone for electret microphone modular system.

MKE 40-3 \$289.00

MKE 40-3 + K3U Combination Package

Clip-on directional microphone and grip/power supply.

MKE 40-3 + K3U \$439.00

MKE 212-3 Boundary Microphone

Acoustical boundary microphone for electret microphone modular system.

MKE 212-3 \$399.00

MKE 212-3 + K3U Combination Package

Acoustical boundary microphone and grip/power supply.

MKE 212-3 + K3U \$499.00

MKE 42 Cardioid Podium "Wand" Microphone

Directional stick microphone (approx. 40cm) for connection to power supply adaptor or RF transmitter.

MKE 42 \$314.00

Accessories

MZQ 22A Dual Tie Clip

MKE 2 (black only) \$12.00

MZQ 2A Simple Tie Clip

MKE 2 (black) 11.00

MZQ 2B Simple Tie Clip

MKE 2 (nickel) 11.00

MZW 2A Windscreen

MKE 2 (gray) 5.00

MZW 2G Windscreen

MKE 2 (off-white) 5.00

MZQ 30 Camera mount 32.00

MZG 802 Camera mount for 19mm mikes 61.00

MZS 802 Telescopic boom—fits between powering module and microphone head to extend reach up to 27" 98.00

MZK 802-U Connection cable for recording with mini-jacks 34.00

MZW 30 Windscreen for ME 20/ME 40 14.00

MZW 415 Windscreen for ME 80 38.00

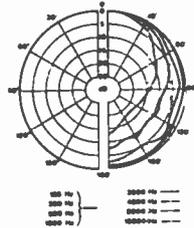
MZT 105-1 Desk stand 39.00



MKH 20 P48U

Studio Condenser Microphone

- Frequency response: 20 to 20,000Hz
 - Directional characteristic: Omnidirectional
 - Ideally suited for the reproduction of acoustic string and wind instruments
 - Optimal resistive loading of the diaphragm
 - Low noise, transformerless
- MKH 20 P48U 48V phantom powering . . . \$925.00



MKH 20 P48U

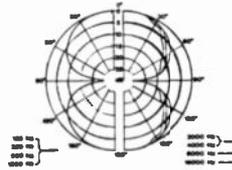
Accessories

- Windscreens**
MZW 30, MZW 201
- Cable**
MC 22, MC 24
- Quick-release stand adaptors**
MZQ 100, MZQ 415 + MZG 415
- Shock Mount**
MZS 105, MZS 415 + MZG 415

MKH 30 P48U3

Studio Condenser Microphone

- Frequency response: 40 to 20,000Hz
 - Directional characteristic: Bilateral (figure eight)
 - Ideally suited for use in applications utilizing the "mid side" (M-S) recording technique in which the MKH 40 "piggybacks" the MKH 30 to enable both mono and stereo recording simultaneously
 - Transformerless; optimal resistive loading of the diaphragm
- MKH 30 P48U3 \$989.00



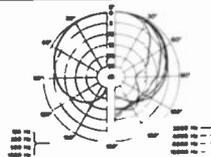
MKH 30 P48U3

- Windscreens**
MZW 30, MZW 201
- Cable**
MC 22, MC 24
- Quick-Release Stand Adaptors**
MZQ 100, MZQ 415 + MZG 415
- Shock Mounts**
MZS 105, MZS 415 + MZG 415

MKH 40 P48U

Directional Studio Microphone

- Frequency response: 40 to 20,000Hz
 - Directional characteristic: Cardioid
 - Ideal for digital sampling and recording
 - Wide, flat frequency response; very low inherent noise
 - Capable of high sound pressure levels with low distortion
- MKH 40 P48U 48V phantom powering \$925.00



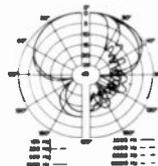
MKH 40 P48

- Windscreens**
MZW 30, MZW 201
- Cable**
MC 22, MC 24
- Quick-release stand adaptors**
MZQ 100, MZQ 415 + MZG 415
- Shock Mounts**
MZS 105, MZS 415 + MZG 415

MKH 416

Directional Field or Studio Microphone

- Frequency response: 40 to 20,000Hz
 - Directional characteristic: Supercardioid
 - Particularly low feedback
 - Low proximity effect
 - High signal-to-noise ratio
 - Rugged and extremely resistant to adverse climatic conditions
 - Built-in pop filter
- MKH 416 TU 12V AB power \$875.00
- MKH 416 P48U 48V phantom power 875.00



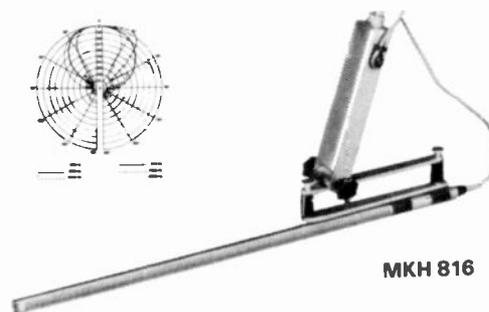
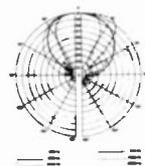
MKH 416

- Windscreen**
MZW 415
- Desk Stands**
MZT 441, MZT 100
- Clamps**
MZS 415, MZQ 415, MZB 415, MZG 415, MZT 237
- Power Packs**
MZN 16P48U, MZN 16TU, MZA 16TU, MZA 16P48, BP 2
- Filters/Adaptors/Amplifiers**
MZF 15U, KAT 15-2U

MKH 816

Directional Field or Studio Microphone

- Frequency response: 40 to 20,000Hz
 - Directional characteristic: Lobar
 - Extremely sensitive to feedback
 - High signal-to-noise ratio
 - Rugged and extremely resistant to adverse climatic conditions
 - For long recording distances
- MKH 816 TU 12V AB power \$1179.00
- MKH 816 P48U 48V phantom power 1179.00



MKH 816

- Windscreens**
MZW 815, MZW 816
- Clamps**
MZS 815, MZS 816, MZB 415, MZP 816
- Floor Stands/Booms**
MZS 144, MZS 210, MZS 211
- Power Packs**
MZN 16P48U, MZN 16TU, MZA 16TU, MZA 16P48, BP 2
- Filters/Adaptors/Amplifiers**
MZF 15U, KAT 15-2



**MICROPHONES/
WIRELESS MICROPHONE
SYSTEMS**

**MD 409 U-3 Dynamic
Cardioid Microphone**

- Frequency range: 50-15,000Hz
- Cardioid characteristic
- Capable of handling high sound pressure levels with excellent shock mounting and feedback protection
- Large transducer element enclosed in a flat black stainless steel basket gold-plated on the front side
- XLR connector

MD 409 U-3 \$269.00

**MD 421 U-5 Dynamic
Cardioid Microphone**

- Frequency range: 30-17,000Hz
- Directional characteristic: cardioid, low acoustic feedback
- Reduced handling noise and no overload, even at extremely high volume
- Five-step variable bass control
- Hum compensation coil
- Quick-release clip

MD 421 U-5 \$399.00

**MD 431 U Supercardioid
Musician's Microphone**

- Frequency range: 40-16,000Hz
- Supercardioid directional characteristic allows extremely high volume before feedback occurs
- Optimum damping of handling noise owing to spring-mounted system suspension in all-metal housing
- Hum compensator coil
- Shock-tested
- Built-in impact noise filter
- Built-in pop filter
- Noiseless reed switch
- Quick-release mounting clip
- Suitable for connection to all musical instrument amplifier systems

MD 431 U \$429.00



MD 409



MD 431



MD 421



MD 441

**MD 441 U Dynamic
Supercardioid Microphone**

- Frequency range: 30-20,000Hz
- Directional characteristic: supercardioid
- Optimum protection against handling owing to shock-mounted capsule
- Distortion-free transmission even under highest sound pressure
- Ten different, switchable response curves
- Hum-bucking coil
- Built-in pop filter
- Quick-release clamp

MD 441 U \$559.00

MD 441 U3 All black, no bass equalization \$449.00

Wireless Microphone Systems

VHF SYSTEMS

- VHF 1H** SKM 4031-9H handheld microphone/transmitter and EK 2012-9H Body Pac receiver for camera mounting and/or portable use. System operates on one VHF carrier frequency between 174-216MHz. Includes one AC 2012-3 cable. Shipping Weight: 3³/₄ lbs. \$2940.00
- VHF 1B** SK 2012-9H Body Pac transmitter and EK 2012-9H Body Pac receiver for camera mounting and/or portable use. System operates on one VHF carrier frequency between 174-216MHz. Includes one MKE 2-2R omnidirectional lavalier microphone and one AC 2012-3 cable. Shipping Weight: 4 lbs. \$3515.00
- VHF 2H** SKM 4031-9H Handheld microphone/transmitter and EM 2003-9H single channel diversity receiver. System operates on one VHF frequency between 174-216MHz. Includes two tuned VGP ground plane antennas and two RFC-1 antenna cables. Shipping Weight: 10 lbs. \$3330.00
- VHF 2B** SK 2012-9H Body Pac transmitter and EM 2003-9H single channel diversity receiver. System operates on one VHF carrier frequency between 174-126MHz. Includes one MKE 2-2R omnidirectional lavalier microphone, two tuned VGP ground plane antennas and two RFC-1 antenna cables. Shipping Weight: 10¹/₄ lbs. \$3905.00

UHF SYSTEMS

- UHF 1H** SKM 4031-TVH handheld microphone/transmitter and EK 2012-TVH Body Pac receiver for camera mounting and/or portable use. System operates on one UHF carrier frequency between 947-952MHz. Includes one AC 2012-3 cable. Shipping Weight: 3³/₄ lbs. \$4640.00
- UHF 1B** SK 2012-TVH Body Pac transmitter and EK 2012-TVH Body Pac receiver for camera mounting and/or portable use. System operates on the UHF carrier frequency between 947-952MHz. Includes one MKE 2-2R omnidirectional lavalier microphone and one AC 2012-3 cable. Shipping Weight: 4 lbs. \$5315.00



SKM-4031-TVH



EK-2012-TVH
Wireless Pocket Receiver

XC-A1 Broadcast ENG/EFP Color Video Camera

2/3" Diode Gun Saticon® Tubes with Prism Optics
Broadcast-caliber picture quality starts with the three 2/3" Diode Gun LOC/MS Saticon tubes coupled with a high-transparency glass f/1.4 prism beam splitter. The result is high sensitivity, enhanced resolution (750 lines), excellent S/N ratio (57dB), truer colorimetry, plus reduced image retention and comet tailing. Bias lighting further reduces lag, especially for those critical low-light scenes.

Automatic Functions Offer Increased Ease-of-Use

- **Auto White**—The Auto-White circuit is supplemented by a preset 3200°K setting. This allows shooting to begin immediately if the action requires a quick change of scene
- **Auto-Black**—Black balance is continuously maintained by high-gain DC clamp circuitry and precisely calibrated by the microcomputer Digital auto-black balance. This combination totally eliminates black balance adjustment when switching from 0 to 18dB gain, and reduces routine maintenance requirements
- **Auto-Centering**—The Automatic Centering circuit allows centering to be automatically adjusted using computer control. A preset switch position is also available

+9/+18dB High Gain Switch

Sensitivity can be increased 3X or 8X for low-light level scenes using the +9dB and +18dB settings. Minimum required illumination is an amazingly low 30 lux (2.8fc) at f/1.4.

Compact, Lightweight Diecast Body

Sharp has precision-machined the diecast camera body to create a durable, solid unit that assures optical alignment under the roughest ENG applications.

Automatic Beam Optimization Adjustment (ABO)

Built-in automatic beam optimization circuitry can handle incident light intensity up to 8 times higher than normal. This feature eliminates "comet tailing" and "blooming" phenomena caused by bright pin-point light sources.

Color Temperature Filter System

A 4-position rotating filter system allows selecting the optimum color temperature filter for indoors, normal outdoor light, bright sunlit outdoors, and cloudy/dim outdoor light levels.

Power Conserving Standby Switch

Switching to standby mode further extends running time with battery operation by reducing power consumption to a minimum while the operator is waiting for the action to begin.

Information-Packed 1.5" Viewfinder

The 1.5" underscanned electronic viewfinder can swivel a complete 180° and can slide right and left. Additional features include a built-in peaking circuit and a zebra pattern video level indicator with adjustable threshold.

Multi-Standard Intercom System

The intercom provides communication with virtually all major 2-wire intercoms presently in use.

Specifications

Optical System:	Prism beam splitter (f/1.4) with bias light injection
Lens Mount:	Beyond
Pick-Up Tubes:	Three 2/3" Diode Gun LOC MS Saticons
Scanning System:	525 lines; 2:1 interlace 30 frames/second
Synchronization:	
a. Internal Synchronization:	Built-in sync generator (meets SC-H Phase requirements of RS-170A)
b. External Synchronization:	Locks to composite video or black burst
Timing for External Synchronization:	H-sync adjustable from 2 sec. delay to 4 µ sec. advance with respect to gen-lock input signal. Subcarrier phase adjustable 360° with respect to gen-lock input signal
c. Blanking Width:	H-Blanking adjustable from 10.0 µ sec. V-Blanking selectable—18, 19 or 20 lines NTSC (I, Q System)
Color Encoder System:	
Sensitivity:	
Standard Illumination:	2000 lux 89.9% Refl. 3200°K f4
Resolution:	Horizontal—750 lines—center G-ch. (typ.)
S/N Ratio:	57 dB measured without Gamma and without image enhancement



XC-A1

Registration Error:

- a. Zone 1 (within a circle of diameter equal to 80% of picture height):
 - b. Zone 2 (within a circle of diameter equal to picture width):
 - c. Zone 3 (outside of Zone 2):
- Geometric Distortion:**
Color Temperature Compensation:

Less than 0.1% of picture height

Less than 0.2% of picture height
Less than 0.5% of picture height
Less than 1.5% of picture height

Built-in optical filter turret, 3200°K, 5600°K, 5800°K, +12% ND, cap and built-in auto-white balance circuit with memory produce total range from 2000°K to 10,000°K +9 dB (+6 dB) or +18 dB (+12 dB)
+9 dB (+6 dB) or +18 dB (+12 dB)

Gain Boost:

Detail Correction:

Automatics:

Character Display:

ABO:

Auto Iris:

Zebra Indication:

Color Bar:

Flare Compensation:

Input Signals:

a. Gen-Lock Signal:

b. Return Video:

c. Mic:

d. Tally:

Output Signals:

a. Encoded Video:

b. RGB Video:

c. Monitor Video:

(on encoded output)

d. Mic Audio:

Power Requirements:

Ambient Operating Conditions:

Weight:

Dimensions:

2 line type including level dependence, noise coring and comb filtering
Auto-White, Auto-Black, Auto-Centering with memory and presets
VF character display of camera status. Optional status display on main video

Automatic Beam Optimization stabilizes highlights up to 8 times normal
Uses NAM (non-additive mix) of RG&B plus center screen weighting
Adjustable zebra with On/Off switch
Split field 100% saturated, 75% amplitude in accordance with EIA RS-189A (with camera identification)
Compensated for individual channels

1V, composite video or 0.43V, black burst (75 ohm) 2 inputs—BNC connector, Remote/VTR connector

1V (75 ohm) composite video synchronous or non-synchronous. 1 input — Remote/VTR connector
0 dB or +50 dB Gain (internally selectable) 1 input — XLR connector
1 input—Remote/VTR connector

1V (75 ohm) composite video
2 outputs—Remote/VTR connector, BNC connector

0.714V (75 ohm) non-composite
1 output for each signal at Remote/VTR connector (GRN with sync available)

1V (75 ohm). RGB individual video, encoded video, R-G, B-G. Registration video

-20 dBm or -70 dBm 600 ohm unbalanced 1 output—Remote/VTR connector
+10V to +17.4V DC, approx. 22W regardless of input voltage

-10°C to +40°C (14°F to 104°F) less than 90% humidity

Camera head approx. 8.58 lbs. (3.9kg)

Viewfinder approx. 1.32 lbs. (0.6kg)

Height: Approx. 10-15/16" including legs

Width: Approx. 15-7/8" including 1.5" viewfinder

Depth: Approx. 7-13/16" including 1.5" viewfinder (without mic. holder)

XC-A1U (ENG configuration, less lens) \$7790.00

*Note: LOC (Low Capacitance) MS (Magnetic focus-Static deflection) Saticon is a registered trademark of NHK.

**XC-B10/XC-B20P Broadcast
ENG/EFP Color Cameras**

Broadcast-caliber picture quality starts with three 2/3" Diode Gun LOC/MS Saticon* (XC-B10) or Plumbicon* (XC-B20P) tubes coupled with a high-transparency glass f/1.4 prism beam splitter.

The Standard Automatics:

- **Auto-White**—The high performance Auto-White circuit is supplemented by a preset 3200°K setting
- **Auto-Black**—Black balance is continuously maintained by high-gain DC clamp circuitry and precisely calibrated by the microcomputer Digital Auto-Black Balance. This combination totally eliminates black balance adjustment when switching from 0 to 18dB gain
- **Auto-Centering**—The Automatic Centering circuit allows centering to be automatically adjusted using computer control. A preset switch position is also available
- **Automatic Beam Optimization Adjustment (A.B.O.)** Built-in automatic beam optimization circuitry can handle incident light intensity up to 8 times higher than normal. This feature eliminates "comet tailing" and "blooming" phenomena caused by bright pin-point light sources.

The Exceptional Automatics:

- **Auto Iris**—With NAM (non-additive mix) of R, G and B plus center screen weighting, achieves performance that rarely needs manual intervention
- **Auto Contrast**—The Auto-Contrast circuit automatically adjusts the camera when shooting in low contrast conditions. Manual Master Black adjustment is also available for shots where special effects are desired.
- **Auto-Knee**—The Auto-Knee circuit widens the dynamic range of the camera. Soft compression of the whites is automatically adjusted to capture the maximum information in high contrast outdoor or back-lighted scenes

The Standard Displays:

Zebra with Level Adj and ON/OFF, Video Low, A/W, A/B, A/C Status, Genlock, Gain Position, Lo-Battery, Tally

The Exceptional Displays:

Audio VU meter to get that perfect recording, Tape Remaining, Camera Number, Iris f-Stop, Filter Wheel Position, Lens Zoom Position, Auto Contrast...and more

The camera display is placed off-center so as not to disturb shooting. Display erases automatically, leaving only critical information on permanent display

Component VCR Compatibility

The XC-B10 and XC-B20P are compatible with Betacam and MII format component recorders. It is also compatible with the 26-pin SMPTE camera-to-VCR standard.

Choice of Viewfinders

1.5" Viewfinder with underscan can swivel 180° and can slide right or left. Additional features include a built-in peaking circuit, oversize optics for non-critical eye position and adjustable diopter.

5" High Resolution Viewfinder (over 500 TV lines) with underscan and precision low-profile pan/tilt mechanism.

Specifications

Optical System:	Prism beam splitter (f/1.4) with bias light injection
Lens Mount:	Bayonet
Pick-Up Tubes:	Three 2/3" Diode Gun LOC MS Saticons (XC-B10) or Plumbicons (XC-B20P)
Scanning System:	525 lines; 2:1 interlace 30 frames/second
Synchronization	
a. Internal Synchronization:	Built-in sync generator (meets SC-H Phase requirements of RS-170A)
b. External Synchronization:	Locks to composite video or black burst
Timing for External Synchronization:	H-sync adjustable from 2µs delay to 4µs advance with respect to genlock input signal.
c. Blanking Width:	Subcarrier phase adjustable 360° with respect to gen-lock input signal
	H-Blanking adjustable from 10.0µs to 11.5µs V-Blanking selectable—18, 19 or 20 lines



XC-B20P

Color Encoder System:	NTSC (I, Q System)
Sensitivity:	
Standard Illumination:	2000 lux 89.9% Refl. 3200°K f/4
Horizontal Resolution:	XC-B10—750 lines—center G-ch. 600 lines encoded XC-B20P—660 lines—center G-ch. 600 lines encoded
S/N Ratio:	57dB measured without Gamma and without image enhancement
Geometric Distortion:	Less than 1.5% of picture height
Color Temperature	Built-in optical filter turret, 3200°K, 5600°K, 5600°K + 12%
Compensation:	ND, cap and built-in auto-white balance circuit with memory produce total range from 2000°K to 10,000°K
Gain Boost:	+9dB (+6dB) or +18dB (+12dB)
Detail Correction.	2 line including level dependence, noise coring and comb filtering
Character Display:	VF character display of camera status. Optional status display on main video
Zebra Indication:	Adjustable zebra with ON/OFF switch
Color Bar:	Split field 100% saturated, 75% amplitude in accordance with EIA RS-189A (with camera identification) Compensated for individual channels
Flare Compensation:	
Input Signals:	
a. Genlock Signal:	1V, composite video or 0.43V, black burst (75 ohm) 2 inputs—BNC connector, Remote/VCR connector
b. Return Video:	1V (75 ohm) composite video synchronous or non-synchronous 1 input—Remote/VCR connector
c. Mike:	1 input—XLR connector
d. Tally:	1 input—Remote/VCR connector, BNC connector
Output Signals:	
a. Encoded Video:	1V (75 ohm) composite video 2 outputs—Remote/VCR connector, BNC connector
b. R,G,B Video:	0.7V (75 ohm) non-composite or 1V p-p with Sync internally selectable 1 output for each signal at Remote/VCR connector
c. Monitor Video:	1V (75 ohm), R,G,B individual video, encoded video, R-G, B-G, Registration video
d. Mike Audio:	Microphone Direct 1 output—Remote/VCR connector
Power Requirements:	+11V to +17.4VDC, approx. 21W regardless of input voltage approx. 24W with 1.5" viewfinder
Ambient Operating Conditions:	14°F to 104°F (-10°C to +40°C)
Weight:	Camera head approx. 9.2 lbs. (4.2kg) Viewfinder approx. 1.32 lbs. (0.6kg)
Dimensions:	Height: Approx. 10 ¹⁵ / ₁₆ " including legs Width: Approx. 16 ³ / ₈ " including 1.5" viewfinder Depth: Approx. 7 ³ / ₁₆ " including 1.5" viewfinder (without mike holder)

XC-B10 2/3" diode gun Saticon tubes, ENG configuration, less lens . . . \$ 9,315.00
XC-B20P 2/3" diode gun Plumbicon tubes, ENG configuration, less lens 15,495.00
*LOC (Low Capacitance) M.S. (Magnetic focus-static deflection)
Saticon is a registered trademark of NHK.
Plumbicon is a trademark of N.V. Philips

**VCRs/DIGITAL AUDIO
TAPE RECORDER/PRINTER/MONITOR**

Professional Series VHS Videocassette Recorders

XA-200 VCR with Auto Play and VHS-HQ

• Direct drive motors • Grounded (3-wire) AC power cord • VHS-HQ (High Quality) picture enhancement plus double comb filter • Full auto play • Wireless remote control with special effects • Cable compatible 14 day/4 event programmable tuner/timer • Counter memory • 3-speed record/playback • Front load design • Fine editing system
XA-200\$475.00

XA-205 4-Head VCR with VHS-HQ

• 4-head video system • Noiseless still frame and field frame advance • Variable slow motion • Two speed video search • Simple record timer • Plus all of the features of the XA-200
XA-205\$525.00

XA-110 4-Head Industrial VCR with VHS-HQ

• Advanced double azimuth 4-head video system for noiseless special effects • Industrial 8-pin and BNC connectors • Continuous auto repeat • Simple record timer • Slow motion • Camera remote pause jack • 3-way source selector switch • Plus all of the features of the XA-200
XA-110\$675.00

XA-120 Stereo/Bilingual 4-Head VCR with VHS-HQ

• Stereo and bilingual record/playback • Full 2-channel audio dub capability • Left and right channel microphone inputs • Headphone jack with level control • Hi-cut audio equalization • Variable slow motion (noiseless) • Plus all of the features of the XA-110
XA-120\$795.00

XA-2500S Super VHS Videocassette Recorder

• 400 lines resolution • Jog/shuttle dial • Rotary erase head • Digital video special effects • 99 point VISS high speed index search system • SX-4 4-head video system • Hi-fi stereo sound
XA-2500S\$2500.00

SX-D100 Digital Audio Tape Recorder

• High quality digital sound with up to two hours record time • Two mode sampling frequency (48kHz record/playback; 44.1kHz playback only) • Includes infrared wireless remote control unit • Advanced error correction system utilizing double Reed-Solomon codes • Linear skate tape loading mechanism • Remotely adjustable motor-drive output level control • Automatic/manual subcode recording • Rotary head, helical scanning recording system • Each track of the tape is recorded at a slant, as the tape moves past the rapidly rotating heads • Pulse Code Modulation (PCM) digital audio data is recorded at the center portion of each track • Automatic Tape Finding (ATF) signals are used to assure precise tape tracking; and the sub-code areas are used to record information such as program numbers and elapsed time • Digital and analog inputs/outputs • Hour/minute/second tape counter displays total elapsed time for either the entire tape ("ABS") or for the current program ("PROG") • Timer play/record function • Audible cue and review function (approx. 3 times normal playback speed)
SX-D100\$2700.00

GZ-P21 S-VHS Compatible Color Video Printer

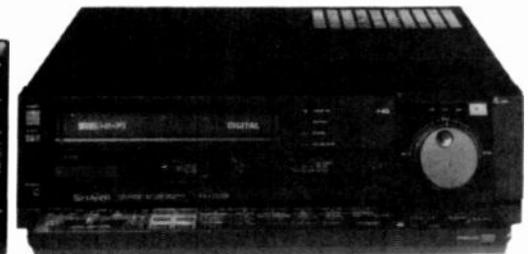
• High resolution • Inputs for S-VHS, composite and RGB analog video sources • 600 x 480 dot format • Digital "freeze frame" memory • Multi-image print mode allows 2, 4 or 25 reduced size images to be reproduced on a single print sheet • Grounded (3-wire) AC power cord
GZ-P21\$1995.00



XA-110



XA-120



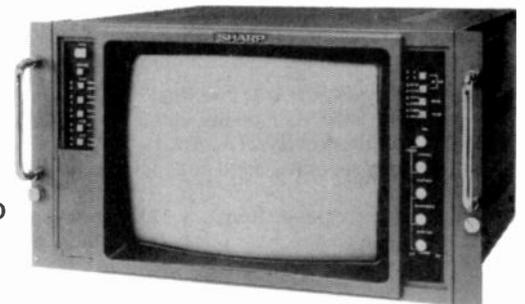
XA-2500S



SX-D100



GZ-P21



XM-1300

XM-1300 13" High Resolution Color Monitor

• 0.31mm dot pitch produces over 600 lines resolution • In-line gun shadow mask CRT utilizes U.S. Standard controlled phosphors • Switchable comb or notch filter • A/B video inputs plus direct RGB or TTL input • Switchable fast or slow AFC time constant • Pulse cross display • Normal or under-scanned picture mode • Preset or manual adjustments for hue, chroma, contrast, brightness and aperture • Service adjustments such as white balance, black balance and individual gun switches are located behind a hinged door on the front panel • Automatic/manual degauss circuit
XM-1300\$3500.00
XM-13RMK (Rackmount kit)165.00

690 ET (Everything Time Code)

Reader/Generator

- Independent readers and generators handle time code and user bits in either Vertical Interval Time Code (VITC) or Longitudinal Time Code tracks
- Translate between VITC and Longitudinal Time Code
- Character generator for data display and user interface/menu purposes
- Interface based on the RS-422 Orange Bus protocol
- Microprocessor controlled
- Adjustable hysteresis levels from -15 to -25dB
- Ten internal memories
- All setups are stored in non-volatile memory
- In the longitudinal mode, reads at speeds from 1/60 to 80 times normal play speed in either forward or reverse
- One frame is automatically added when reading in the forward direction or is subtracted when reading in the reverse direction
- Jam-sync to other Time Code Generators in either Longitudinal or VITC mode

690 ET \$4500.00

690-TD 690 with time/date option and built-in time/date calendar generator 4800.00

650 Combination SMPTE/EBU TC/Userbits Generator/Reader identical to 690 except it does not include VITC capability 3000.00
Time Clock/Date Calendar Option 300.00

647 SMPTE/EBU Edit Code Generator

- Capable of generating SMPTE/EBU code either independently or in synchronism with incoming video
- 6 digit, 1/2" LCD with back light
- Dropframe or non-dropframe
- Freely resettable time data
- Userbits are set by thumbwheels on the front panel

647 \$1500.00

646 Edit Code Reader/Raster Display

- Reads either SMPTE or EBU code
- Front panel 8 digit LED numerics of 1/2" height
- Readable tape speed range from 1/8" to 40X
- Capable of keying in the data on video raster in either black letter on white background or the reverse

646 \$1500.00

640/641 Portable SMPTE Time Code Generators

- Places time code on tapes to identify segments, takes and frames for later editing
- Battery-operated 3 "AA" cells
- Can be attached to portable VTRs such as Sony BVU series and JVC
- Displays both time code and userbits on liquid crystal digits and is able to generate userbits as well

640 SMPTE for ENG/EPF, dropframe \$ 990.00

641 SMPTE or EBU, dropframe or nondropframe 1500.00

12X Routing Switcher Series

- 12 inputs of either composite video (V), three channel component video (C), or three channel audio (A)
- Control three separate video channels for RGB, YIQ, Y, R-Y, B-Y formats
- Can receive commands from any 12X remote control unit
- Engineered for the highest possible electrical performance and system transparency

12X-C4

"12X" high-isolation routing Switcher for component video 12 inputs and 4 outputs with 3 channels per output. 30MHz bandwidth. RS422 (SMPTE) remote controller with status indicators \$6990.00

12X-V4

"12X" high-isolation video routing switcher, 12 inputs, 4 output buses. Remote controllable \$3300.00

12X-S1

12 x 1 stereo audio switcher \$1000.00



690 ET



647



646



12X



260



MC-1

260 AFV Routing Switcher

- Provides passive switching of both video and up to 2 associated audio signals from 12 inputs to one output
- Can be used for stereo or a combination of audio and time code channel
- Audio circuits consist of two identical balanced pairs
- Equipped with a mechanical indicator switch
- Audio override capability built-in

260 \$510.00

MC-1 Component Intermatrix Converter

- Three BNC connectors for either YIQ, RGB, Y, Y-B and B-Y external genlock input
- Stand alone unit, one rackunit high
- Used as an integral part of editing and post production set-ups
- Genlocks to studio colorback
- Outputs are six BNC connectors for two sets of the selected format
- Bandwidth is better than 20MHz
- Equipped with one conversion matrix
- Basic proc amp is built-in

MC-1 \$2000.00



SM1/SM2 Headphone/Microphones

• Adjustable boom • Cardioid polar pattern • Detachable cable and windscreen supplied • Double-braced all metal headband with leather-like covering • Matte chrome and black finish

SM1 (one ear cue) \$175.00
SM2 (two ear cues) 200.00



SM7 Unidirectional Dynamic Microphone

• Excellent for use with either instruments or voice in multi-track recording situations • Designed for boom or stand-mounting • Frequency response: 40-16,000Hz • Graphic response-tailoring switches to permit four different microphone response curves

SM7 \$542.00



SM61-LC Omnidirectional Dynamic Microphone

• Built-in pop screen • Veraflex grille • Finished in champagne enamel and supplied with a matching swivel adaptor • Frequency response: 50-14,000Hz

SM61-LC \$128.75

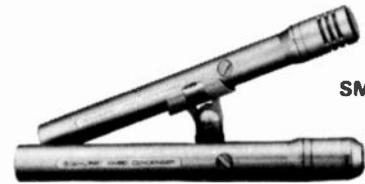


SM63-LC/SM63L-LC

Omnidirectional Dynamic Microphones

• Ideal for on-camera handheld applications • Frequency response: 50-20,000Hz • Shock mount isolation system • Integral wind and pop filter • SM63L-LC features a 3 1/2" longer handle

SM63-LC \$120.00
SM63L-LC 140.00



SM80-LC/SM81-LC Condenser Microphones

• Unique backplate structure maximizes S/N ratio • THD significantly lower than most condenser microphones • Frequency response: 20-20,000Hz • Extremely rugged • Very low RF susceptibility

SM80-LC Omnidirectional supplied without cable. \$367.00

SM81-LC Unidirectional supplied without cable 367.00

R104 Unidirectional cartridge — permits instant changeover of SM80 to unidirectional microphone 158.00

R104A Omnidirectional cartridge — permits instant changeover of SM81 to omnidirectional microphone 158.00

SM82-LC Line Level Condenser Microphone

• Built-in line level amplifier, peak limiter and battery • Ideal for applications involving long cable runs • Frequency response: 40-15,000Hz • Integral wind and pop filter

SM82-LC \$392.00



SM83-CN Omnidirectional Condenser Lavalier Microphone

• Amplifier supplied can easily clip on to a belt or fit into a pocket • Powered by 9V battery or by an external power supply • Frequency response: 80-20,000Hz

SM83-CN \$217.00

SM84 LC Supercardioid Lavalier Microphone

• Controlled low-frequency rolloff reduces low-frequency clothing and room noise • Operates on either phantom power or standard 9V battery • Versatile mounting accessories permit fast and simple user installation • Amplifier assembly can be pocketed, strapped to body, or clipped to belt or waistband • Frequency response: 80 to 20,000 Hz

SM84LC \$329.00



SM89 Condenser Shotgun Microphone

• Suitable for distant pickup required in location film and TV production • Smooth on-axis frequency response with a slight presence rise • With foam windscreen and carrying case • Optional A89SM shock mount

SM89 (without cable) \$900.00

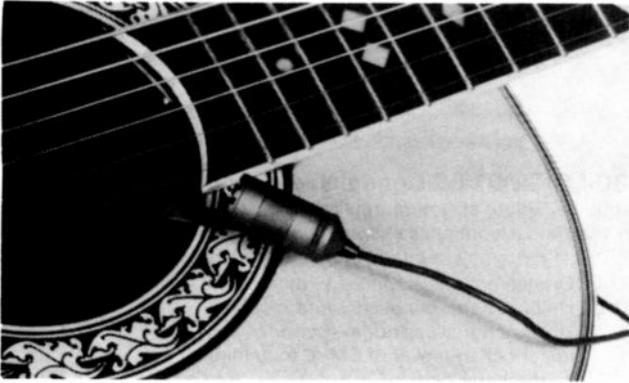
A89SM Shock mount 90.00

SM90/SM91 Surface Mounted Microphones

• Permanently biased with a half-cardioid polar pattern • Frequency response: 20-20,000Hz • Supplied with a low distortion preamplifier which powers the microphones either by batteries or phantom power

SM90 (Omnidirectional) \$300.00

SM91 (Unidirectional) 300.00



SM17-CN

SM17-CN Miniature Dynamic Microphone

- Designed specifically for use with acoustic stringed and other acoustic musical instruments • Omnidirectional pickup pattern • Ideally suited for instrument use • Frequency response of 50-15,000Hz

SM17-CN \$103.00



SM10A

SM10A/SM12A Headset Dynamic Microphones

- Professional head-worn microphones for remote broadcasting, inter-communications systems and vocal performance for drummers and keyboard players • Noise-cancelling, unidirectional and close-talking with a strong professional sound quality • Lightweight, padded headbands eliminate user fatigue • Adjustable boom maintains proper mouth-to-microphone distance • Frequency response of 50-15,000Hz

SM10A-CN Boom microphone only \$140.00

SM12A-CN Microphone and single monitor earphone \$190.00

SM15-CN Head-worn Condenser Microphone

- Close-talk, electret condenser design • High sound pressure level capacity (141dB) • Fully adjustable boom pivot • Comes with 4' microphone and 10' amplifier cable, a windscreens and a carrying/storage case • Frequency response of 50-15,000Hz

SM15-CN \$275.00



SM57

SM57 Unidirectional Dynamic Microphone

- Slender dynamic microphone built to provide wide range reproduction of music and voice • Exceptionally uniform and effective unidirectional pickup pattern • Bright, clean sound • Cartridge shock-mounted for quiet operation • Frequency response of 40-15,000Hz.

SM57-CN

With 25' cable \$156.00

SM57-LC

Without cable \$134.00



SM58

SM58 Unidirectional Dynamic Microphone

- Professional stage microphone, with a self-contained spherical filter to control explosive breath sounds and wind noise • Uniform cardioid pickup pattern minimizes off-axis coloration and rejects background noise • Effective presence rise in mid-frequencies and a fixed low-frequency rolloff to minimize boominess • Bright, clean sound with a frequency response of 50-15,000Hz.

SM58-CN With 25' cable \$196.00

SM58-LC Without cable \$173.00



SM77EB



SM78EB

SM77EB/SM78EB Sarmaker™ Series Unidirectional Dynamic Microphones

- Lightweight and rugged • Fixed low-frequency rolloff plus a slight mid-frequency presence rise in their frequency response • SM77 has slim styling and is effective for instrumental applications • SM78 has superior wind and pop protection, making it well suited for vocal applications • Frequency response of 50-15,000Hz

SM77EB-LC Without cable \$111.00

SM78EB-LC Without cable \$136.25



SM85-LC

SM85-LC Unidirectional Condenser Microphone

- Lightweight microphone designed for handheld live vocal applications as well as broadcasting and studio recording requirements • Controlled low-frequency rolloff minimizes handling noise and boominess • Constructed with a lightweight, extremely tough aluminum case and a Teflon-coated all steel grille • Elastomer "spaceframe" isolates the condenser element from virtually all mechanical vibration • Frequency response of 50-15,000Hz

SM85-LC Without cable \$275.00

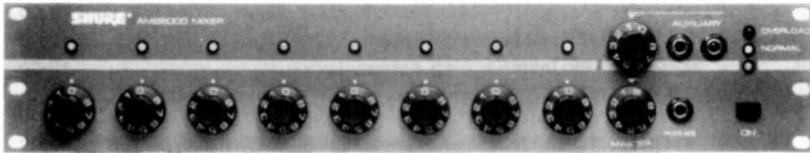


SM87-LC

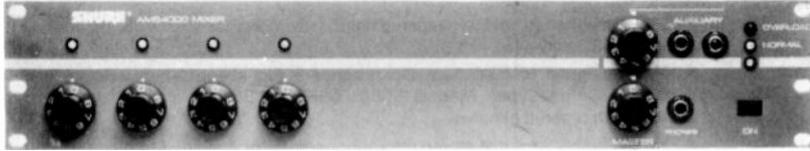
SM87-LC Supercardioid Condenser Microphone

- Similar in appearance and construction to the SM85, the SM87 features a supercardioid, rather than cardioid, pickup pattern • Flat response means less equalization is needed, for fewer potentially troublesome response peaks • Tighter pickup pattern results in greater gain-before-feedback, and less mike "bleed" (unwanted pickup of other voices or instruments, or room noise) • Especially useful in multiple-miking situations, or single-miking in a noisy or reverberant environment • Frequency response of 50-18,000Hz

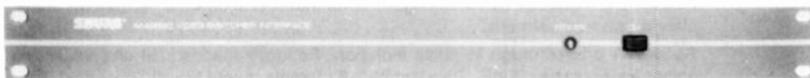
SM87-LC Without cable \$329.00



AMS8000 Mixer



AMS4000 Mixer



AMS880 Video Switcher Interface



AMS Automatic Microphone System

The Automatic Microphone System (AMS) is a unique, totally integrated combination of microphone, mixer and logic technology which operates as one to provide the clearest, smoothest, most reliable automatic sound performance in the industry. Each microphone and mixer channel in the AMS contains logic circuitry. This enables every microphone to act independently in the system when turning on or turning off. Each microphone continuously analyzes its own local acoustic environment allowing each channel to adjust itself independently as audio conditions change. Four microphone styles include the AMS22 low-profile microphone, the AMS24 Gooseneck microphone, the AMS26 Probe microphone and the AMS28 Lavalier microphone. Special capabilities available for the AMS include: Privacy or cough button, chairman muting, channel priority, filibuster capability, zone loudspeaker muting and remote channel indicators. The AMS system can be connected to a computer programmed for even more sophisticated control operations. In addition, when connected with the optional microcomputer-based AMS880 Video Switcher Interface component the AMS will control commercially available video switchers. In doing so, television cameras will automatically follow the microphone channel activity to visually monitor prescribed areas.

Specifications

AMS4000 and AMS8000 Mixer

Frequency

Response: Aux input to outputs: 30 to 20,000Hz \pm 2dB Mic input to outputs: 70 to 20,000Hz \pm 2dB (controlled low-frequency rolloff below 50Hz)

Distortion: THD 0.35% or less, 30 to 20,000Hz at +15dBm output; IMD 0.5% or less up to +15dBm output

Operating

Voltage: 105-132VAC, 50/60Hz, 20W. Can be rewired for 210-264VAC, 50/60Hz, 20W

Dimensions: 3 1/2" H x 19" W x 11 3/4" D

Weight: AMS8000: 14 lbs. 8 oz.
AMS4000: 12 lbs. 13 oz.

AMS22 Low-Profile Microphone

Type: Condenser (Electret Bias)

Polar Pattern: Hemi-Cardioid

Output Level: (Open circuit voltage at 1kHz) -47dB typical (0dB = 1V/ μ bar) at AMS mixer direct output

Noise: 20dB equivalent SPL typical, A-weighted 25.5dB equivalent SPL typical, weighted per DIN 45405

Dimensions: 1 1/4" H x 3 1/2" W x 3" D

Weight: 6.1 oz. including cable

AMS24 Gooseneck Mounted Microphone

Type: Condenser (electret bias)

Polar Pattern: Cardioid

Output: (at 1000Hz) -56dB typical (0dB = 1V/ μ bar)

Noise: 27dB equivalent SPL typical; A-weighted; 32.5dB equivalent SPL typical, weighted per DIN 45405

Dimensions: Length: 15" Diameter: 1 13/32"

Weight: 5.6 oz.

AMS26 Probe Microphone

Type: Condenser (electret bias)

Polar Pattern: Cardioid

Output: (at 1000Hz) -54dB typical (0dB = 1V/ μ bar)

Noise: 27dB equivalent SPL typical, A-weighted; 32.5dB equivalent SPL typical, weighted per DIN 45405

Dimensions: Length: 5 21/32"; Diameter: 1 13/32"

Weight: 4.4 oz.

AMS28 Condenser Microphone

Type: Condenser (electret bias)

Polar Pattern: Cardioid (Unidirectional)

Output: (at 1000Hz) open circuit voltage: 54dB typical (0dB = 1V/ μ bar)

Noise: 27.0dB equivalent SPL typical, A-weighted 32.5dB equivalent SPL typical, weighted per DIN 45405

Dimensions: Length: 1 9/16"; Diameter: 2 1/2"

Weight: 5.5 oz. with cable and connectors

AMS880 Video Switcher Interface

Input: Open circuit voltage +5V; resistance: 1K ohm

Output: Off resistance: > 300 megohms; On resistance: < 200 ohms

Power: External power transformer: 120VAC \pm 10%, 60Hz, 6W

Dimensions: 1 3/4" H x 19" W x 5" D

Weight: 2.5 lbs. including transformer

AMS4000	.....	\$1700.00
AMS8000	.....	2650.00
AMS22	.....	195.00
AMS24	.....	230.00
AMS26	.....	195.00
AMS28	.....	215.00
AMS880	.....	1600.00

Stands

- BB-77 Baby Boom:** 31" (787mm) adjustable boom arm. Fits MS-10C Floor Stand. Standard 5/8"-27 thread accepts any threaded Shure microphone, mount or swivel adaptor. \$25.85
- CO-1 Stand Adaptor:** Screw-type clamp with 5/8"-27 male thread for mounting second microphone on microphone stand, table or desktop. Adjustable 360° swivel aids horizontal positioning. \$15.85
- MS-10C Floor Stand:** Quickly and easily adjusts from 35" to 64" high. Positive ring lock maintains desired height. Standard 5/8"-27 thread accepts any threaded Shure microphone, mount or swivel adaptor. Also accepts Model BB-77 Baby Boom. Chrome plated. Weighted 10" base for stability. \$33.35
- S15:** Tall mike stand that extends to 14'. Standard 5/8"-27 thread for direct mounting. Includes cable clamp for vertical application of wire. \$165.00
- S37A Modern Desk Stand:** Nonreflective, textured gray finish. For use with all microphones with swivel connector assemblies, or microphones with swivel adaptors \$21.65
- S39A Vibration-Isolation Stand:** For all applications where vibration is a problem. Fits all Shure microphones \$60.00

Adaptors

- A25B:** (Black) To be used with Models 515, 545, 565, SM57 and SM58 tapered handle microphones—for use with standard desk or floor stand \$4.00
- A25C:** For SM94, SM96 Mikes 4.00
- A57D:** (Champagne) Snap-in Locking Swivel Adaptor for Models SM80 and SM81. 3/4" (19mm) diameter microphones—for use with standard desk or floor stand. \$12.20
- A57E:** (Ebony) Adaptor for SM85 and SM87 12.20

Plug-In Modifiers

- A15AS Microphone Attenuator:** Prevents input overload in applications where very strong signals are applied to a microphone input. Selectable 15, 20 or 25dB loss. \$39.45
- A15BT Bridging Transformer:** Matches balanced or unbalanced devices of different impedances. (33K ohm primary and 600 or 7500 ohm secondary) . . \$42.50
- A15HP High Pass Filter:** Provides a low frequency cutoff to reduce unwanted low frequency noises \$36.00
- A15LA Line Input Adaptor:** Converts balanced low impedance microphone input to bridging line level input \$36.00
- A15LP Low Pass Filter:** Provides a high frequency cutoff to reduce objectionable high frequency noises. \$36.00
- A15PA Presence Adaptor:** Adds "presence" to vocals or instruments in recording, broadcasting, and PA applications \$36.00
- A15PRS Phase Reverser:** Reverses the phase of a balanced line without modification of equipment \$36.00
- A15RS Response Shaper:** Provides sibilance filtering in recording, broadcasting, and PA applications \$36.00
- A15TG Tone Generator:** Produces a continuous 700Hz signal capable of driving low-impedance balanced lines, and is extremely useful in setting up . . . \$68.35
- A85F Low-Impedance To High-Impedance Line Matching Transformer . . . 17.50**
- A95U Series Low-Impedance to High-Impedance Line Matching Transformers (Plug-In Types):** Low-impedance connector is a 3-pin professional audio type designed to mate with Canon XL Series, Switchcraft A3 (Q.G.) Series or equivalent. High-impedance connector is a 1/4" phone plug or jack.
- A95U:** Male 3-pin \$29.60
- A95UF:** Female 3-pin. 31.70
- A97A Low-Impedance to Medium-Impedance Line Matching Transformer:** High quality transformer designed to properly match low-impedance (150 ohm to 600 ohm) microphone outputs to medium-impedance (1K ohm to 10K ohm) inputs, such as those frequently used in cassette recorders. Low-impedance connector—3-pin male professional audio connector. Medium-impedance connector—Amphenol MC1M type connector \$29.50

Goosenecks

- A12:** Mounting flange \$3.70
- G6A:** 6" (152mm) flexible gooseneck (side vent). 8.35
- G12:** 12" (304mm) flexible gooseneck \$10.55

- G12-CN:** 12" (304mm) flexible gooseneck with professional female 3-pin audio connector \$20.00
- G18:** 18" (457mm) flexible gooseneck 12.00
- G18A:** 18" (457mm) flexible gooseneck (side vent) 12.50
- G18-CN:** 18" (457mm) flexible gooseneck with professional female 3-pin audio connector \$21.45
- A98-G18:** 18" (457mm) flexible gooseneck for SM98 microphones . . . 42.00

Mounts

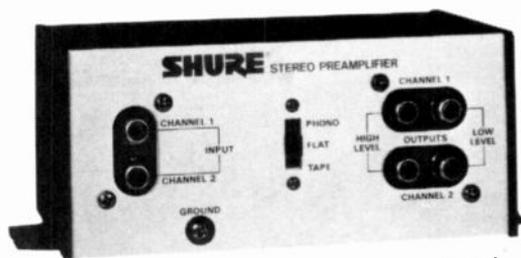
- A25M:** Designed to hold two tapered handle microphones such as Shure Models 545D, 545SD and 545L \$26.00
- A26M:** Designed to hold two microphones listed above when using A2WS Windscreens, "ball-type" Models 565D, 565SD, 588 and other Shure microphones with tapered handles. \$26.00
- A27M:** A highly versatile stereo microphone-adaptor designed to place two microphones in a variety of selectable positions. Allows for independent positioning flexibility. Consists of two stacking sections that rotate on their centers for complete angular adjustment. \$55.00
- A55M:** A breakthrough in noise isolation. Reduces mechanical and vibration noises by more than 20dB. Standard 5/8"-27 female thread fits all Shure desk and floor stands. Fits most Unidyne® and Unisphere® microphones, except those models with built-in swivel mounts. Size: 3 3/4"H x 1 1/2"D x 2" Dia. (95 x 38 x 51mm) \$35.55
- A55HM:** Half-mount version of A55M. 31.50
- A45Z Speaker Miking Bracket:** Z-shaped bracket permits positioning a microphone (in a swivel adaptor) in front of a musical instrument amp/speaker or sound reinforcement speaker for recording or other uses \$12.95
- A98HA:** Hanging adaptor for SM98 microphone 13.30
- A98MK:** Drum mount kit for SM98 microphone 42.00
- A89SM:** Shock mount for SM89 shotgun microphone 90.00

Windscreens

- A1WS:** Windscreen for 515 Series \$5.00
- A2WS:** Designed to effectively minimize wind noise in outdoor locations and control explosive breath sounds in any location. For Models 545D, 545SD, 545SH, 545L, and 571 \$10.85
- A2WS-BK:** Black Windscreen. 10.85
- A3WS:** Windscreen for SM94 5.00
- A58WS:** Controls wind noise and "pop". For use on all Shure "ball-type" microphones, such as the Unisphere models. \$ 5.00
- A58WS-BK:** Black Windscreen. 5.00
- A58WS-BL:** Blue Windscreen. 5.00
- A58WS-BR:** Brown Windscreen 5.00
- A58WS-GN:** Green Windscreen 5.00
- A58WS-OR:** Orange Windscreen 5.00
- A58WS-RD:** Red Windscreen 5.00
- A58WS-WH:** White Windscreen. 5.00
- A58WS-YL:** Yellow Windscreen 5.00
- A98PF:** Pop filter for SM98 Microphone 13.30

Cables

- C15A:** 15', 1-conductor, with 3-socket mic and 1/4" phone plug connector \$8.50
- C20B:** 20', 1-conductor with 3-socket mic and 1/4" phone plug (equipment) connector \$11.00
- C20D:** 20', 2-conductor, heavy-duty with 3-socket (microphone) connector (only) \$23.95
- C20H:** 20', 2-conductor, heavy-duty with 3-pin and 3-socket connectors. \$29.40
- C25F:** 25', 2-conductor, Triple-Flex®, with 3-pin and 3-socket connectors \$24.25
- C50J:** 50', 2-conductor, Hi-Flex®, with 3-pin and 3-socket connectors . . 25.00
- C100J:** 100', 2-conductor, Hi-Flex, with 3-pin and 3-socket connectors \$33.35
- C25E:** 25', 2-conductor, Triple-Flex, with 3-pin and black 3-socket connectors. \$26.00
- C25B:** 25', 2-conductor, heavy-duty, with 3-pin and black 3-socket connectors. \$24.25
- C25J:** 25', 2-conductor, Hi-Flex, with 3-pin plus 3-socket connectors . . 13.35



M64A

M64A Universal Stereo Preamp

• Permits turntables to be used with PA mixers and amplifiers without phono inputs • Also useful as a microphone preamp or low-gain buffer amplifier • Includes a 3-position slide switch for selecting Phono, Tape, or Flat frequency compensation

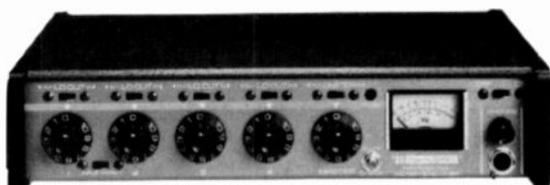
M64A\$102.00

M68A Microphone Mixer

• 5-channel models with 4 microphone inputs (each switchable for high or low impedance) and a high-level auxiliary input • Both include high- or low-impedance auxiliary output • Units can be easily connected to provide additional inputs

M68A 3-pin male XLR input connectors\$211.00

M68FCA 3-socket female XLR input connectors\$211.00



M267

M267 Professional Mixer with Limiter

• For recording or broadcast use • Four low-impedance balanced inputs switchable to mike or line level • Simplex (phantom) power on each input • Fast-acting limiter; built-in battery supply • Headphone level control • Illuminated VU meter with LED peak level indicator • Low-cut filters and tone oscillator • Battery check switch • Mix bus jack • Mike and line level outputs • Master volume control • 120/240 VAC, 50/60Hz, 9.5W; battery power • 2 3/4" H x 11 3/8" W x 7 1/2" D

M267\$520.00

M268 Microphone Mixer with Phantom Power

• 5 Channels • Ideal for public address and recording applications • Mix bus, simplex (phantom) power • Automatic muting circuit • Active gain controls and electronic power supply regulation • 120VAC, 50/60Hz, 5W • 2 3/4" H x 11 3/8" W x 7 1/2" D

M268\$290.00

PS1A Power Supply 120/240VAC\$146.00

FP11 Mike-to-Line Level Amplifier

• Portable, 1-input, 1-output • Provides up to 84dB of gain so that microphone and auxiliary level devices can be boosted to line level • Balanced, locking XLR input and output provide a switchable peak limiter, a peak/limiter LED indicator, aux level mini-phone jack input, powered by one standard 9V battery

FP11\$260.00

FP12 Headphone Bridging Amplifier

• 1-input, 2-output • Designed to provide headphone feeds from any type of audio input • Two XLR in/out connectors and two 1/4" in/out jacks • Mike/Line input switch • Hi-Z/Lo-Z headphones switch • Headphone level control, powered by one standard 9V battery

FP12\$245.00

FP16 Distribution Amplifier

• 1-input, 6-output, compact, self-contained audio distribution amplifier for routing multiple audio feeds without sacrificing signal clarity • Specially designed for field production use

FP16 120VAC\$570.00



FP31

FP31 Microphone Mixer

• Designed for electronic news gathering (ENG) and electronic field production (EFP) use, including film, video, and remote broadcast applications • Measures just 6 5/16" x 5 5/16" x 1 7/8" • Incorporates the features most requested by audio engineers, electronic news professionals, sportscasters, and film and video sound engineers • Provides a wide, flat frequency response, low distortion, and up to +18dBm output • Built-in slate microphone for voice announcement and emergency field use

FP31 Battery power\$990.00

FP32 Stereo Microphone Mixer

• Two transformer-coupled outputs (one for each stereo channel) and three inputs, each switchable for low impedance microphone or line level operation • Stereo capability is enhanced by a concentric clutched stereo master gain control • Built-in slate microphone and slate tone • Built-in tone oscillator for level checks or line tests • Built-in phantom (simplex) and A-B(T) power for condenser microphones • "Phantom" jack permitting use of an external microphone power supply (up to 48 VDC)

FP32 Battery power\$1350.00



FP42

FP42 Stereo Microphone Mixer

• Handles remote mixing jobs with its two outputs (one for each stereo channel) and four balanced inputs, each switchable for line or mike level operation • Each input channel also has a low-frequency rolloff switch and a center-detented stereo pan pot for convenient stereo mixing • Concentric clutched stereo master level control • Pull-pot cueing permits cueing or checking each input via headphones • Can be battery or AC-operated • Mini and 1/4" stereo headphone jacks with level control are included.

FP42 120/240VAC/battery power\$990.00



FP51

FP51 Compressor/Mixer for Mike or Line Input

• 4 mike/line inputs • Cue on each input • Separate headphone amplifier • 1/4" and mini headphone jacks • Compressor and memory switch on front panel • AC/DC powered with battery check • Phantom power for mikes • Rackmountable • Peak light on U meter • Outputs at line mike and mix bus levels

FP51\$940.00



CIK-1 Component Video Keyer/Mixer

The CIK-1 is a stand-alone keyer/mixer. It is the perfect solution for the existing component video facility that needs an extra level of effects or the "A/B" suite that wishes to have effects capabilities.

Linear Circuitry The CIK-1 uses wideband linear closed-loop multipliers (HDTV opt.) for noise-free key edges and precise multi-channel tracking.

Superior Chroma Keys Installing a CIK-1 upstream of a camera NTSC encoder stops a background from causing fringing in the encoder.

Key Source Selector The key source can be any combination of the insert sources Red, Green, Blue, Luminance value, Matrixed color (chroma key), or the Luminance of an external input. Also has key invert.

Variable Key Gain Wide range available. High gain for separating a computer-painted image from a darker background. Medium gain for fine tuning perfect chroma keys, low gain for quiet edges.

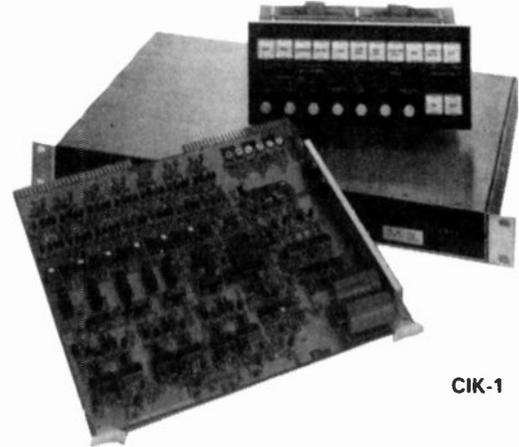
Transitions The CIK-1 can mix or cut to and from a key. There is a GPI interface (closure to ground) to initiate transitions.

Matte Generator Internal color generator for matte fill keys.

Remote Control Panel Rack or console mount up to 300' away.

RGB or Y/R-Y/B-Y Available in either format. Specify when ordering.

CIK-1 \$2990.00



CIK-1

Delta Series

All Delta modules have looping inputs, 3 outputs per channel, and output gain adjustments for each channel. Prices do not include mounting frame.

Delta CB Converts RGB to Y/R-Y/B-Y. Includes blanking processor for the addition of adjustable levels of sync and set-up to the Y channel. . \$495.00

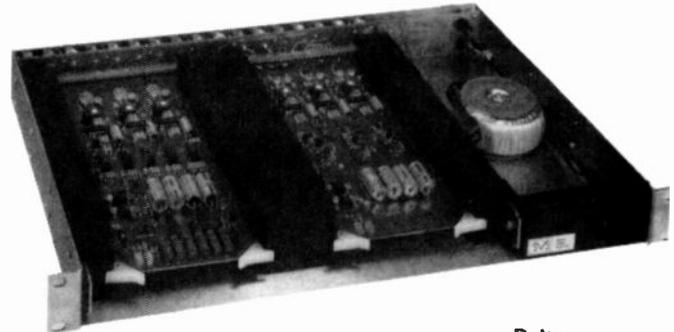
Delta BC Converts Y/R-Y/B-Y to RGB. Standard version passes Y channel sync and set-up to RGB outputs. Sync stripper to remove sync and set-up from Y channel input, keeping it off RGB. \$495.00

Delta 33 Component video DA, no conversion. \$395.00

Delta CBG-1 Color Bar Generator The Delta CBG-1 is a split field SMPTE (RS-189) component video color bar generator that plugs into a Delta series frame. It is available in either the RGB or Y/R-Y/B-Y format. Also includes on-board sync generator for stand-alone operation.

Delta CBG-1 \$695.00

Rackmount Frame 495.00



Delta

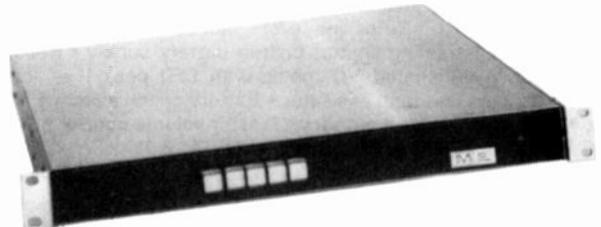
BetaMate CTD/CTCM Dub Switchers

The BetaMate is designed to increase the productivity and quality of any Betacam™ or MII suite. A Betacam tape-to-tape dub is done in one of three ways:

- 1. NTSC—least desirable
- 2. Component—more desirable
- 3. Compressed Time Division Multiplexed (CTDM/CTCM)—most desirable

CTDM is the internal format of Betacam. A dub in this mode eliminates two stages of color difference channel expansion and compression. The BetaMate connects to the recorder and up to 4 source machines using the 12-pin dub cables. It also breaks out the component video signals to BNC's for connection to other equipment. A pushbutton selection then determines which source machine (or dub off) is connected directly to the record machine for a CTDM dub.

BetaMate (Specify Betacam or MII) \$1095.00

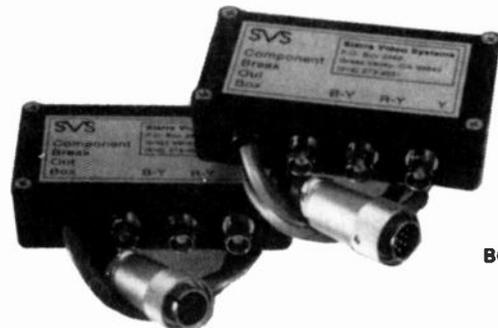


BetaMate

Break-Out Boxes (BOBs)

These passive Break-Out Boxes allow easy connection with BNC cables to the component video 12-pin connectors (Y/R-Y/B-Y format) found on Betacam or MII™ machines (specify). BOBs are rugged, diecast aluminum boxes that are easily rackmounted and are available in either record or playback configurations (specify).

BOBs (Betacam) \$89.00
BOBs (MII) 99.00



BOBs



SVS Series Wideband Routers

The SVS Series 8/16 wideband routers are a cost-effective solution to any facility's small to mid-size signal routing requirements.

Matrix

Our Series 16 routers are based on a 16x4 (16 in by 4 out) video crosspoint card and a 16 x 8 audio crosspoint card. There are two frame sizes: a 1 R.U. high frame (1 rack unit is 1 3/4" H) and a 3 R.U. frame. The 1 R.U. frame holds one video crosspoint card or two audio crosspoint cards. The 3 R.U. frame can hold up to six crosspoint cards. There is no hand wiring; a rear motherboard sandwich construction technique is used. This means that by simply using a different rear motherboard, we can build frames that use identical parts but are completely different size configurations. For example, a 3 R.U. frame that has six 16 x 4 video crosspoint cards can be a one level 16 x 24, or, with a different rear motherboard, it can be a component video 16 x 8. Component video being 3 levels: 1 for Red, 1 for Green, and 1 for Blue (or Y/R-Y/B-Y). Or, that same 3 R.U. frame may have 2 video cards and 4 audio cards for a 5 level 16 x 8 router with video, stereo audio, time code and data levels, all with breakaway capabilities. In addition, multiple frames may be added to the system design for more levels, larger routers, more audio, more time code, or data levels, etc. By doing this we obtain reliable, consistent performance in an easy-to-assemble and easy to expand router series that keeps efficiency up and cost down.

Performance

With a 20MHz video bandwidth, these routers can easily expand into new areas. All audio is switch balanced with common mode rejection to keep switching noise and crosstalk to a minimum. Dual power supplies (with alarm) are available and all modules have on-board voltage regulators. Many system sizes have both looping inputs and dual outputs. However, this varies from size to size as some systems contain more electronics in a frame than the connectors at the rear can accommodate.

Control

Control can be with either pushbutton control panels or, in the 3 R.U. frame, a microprocessor option is available (with back-up processor if desired). With the processor, serial control (RS-232 or RS-422) becomes available allowing the router to be controlled from a terminal or a host computer. The pushbutton panels (in 8, 16, 24, or 32 pushbutton sizes) are either X-Y or individual bus control with a wide variety of breakaway and level control configurations possible. Also available is a keypad type panel. All control panels have 2 control connectors (25-pin D) so they may be daisy chained or connected in parallel in any configuration to suit your particular installation requirements.

Series 8

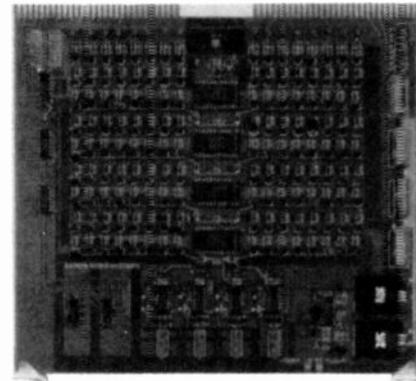
Same as above except based on an 8 x 8 video crosspoint or 8 x 8 stereo audio module. For example: six 8 x 8 crosspoint cards in a 3 R.U. frame may be configured as a single level 8 x 48.

Routing (Modules only)

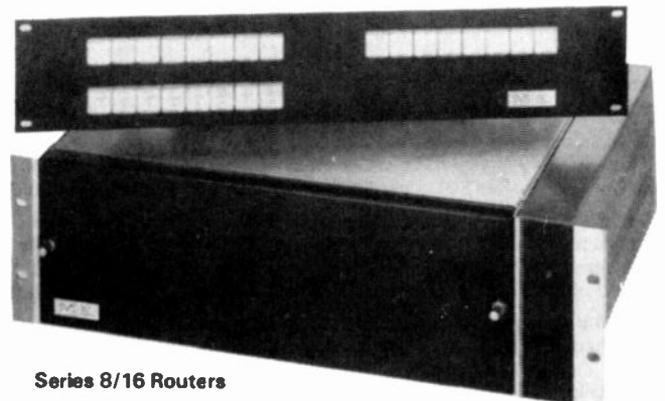
16 x 4 Video	\$1445.00
16 x 8 Audio	1445.00
8 x 8 Video	1445.00
CPU (Processor) .....	.675.00
Typical X-Y Control Panel (16 x 8) .....	.665.00
15 Meter Control Cable .....	.75.00
1 R.U. mounting frame and power supply .....	.495.00
3 R.U. mounting frame and power supply .....	.995.00

Example Systems (Modules and Frames, Less Control)

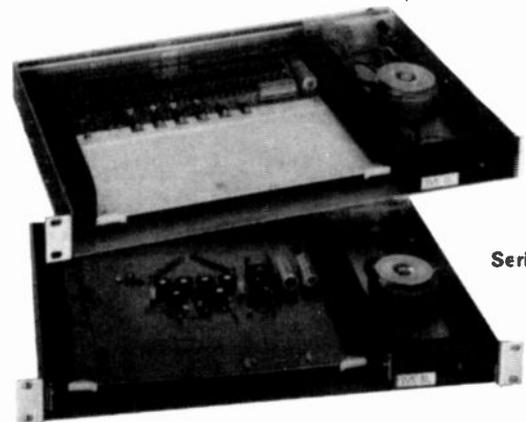
16 x 24 Video	\$9665.00
16 x 8 Video with Stereo Audio .....	.6775.00
16 x 4 Component Video .....	.5330.00
16 x 4 Video .....	.1940.00



16 x 4 Video Crosspoint Card



Series 8/16 Routers



Series 32

Series 32 32 Output Distribution Amplifiers

These DAs are perfect for duplication facilities, pool feeds, studio outputs, etc. Wherever a large number of outputs with identical output-to-output performance is needed. Redundant power supplies are optional. All modules have differential inputs and excellent output-to-output isolation. Prices include mounting frame and power supply.

S32V	The video module is wideband output (-3dB at 30MHz)	\$1195.00
S32S	Audio with stereo outputs to + 10dBm .....	.1195.00
S32A	Audio with balanced outputs to + 24dBm .....	.1195.00
S32T	Audio with transformer coupled inputs .....	.1295.00



Color System Timing and Testing Products

TSG-375A Test Signal and Sync Generator

Stable and accurate test signal generator, with 24 different patterns, a complete sync generator with 3 blackburst outputs, several production-aid outputs including source ID and countdown generator \$2995.00
TSG-370A A non-genlock version of above 2695.00

SCH-385 Subcarrier/Horizontal Phase Meter

A display indicates relative sync and subcarrier of two different inputs, absolute SC/H phase of either input, and the associated "Color-Incidence" light provides a green light for proper color-framed edits or special effects 1650.00

CSG-450 Color Sync Generator

Master RS-170A Sync Generator with all standard sync outputs, C.F.I.D., and 3 blackburst signals. 1200.00

CSG-455 Color Sync Generator

Same as CSG-450 with additional outputs of selectable test signals of SMPTE Bars, Crosshatch, Red Field, and Safe Areas, plus Audio Tone. 1600.00

CSG-460 Color Sync Generator

Master or genlockable RS-170A sync generator, with all standard sync outputs, C.F.I.D., and 3 blackburst signals 1500.00

CSG-465 Color Sync Generator

Same as CSG-460 with the addition of selectable test signals of SMPTE Bars, Crosshatch, Red Field, and Safe Areas, plus Audio Tone . . . 1900.00

BTS-414 Blackburst Timing System

Genlocks to either composite video or blackburst, and provides 4 independently adjustable blackbursts out. Providing advance or delay of horizontal sync and 360° of continuous burst phase adjustment 1750.00

VPA-380 Video Processing Amplifier

Built-in genlocking sync generator, adjustable blanking width controls to allow saving the various vertical test and identification signals; and a dual mode genlock circuit to allow acceptance of either stable or VTR signals 1750.00

Video and Stereo-Audio Products

VSS-120 Switcher

12 x 1 video with stereo-audio-follow passive switcher. Useful in stereo TV or 2nd language channel operations. Green legend indicates selected input, all others remain terminated in their characteristic impedance . . . \$275.00

VAS-120 Switcher

12 x 1 video with single audio channel. 250.00

SVX-210 Video Only Switcher

Provides vertical interval switching of 10 inputs to a dual output line. Output clamping is standard, with DC restoration optional 695.00

SAV-210 Audio/Video Switcher

Provides vertical interval switching of Audio-Follow-Video, Audio only, and Video only. A "dwell-timed" control function allows one handed selection of either audio or video breakaway. After dwell time has elapsed, the control function reverts to audio-follow-video operation. An audio input/output interface option provides for easy audio wiring 875.00

SSV-210 Stereo-Audio/Video Switcher

Functions in the same manner as the SAV-210, with an additional audio channel. Either channel is suitable for use with SMPTE time code . . 995.00

VSD-200 Video/Stereo Audio Distribution Amplifier

1 x 6 video with stereo-audio distribution amplifier. Optimum pricing and packaging for stereo television and duplication facilities 900.00

VAD-200 Video/Audio Distribution Amplifier

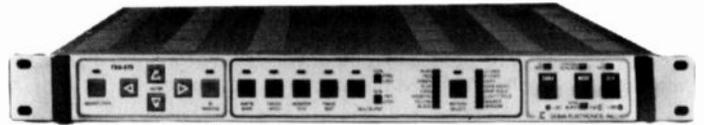
1 x 6 video with single channel audio DA 650.00

ADA-110 Audio Distribution Amplifier

High performance Audio DA. One input and ten outputs; low noise, flat response, adjustable gain -8 to +23.5dB. Can be used for SMPTE Code 405.00

ADA-210 Audio Distribution Amplifier

Same high performance DA as the 110 except dual configuration. Can be either dual 1 x 10 or a single 1 x 20. Ideal for SMPTE Code \$610.00



TSG-375A



CSG-450



CSG-465

Self-Contained Sync and Distribution Equipment

VDA-115 Video Equalizing Amplifier

The VDA-115 is an extremely versatile unit. In its most simple configuration, it is a 1 x 6 Video DA. More importantly, it is a cable equalizing amplifier that can serve as a "line-driver" or "line-receiver" to compensate for up to 1100' of coaxial cable. It features a differential input that can eliminate as much as 10VAC of hum \$360.00

VDA-100A Video Distribution Amplifier

6 output DA frequency response 0.2dB to 10MHz, looping input, DC coupled, ± 6dB gain adjustable, 110/220VAC. Desk or rackmount 310.00

ADA-106 Audio Distribution Amplifier

1 x 6, high performance amplifier, with a frequency response of ± 0.1dB to 30kHz, can be used for SMPTE Code. Screw capturing terminals. 110/220VAC. Desk or rackmount 310.00

PDA-100A Pulse Distribution Amplifier

1 x 6 pulse regenerative DA with looping input. 110/220VAC. Desk or rackmount 310.00

SDA-110 Subcarrier Distribution Amplifier

Regenerative subcarrier amplifier, 2 independently adjustable outputs. 110/220VAC. Desk or rackmount 390.00

PDA-110 Pulse Delay Amplifier

Ideal aid in system timing. Four independently delayable outputs, range of 0.2 to 2µsec. 110/220VAC. Desk or rackmount 415.00

CSG-160 Color Sync Generator

Provides all the standard synchronizing outputs including blackburst. RS-170 standard. Desk or rackmount 800.00

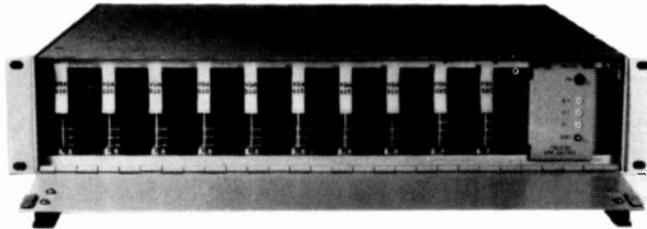
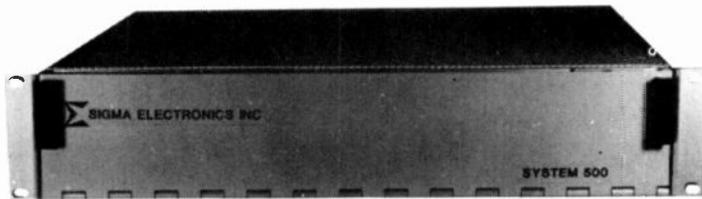
AFV-100 Passive Audio Follow Video Switcher

6 inputs to one output RCA jacks for audio 185.00

VS6-100 Passive Video Switcher

For switching six video inputs to one input. Desk or rackmount 115.00

MODULAR DISTRIBUTION EQUIPMENT



System 500

System 500 Modular Distribution System

- Flexible
- Hinged front door
- 10 modules and 1 power supply capacity
- Space efficient
- EX-505 is required to service any of the distribution modules in the frame
- Frame is supplied with rear mounting blank panels
- Accepts a second PS-501A for redundant power supply operation

For any signal distribution equipment, the FR-500 Module Mounting Frame provides maximum flexibility in a very efficient package. Intended for use in broadcast, cable, industrial, duplication and similar installations.

Flexibility and versatility. An internal motherboard allows both modules and rear frame adaptors to be conveniently installed or reorganized, to meet any system requirement. Up to ten modules plus a power supply can reside in the frame, and any combination of existing or future System 500 modules can simultaneously be installed in the frame.

FR-500 Module Mounting Frame

Holds up to ten of any combination of modules plus a power supply. Internal "motherboard" allows for easy additional modules . . . \$400.00

EX-505 Module Extender 30.00

PS-501A Power Supply Module

Provides necessary power for a fully loaded frame of modules. 110/220VAC operation. 150.00

VDA-510 Video Distribution Amplifier

1 input/6 outputs, DC coupled, frequency response ± 0.2 dB to 10MHz, diff. phase 0.2°, diff. gain 0.2%, ± 3 dB gain adjustment 240.00

VDA-515 Video Equalizing Amplifier

Capable of compensating up to 1100 ft. of coaxial cable 280.00

ADA-526 Audio Distribution Amplifier

1 input/6 outputs, an extremely flat frequency response (0.1dB to 30kHz). Can operate bal. or unbal. 280.00

PDA-530 Pulse Distribution Amplifier

Regenerative Pulse Amplifier 1 input/6 outputs. Input level 2-6V p-p, output level 4V p-p 240.00

PDA-535 Pulse Delay Amplifier

Two sections of two independently adjustable stages 360.00

SDA-540 Subcarrier Distribution Amplifier

1 input/3 outputs. Each output is independently adjustable . . . 320.00

BTM-551 Blackburst Timing Module

Provides horizontal and burst phase adjustment of its blackburst output. Requires a BSG-100A for reference timing signals 375.00

CBG-565 Color Bar Module

Provides dual outputs of selectable outputs of SMPTE Bars, Cross-hatch, Red Field and Safe Areas. This unit requires timing signals from BSG-550 600.00

BSG-550 Black Signal Generator

Provides two RS-170A blackburst outputs, plus synchronizing signals for other System 500 modules 400.00

CGM-560 Color Genlock Module

Used to genlock other System 500 modules, such as CBG-565 or BTM-551 to an external reference. 500.00

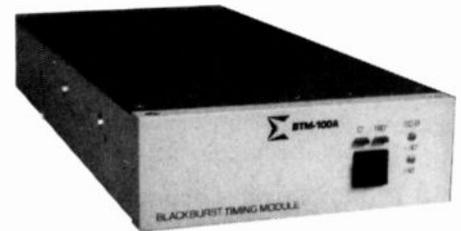
SMALL STUDIO AND EDIT SUITE EQUIPMENT



BSG-100A



CBG-100A



BTM-100A

BSG-100A Black Signal Generator

Provides two RS-170A blackburst outputs, plus control driving signals for other Series 100 modules \$495.00

CBG-100A Color Bar Generator

Provides dual outputs of selectable SMPTE Bars, Crosshatch, Red Field, and Safe Areas. This unit requires a BSG-100A for timing reference 495.00

BTM-100A Blackburst Timing Module

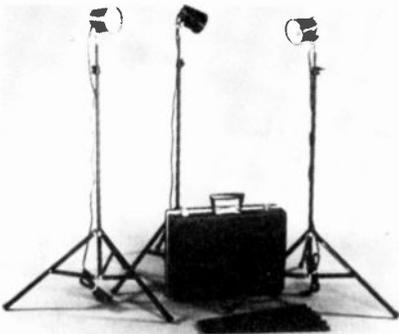
Provides horizontal and burst phase adjustment of its blackburst output. Requires a BSG-100A for timing reference \$495.00

CGM-100A Color Genlock Module

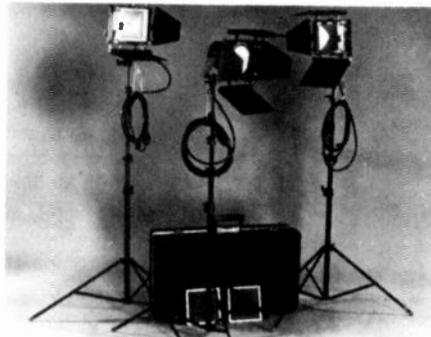
Used to genlock CBG-100A and BTM-100A to an external reference 495.00

FR3-100 Rackmount Frame

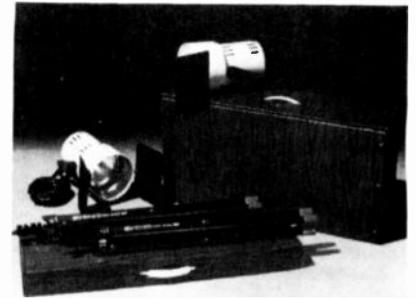
For any 3 small box modules. 70.00



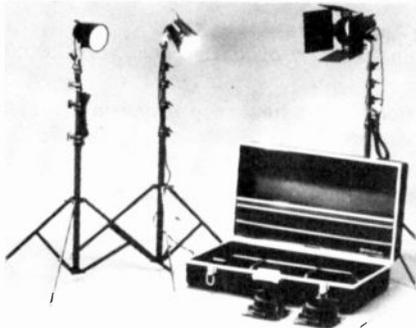
K2R-A



K50



K62-A



K33-A



K63-A



K22U-A

K2R-A 1800W Quartz Location Kit

A complete location lighting kit in an attache case. The most compact 3 light kit on the market with a price to match.

3	700-SG	401110	600W quartz units
3	DYH	401928	600W 3200°K quartz lamps
3	S6R	401242	6' Steel Stands
1	634L	402202	Carrying Case

Size: 18" x 12" x 6" Weight: 15 lbs.

K2R-A \$295.00

K2R-A Accessories:

701	401301	Barn doors for 700 quartz unit	\$39.95
G5	401264	Gaffer Grip—portable light mount	16.50

K33-A 1800W Quartz Location Kit

A complete lighting system at a popular price; contains everything needed for professional results.

3	700-SG	401110	600W quartz units
3	DYH	401928	600W 3200°K quartz lamps
3	701	401301	Barn doors for 700 quartz units
3	SA28	401233	8' aluminum stands
1	650	402208	Carrying Case

Size: 24 1/2" x 14 1/2" x 6 3/4" Weight: 17 lbs.

K33-A \$599.95

K33-A Accessories

G5	401264	Gaffer grip portable light mount	\$16.50
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K50 1800W Quartz Location Kit

Excellent versatility with professional results is offered in this 3 light kit featuring a 600W key and 2 600W broad fill lights.

1	760	401112	600W quartz key unit
2	770	401113	600W quartz broad units
3	DYH	401928	600W 3200°K quartz lamps
3	771	401325	Barn doors
2	712	401312	Single scrims
3	SA28	401233	8' aluminum stands
1	650	402208	Carrying Case

Size: 24 1/2" x 14 1/2" x 6 3/4" Weight: 22 lbs.

K50 \$769.95

K50 Accessories:

G5	401264	Gaffer grip—portable light mount	\$16.50
712	401312	Single scrim	14.95

330

K63-A 1800W Quartz Location Kit

3 light kit offers excellent portability and versatility for basic photographic and video applications.

3	Q60-SG	401131	600W quartz units U.L. Listed
3	DYS/DYV	401970	600W 3200°K quartz lamps
3	S9	401240	6' 4-legged steel stands
1		105664	Light case
1		300779	Stand case

Size: Stand case 29 1/4" x 8 1/2" x 2 3/4" Weight: 23 lbs., 10 oz.
Light case 29 1/2" x 13 3/4" x 8 1/2"

K63-A \$399.95

K62-A 1200W Quartz Location Kit

Basic 2 light quartz kit permits professional results in photographic and video applications, offers room for additional light and stand to be added at a later date.

2	Q60-SG	401131	600W quartz units U.L. Listed
2	DYS/DYV	401970	600W 3200°K quartz lamps
2	S9	401240	6' 4-legged steel stands
1		105664	Light case
1		300779	Stand case

Size: Stand case 29 1/4" x 8 1/2" x 2 3/4" Weight: 17 lbs., 1 oz.
Light case 29 1/2" x 13 3/4" x 8 1/2"

K62-A \$279.95

K22U-A 1200W Quartz Location Kit

An excellent starter for the serious amateur photographer or videographer offers room for additional accessories.

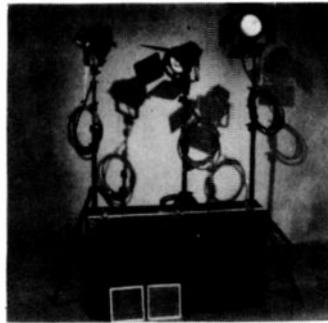
2	700-SG	401110	600W quartz lamps
2	DYH	401928	600W 3200°K quartz lamps
2		670002	38" white umbrellas
2		670033	Combination light and umbrella mounts
2	S7	401239	6' steel stands
1	650	402208	Carrying case

Size: 24 1/2" x 14 1/2" x 6 3/4" Weight: 15 lbs., 10 oz.

K22U-A \$379.95

K22U-A Accessories

701	401301	Barn doors for 700 quartz unit	\$39.95
G3	401263	Gaffer grip—3/8" portable light mount	16.50



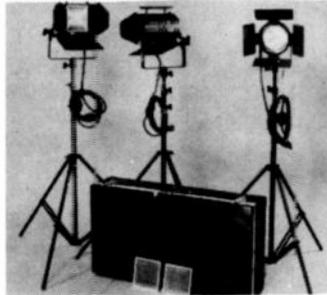
K71-A



K73-A



K74-A



K75-A



K76-A

K71-A 1800W Professional Focusing Quartz Location Kit

This professional quartz lighting kit features the flexibility of three focusing units which allow smooth transition from spot to flood.

3	710-SG	401102	600W focusing quartz lamps U.L. Listed	
3	DYH	401928	600W 3200°K quartz lamps	
2	711	401307	Barndoors	
2	712	401312	Single scrims	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K71-A 29" x 18" x 8" — 28 lbs.				\$955.00
711	401307	Barndoors		39.95
712	401312	Single scrim		14.95
G5	401264	Gaffer grip—portable light mount		16.50
SE30	401260	30" stand extension		12.95

K74-A 3000W Professional Quartz Location Kit

Our most powerful 3 unit lighting kit offers the versatility and flexibility of two 1000W broad units and a 1000W focusing unit.

2	750-SG	401105	1000W quartz broad units U.L. Listed	
2	FHM	620380	1000W 3200°K quartz lamps	
2	752	401322	Single scrims	
1	720-SG	401103	1000W focusing quartz unit U.L. Listed	
1	FBY	620140	1000W 3200°K quartz lamp	
1	721	401308	Barndoors	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K74-A 29" x 18" x 8" — 34 lbs.				\$1055.00
722	401316	Single scrim		17.95
G5	401264	Gaffer grip—portable light mount		16.50
SE30	401260	30" stand extension		12.95

K72-A 1900W Professional Quartz Location Kit

This professional kit features a 600W focusing unit and two 650W broad units.

2	740-SG	401104	650W quartz broad units U.L. Listed	
2	FBX	620050	650W 3200°K quartz lamp	
2	742	401319	Single scrims	
1	710-SG	401102	600W focusing quartz unit U.L. Listed	
1	DYH	401928	600W 3200°K quartz lamp	
1	711	401307	Barndoors	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K72-A 29" x 18" x 8" — 30 lbs.				\$980.00
712	401312	Single scrim		14.95
G5	401264	Gaffer grip—portable light mount		16.50
SE30	401260	30" stand extension		12.95

K75-A 2500W Professional Quartz Location Kit

Two each focusing and broad units provide excellent lighting for both studio and location use in photographic and video applications.

2	740-SG	401104	650W quartz broad units U.L. Listed	
3	FBX	620050	650W 3200°K quartz lamps	
2	742	401319	Single scrims	
2	710-SG	401102	600W focusing quartz unit U.L. Listed	
3	DYH	401928	600W 3200°K quartz lamps	
2	721	401308	Barndoors	
4	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K75-A 29" x 18" x 8" — 35 lbs.				\$1295.00
712	401312	Single scrim		14.95
G5	401264	Gaffer grip—portable light mount		16.50
SE30	401260	30" stand extension		12.95

K76-A 4000W Professional Quartz Location Kit

The pairing of two 1000W focusing and two 1000W broad units make this our most versatile and powerful kit.

2	750-SG	401105	1000W quartz units U.L. Listed	
3	FHM	620380	1000W 3200°K quartz lamps	
2	752	401322	Single scrims	
2	720-SG	401103	1000W focusing quartz units U.L. Listed	
3	FBY	620140	1000W 3200°K quartz lamps	
2	721	401308	Barndoors	
2	722	401316	Single scrims	
4	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K76-A 29" x 18" x 8" — 41 lbs.				\$1455.00
G5	401264	Gaffer grip—portable light mount		16.50
SE30	401260	30" stand extension		12.95

K73-A 3000W Professional Focusing Quartz Location Kit

Extra coverage and reach are provided in this kit featuring three 1000W focusing units.

3	720-SG	401103	1000W focusing quartz units U.L. Listed	
3	FBY	620140	1000W 3200°K quartz lamps	
2	721	401308	Barndoors	
2	722	401316	Single scrims	
3	ALS37	401274	7' aluminum stands	
1	675	402207	Carrying case	
1	G5	401264	Gaffer grip—portable light mount	
1	SE30	401260	30" stand extension	
K73-A 29" x 18" x 8" — 32 lbs.				\$1155.00
721	401308	Barndoors		49.95
G5	401264	Gaffer grip—portable light mount		16.50
SE30	401260	30" stand extension		12.95

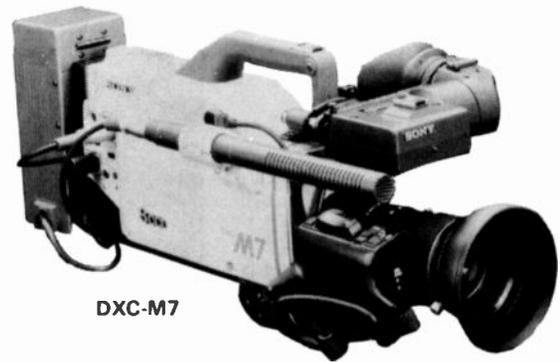
Professional Video

DXC-M7/DXC-M7K/DXC-M7H CCD Color Video Cameras

- CCD production camera • 768 HAD sensor CCD's • Horizontal resolution: > 700 lines • S/N: > 60dB • Variable electronic shutter • Linear matrix • On line: knee, pedestal • Detail and WB adjustments • Composite and component outputs

Specifications

Image Device:	Interline-transfer CCD, 3-chip
Picture Elements:	768H x 493V
Sensing Area:	8.8mm x 6.6mm (equivalent to a 2/3" pickup tube)
Built-in Filters:	1: 3200°K, 2: 5600°K + 1/4ND, 3: 5600°K, 4: 5600°K + 1/16ND
Lens Mount:	Bayonet mount
Sync System:	Internal or genlock
Minimum Illumination:	26 lux with f/1.8, + 18dB
Sensitivity:	2000 lux with f/5.6 at 3200°K
Gain Selection:	0dB, 9dB, or 18dB
Video Outputs:	Composite video: 1.0V, 75 ohms, unbal. Y/R-Y/B-Y component: Y: 1.0V, 75 ohms, unbal. R-Y, B-Y: 0.7V, 75 ohms, unbal., RGB, sync-on-green: 0.7V, 75 ohms, unbal., Y/C separate: Y: 1.0V, 75 ohms, unbal., C: Burst level 0.286V, 75 ohms, unbal.
Registration:	0.05% for Zone 1, 2, 3
Inputs/Outputs:	26-pin connector: Sony Z-type; DC In: XLR-type, male, 4-pin; Mike In: XLR-type, female, 3-pin, balanced; Genlock: BNC-type, 75 ohms, unbalanced; Video Out: BNC-type, 75 ohms, unbalanced; Lens: 12-pin; VF: 8-pin; Lens Remote: 6-pin; Remote: 10-pin; Earphone: mini-jack; Intercom: mini intercom jack
Power:	12VDC, 14W
Weight:	7 lbs., 15 oz.
Dimensions:	10.5" H x 7.5" W x 14" D



DXC-M7

Supplied Accessories

With DXC-M7/M7K only:

- CCZQ-A2 camera cable • DXF-M7 1.5" electronic viewfinder • LC-M7G carrying case • VTC-14 tripod attachment • CAC-1 microphone holder

With DXC-M7K only:

- VCL-915BYA zoom lens

With DXC-M7H only:

- Spacer for microphone holder, screws

With all models:

- Lens cap, flange focal length adjustment chart, instruction manual
- | | |
|---------|------------------|
| DXC-M7 |\$12,650.00 |
| DXC-M7K |14,900.00 |
| DXC-M7H |11,550.00 |

Optional Accessories

CCU-M7 Camera Control Unit

Up to 300 meters operation; 4 scene files; shutter speed selector; full range of control\$3,500.00

RM-M7G Handheld Remote Control

For DXC-M7 or CCU-M7; provides remote setup with or without CCU\$800.00

CA-M7 Full Studio Adaptor for DXC-M7

Provides adjustable safe picture and title areas and center cross; RM-M7G docking facility; enhanced tally and mechanical functions\$1,950.00

DXC-750 3-CCD Color Video Camera

- Two-piece design (camera head/CCU) combines flexibility and high quality into one system • Compact 27 1/8" x 3" x 4 3/8" and lightweight 1.32 lbs. camera head can be installed up to 330' away from the CCU using optional CCZ-A cables • Aluminum diecast body • All functions operated from the rackmountable CCU • 768 HAD sensor CCDs provide low noise stability and resistance to environmental stresses in addition to conventional CCD features • High density CCD image sensors deliver 700 TV lines (luminance) of horizontal resolution • Improved pre-amplifier reduces noise-causing dark current, resulting in an excellent S/N of 60dB • High sensitivity of f/5.6 at 2000 lux (at 3200°K) • Detail level control, linear Matrix and Gamma selection for high precision color reproduction • Variable speed electronic shutter (1/500, 1/1000, 1/2000, 1/4000, or 1/10000 of a second) for motion analysis and scientific observation • Automatic or manual white/black balance with memory • Low light and gain selection status indicators on CCU • Camera head accepts bayonet mount lenses with 6-pin connectors • Genlockable for synchronization to other video systems

Specifications

Pickup Device:	Interline Transfer CCD
Picture Elements:	768H x 493V
Sensing Area:	8.8mm x 6.6mm
Min. Illumination:	20 lux
Gain Selection:	0, +9, +18dB selectable
Detail Control:	Continuously variable
Linear Matrix Circuit:	On/off selectable



DXC-750

Gamma Control:	On/off selectable
Power:	28W
Max. Cable Length:	330'
White Balance:	Auto
Black Balance:	Manual: R, B (gain, pedestal)
Color Temperature:	3200°K/5600°K selectable
Color Bars:	Full field
Genlock Capability:	H phase and SC phase control
CCU Weight:	14.3 lbs.

Supplied Accessories

- TGR-750 title generator • ND filter • Rackmount kit
- | | |
|---------|----------|
| DXC-750 |TBA |
|---------|----------|

Professional Video

DXC-1820/1821 SMF Tricon® Color Video Camera

- Flexible configurations: studio, portable and special purpose/scientific
- Choice of lenses: S-Mount (DXC-1820); choice of C-Mount lenses (DXC-1821); standard lens for DXC-1820KA is VCL-1012SY 12:1 Zoom
- Choice of four optional electronic viewfinders: standard viewfinder is DXF-1820 1.5" high-resolution monochrome finder with warning indicators for VTR/tape problem, low battery, low light, and low video output
- Microcomputer automatic white balance with digital memory even when power is off; 3200°K Preset position for quick start-ups without white balancing
- Excellent low-light sensitivity with switchable gain; shooting down to 4 fc (40 lux) with gain at +18dB
- VTR selector handles four kinds of VTRs without adaptors
- Variable fade-in/fade-out from 0 to 5 seconds
- Negative/Positive switch for shooting photographic negatives
- Color Bar Generator for easy system set-up
- Built-in electret condenser microphone
- Intercom headset jack on camera head
- Diode Gun SMF Tricon® sophisticated single-tube system
- Mixed field (MF) system: electromagnetic focus and electrostatic deflection for precise focusing, superior linearity
- Saticon® pickup for minimum lag excellent low-light sensitivity
- Tricon color separation system for remarkable color purity
- Automatic Beam Optimizer (ABO) handles intense light and highlights without comet tails or blooming

Configurations

DXC-1820KA Portable Kit: DXC-1820 camera head; DXF-1820 1.5" viewfinder; DC-6 battery adaptor, LC-1820 carrying case; VCL-1012SY lens; CCQ-2AR cable \$3650.00

DXC-1820 Portable Kit: Same as above, without lens 3095.00

PAC 1820/Portable Kit: Same as above, with VCL-914SY (14X) lens 3895.00



DXC-1820

Studio 1820A: DXC-1820 camera head; DXF-40 and DXF-1820 viewfinders; DC-6 battery adaptor; LC-1820 carrying case; VCL-1012SY lens; CCQ-2AR cable; CCU-1820 control unit; RMM-1800 rackmount adaptor; CMA-8AC adaptor; VCT-12 tripod adaptor; LO-25 lens kit \$6510.00

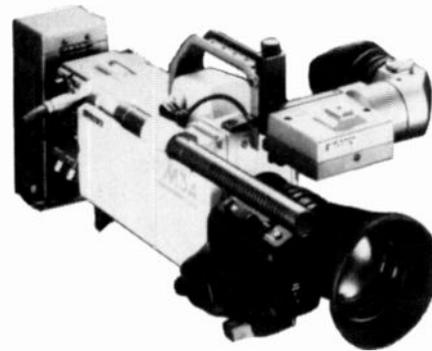
DXC-1821H: DXC-1821 camera head with C-type lens mount; CCQ-2AR cable 2895.00

Studio 1821A: DXC-1821 camera head, DXF-40 viewfinder; VCL-1110YA zoom lens; CCQ-2AR cable; CCU-1820 control unit; RMM-1800 rackmount adaptor; CMA-8AC adaptor; LO-21 lens kit 5850.00

DXC-M3A Mark II

3-Tube MF Saticon™ Color Video Camera

- Diode Gun LOC MF Saticon pickup tubes produce over 750 lines of horizontal resolution with improved depth of modulation • 58.5dB Signal-to-Noise Ratio (luminance) with low noise FET, and LOC targets, 40 lux minimum illumination (f/1.6, +18dB gain up, 100 IRE)
- Mixed Field (MF) system: electromagnetic focus and electrostatic deflection for precise focusing, superior linearity of the beam • Fast f/1.4 prism optics
- Three-position VTR selector handles One-Inch Type C, U-Matic®, and even consumer half-inch VTRs without adaptors
- Choice of lenses with bayonet mount; standard lens for DXC-M3A Mark II is Canon J15X9.5B 15:1 Zoom with macro function
- Choice of three optional electronic viewfinders: standard viewfinder is DXF-M3A 1.5" high resolution monochrome finder which adjusts for left-eye, right-eye and tripod viewing. Diopter adjustment is also provided
- Flexible configurations: studio, portable, medical/scientific, and teleconference
- Split-Field Color Bars conforming to EIA RS-189A for convenient monitor adjustment
- EIA RS-170A Sync Signal Generator for SC-H phase compatibility
- Variable two-line image enhancer with comb filter for crisper images
- Microcomputer Automatic Centering virtually eliminates registration problems; digital memory saves settings even when power is off
- Microcomputer Automatic White and Black Balance with digital memory for stable accurate color and tone rendition
- Character Generator for status displays, warnings, and superimposition of shooting information on the video output
- "Automatic Iris Close" when power is off, during Preheat, during Color Bars, during Black Balance protects tubes from accidental image retention or "Burn"
- Zebra pattern video level indicator in viewfinder for convenient and accurate manual video level adjustment
- Adjustable Master Pedestal with viewfinder indication for operator control of dark contrast and noise
- Auto-iris override level with viewfinder indication for unusual lighting situations



DXC-M3A Mark II Portable Configuration

DXC-M3A Mark II Camera System

DXC-M3A Mark II Camera Head
 DC-8 Battery Adaptor
 LC-M3A Carrying Case
 VCT-M3 Tripod Adaptor
 CCQ-2AR Camera Cable for Portable VTR Interface
 DXF-M3A 1.5" Electronic Viewfinder—detachable
DXC-M3A Mark II Camera System \$8670.00

DXC-M3AH Mark II Camera System

DXC-M3A Mark II Camera Head
 VCT-M3 Tripod Adaptor
 CCQ-2AR Camera Cable for Portable VTR Interface
DXC-M3AH Mark II Camera System \$7935.00

DXC-M3AK Mark II Camera System

DXC-M3A Mark II Camera Head
 DC-8 Battery Adaptor
 LC-M3A Carrying Case
 VCT-M3 Tripod Adaptor
 CCQ-2AR Camera Cable for Portable VTR Interface
 DXF-M3A 1.5" Electronic Viewfinder—detachable
 J15X9.5B 15X Zoom Lens f/1.8, 9.5-143mm
DXC-M3AK Mark II Camera System \$9835.00

Professional Video

DXC-1850HBS Tricon® Color Camera

- 2/3" High Band Saticon Tricon (HBST) pickup tube
- 400 lines horizontal resolution
- 53dB S/N ratio
- Lightweight camera head (less than 1 lb. 9 oz.)
- Full range of automatic controls
- Ideal for surveillance and teleconferencing
- 3-Mode white balance: automatic, manual and halogen lamp
- Red Hue Expander, Red Detail Control for enhancing and delineating red color nuances
- On-screen illumination indicating lines
- Built-in two line type Vertical Image Enhancer
- Automatic Beam-Optimizer (ABO)
- VHS genlock capability
- Automatic and manual gain/iris control
- Chroma level control

DXC-1850\$9350.00



DXC-1850

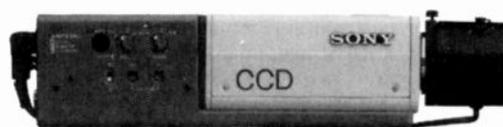
Supplied Accessories

- Camera cable (10m) • 75 ohm coaxial cable with BNC connector (10m) • AC power cord • Camera head bracket • Bracket set for 19" rackmounting • Filter set (ND4, W14 and replacement tool) • Battery (Eveready M542)

DXC-101/102 Series CCD Color Video Cameras

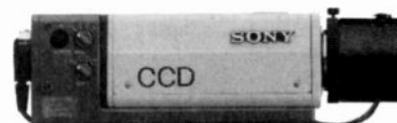
- Charge Coupled Device (CCD) semiconductor image sensor
- No image burning
- Excellent picture reproduction due to zero geometric distortion
- Long life and high quality
- Low lag
- Free from magnetic field interference
- High sensitivity in minimum illumination of 30 lux with f/1.4 lens
- High resistance to vibration and shock
- Shooting start-up requires only 0.5 seconds
- 320 TV lines of horizontal resolution
- Accepts all types of C-mount lenses with auto-close functions
- DXC-102 offers cable extension up to 300m, DXC-101 up to 100m
- > 48dB signal-to-noise ratio
- Power consumption DXC-101: 4.2W and DXC-102: 6.0W
- DXC-102 Genlock capacity
- DXC-101: 2.6" x 2.4" x 6.1"
- DXC-102: 2.6" x 2.4" x 8.0"
- DXC-101: 1 lb., 3 oz. DXC-102: 1 lb., 12 oz.

DXC-101\$1515.00
DXC-1021675.00



DXC-102

DXC-101



Supplied Accessories

- Lens mount cap • Connecting cable CCDC-10

Optional Accessories

VCL-16Y	Auto iris with C-mount f/1.4, 16mm	.....\$395.00
VCL-08Y	Auto iris lens with C-mount f/1.4, 8mm	.....475.00
CMA-10	AC adaptor with remote control capability for DXC-102	.....440.00
CMA-D1	AC adaptor for 2 DXC-101s	.....290.00

SSC-D5 Monochrome CCD Camera

- 2/3" CCD image sensor with interline transfer technology for high-resolution, long life, and high resistance to shock and vibration
- High sensitivity in low light (min. illum. 1.5 lux with f/1.4 lens, without infrared cutoff filter; 3.0 lux with infrared cutoff filter)
- 380 lines horizontal resolution
- 50dB S/N ratio
- 2.5W power consumption
- Multiplexed power/video input through single coaxial cable (with CMA-D5 power adaptor)
- Accepts C-mount standard auto-iris lenses (4-pin connector)
- Adjustable back focus length
- Gamma switchable
- AGC on/off selectable
- Horizontal (H) phase adjustable
- Genlock capability (internal or external sync) (VBS, VS or BS)
- Top and bottom 1/4" — 20 mounting receptacles
- Built-in detachable infrared ray cutoff filter
- 1 15/16" H x 1 15/16" W x 4 11/16" D
- 10.2 oz.

CMA-D5 Power Adaptor

- 120VAC, 60Hz
- BNC connectors
- AC power cord supplied
- 16W
- 2 5/8" H x 6 3/4" W x 5 1/8" D
- 3 lbs.



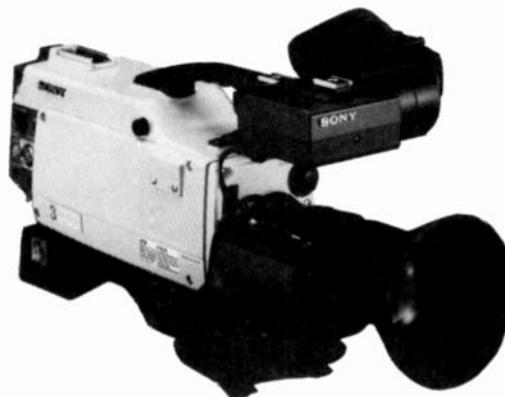
SSC-D5

The CMA-D5 is the AC adaptor designed for the SSC-D5. It features phantom power capability. The SSC-D5 can also be used with the CMA-D1.

SSC-D5	CCD Camera	.....\$969.95
CMA-D5	AC Adaptor	.....219.95
CMA-D1	Camera Adaptor	.....290.00
VCL-08Y	Auto Iris Lens, 8mm	.....475.00
VCL-16Y	Auto Iris Lens, 16mm	.....395.00
CCDC-10	DC Power Cable 32'	.....55.00
CCDC-25	DC Power Cable 82'	.....90.00
CCDC-50	DC Power Cable 165'	.....150.00
CCDC-100	DC Power Cable 333'	.....295.00

DXC-3000A Color CCD Camera

- Improved performance
- Y/C output available through 14-pin CCQ-2BRS cable (supplied)
- Three Interline Transfer CCD Chips: each $\frac{2}{3}$ " chip has over 250,000 picture sensing elements for over 560 lines of horizontal resolution
- 58dB S/N Ratio: thanks to on-chip preamplifier and Correlated Double Sampling (CDS) circuit
- Excellent sensitivity in low light: 25 lux minimum illumination (f/1.7, +18dB gain up)
- Fast f/1.4 prism optics
- Built-in microphone plus XLR connectors for external mike
- Four-position VTR selector handles 1" Typc C, U-Matic, and even consumer $\frac{1}{2}$ " VTRs without adaptors
- Built-in color bar generator for convenient monitor and system adjustment
- Sync signal generator
- Two-line image enhancer with comb filter for crisper images
- Microcomputer controlled automatic white balance with viewfinder status displays and digital memory to store settings up to 12 hours
- Microcomputer controlled automatic black balance with digital memory
- Character generator for status displays, warnings, and superimposing shooting information on the video output
- Automatic iris close when power is off, during preheat, during color bars, during black balance
- Zebra pattern video level indicator in viewfinder for convenient manual video level adjustment
- Adjustable master pedestal with viewfinder indication
- Adjustable auto-iris level with viewfinder indication



DXC-3000A

DXC-3000A 3-chip CCD camera package. Includes: camera head, DXF-3000 1.5" viewfinder, CCQ-2BRS 6' camera cable, LC-3001 carrying case, VCT-12 tripod adaptor**\$6500.00**
DXC-3000AH 3-chip CCD camera head only**6050.00**
DXC-3000KA 3-chip CCD camera package. Includes: camera head, DXF-3000 1.5" viewfinder, CCQ-2BRS 6' camera cable, LC-3001 carrying case, VCL-1012BY 12X zoom lens (Fujinon), VCT-12 tripod adaptor**7710.00**

VO-6800 U-Matic

Portable Videocassette Recorder/Player

- For all ENG and EFP applications
- Video confidence head
- Complete warning system
- Remote control capability
- Real time tape counter
- NiCad batteries can be installed for long-time battery operation
- Tape remaining time can be seen in the camera viewfinder
- Backspace editing capability
- Picture search
- Logic control system
- Helical scanning FM recording system
- Rotary 4-head
- 260 TV lines horizontal resolution
- > 50dB S/N ratio
- Frequency response — 50 to 15,000Hz
- $4\frac{5}{8}$ " H x $10\frac{1}{8}$ " W x $13\frac{3}{8}$ " D
- 12 lbs. 12 oz.

VO-6800**\$4400.00**

Accessories

CMA-8	Camera Adaptor/AC Adaptor	\$535.00
BC-1WA	Battery Charger for NP-1A (for 4 NP-1As)	435.00
AH-6800	Carrying Handle (hard)	90.00
NP-1A	Rechargeable Battery	85.00
RFK-634	RF Modulator	140.00
RM-690	Remote Control Unit	155.00



VO-6800

Professional Video

Fujinon Lenses

A7X7BRM 7:1 Zoom lens, 7-50mm, f/1.7	\$ 6,050.00
A10X10BRM8 10X Servo zoom lens, 10-100mm	1,460.00
A12X9BERM-88 12:1 Zoom lens, 9-108mm, f/1.7 with 2X extender	3,025.00
A16X9.5BRMG 16:1 Zoom lens, 9.5-152mm f/1.8	1,850.00
A14X9BERM 14:1 Zoom lens, 9-126mm, f/1.7 with 2X extender	6,380.00
A18X8.5BERM 18:1 Zoom lens, 8.5-153mm, f/1.7	10,230.00
A3.5X6.5BRM-8 3.5 Wide angle servo zoom lens	4,840.00
VCL-1012BY 12:1 Zoom lens, 10-120mm, f/1.7	1,265.00

Fujinon Lenses for Teleconferencing

A10X10BMD-D8 10:1 Zoom lens 10-100mm f/1.6	\$2,065.00
A16X9.5BMD-D8 16:1 Zoom lens 9.5-152mm f/1.8	2,450.00

Fujinon Close-up Lenses

ECL-8072 Close up lens for A10X10BMD-D8	\$195.00
ECL-8077 Close up lens for A16X9.5BMD-D8	165.00

Tamron Lens

H14X9BI 14:1 Zoom lens, 9-126mm, f/1.6	\$1,350.00
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Canon Lenses

J8X8B 8:1 wide angle zoom lens, 6-48mm, f/1.7	\$ 8,415.00
J8X8BE 8:1 wide angle zoom lens, 6-48mm, f/1.7 with 2X extender	10,780.00
J13X9BE2 13:1 Zoom lens, 9-117mm, f/1.6 with 2X extender	6,325.00
J15X9.5B 15:1 Zoom lens, 9.5-143mm, f/1.8	1,815.00
J18X8.5B 18:1 Zoom lens, 9-162mm, f/1.7 with 2X extender	10,230.00

Other Color Camera Lenses

J6X11R 6:1 Zoom lens, 11-70mm, f/1.4, C-mount, requires CC-8T	\$ 815.00
J6X11REA 6:1 Zoom lens, 11-70mm, f/1.4, C-mount, requires CC-7T	825.00
J10X11R 10:1 Zoom lens, 11-110mm, f/1.6, C-mount requires CC-8T	1,210.00
J10X11REA 10:1 Zoom lens, 11-110mm, f/1.6, C-mount, requires CC-7T	1,515.00
H8AMD3B 6:1 Zoom lens, 12.5-75mm, f/1.2, C-mount, requires CRD-1B	1,010.00
H8SND43B 6:1 Zoom lens, 12.5-75mm, f/1.2, C-mount, with built-in ND, requires CRD-1B	1,070.00
VCL-08D1 Wide angle lens, 8mm, f/1.6, Mini bayonet	520.00
VCL-08S Wide angle lens 8mm f/1.4, C-mount	385.00
VCL-08Y Wide angle lens, 8mm, f/1.4, C-mount	475.00
VCL-16Y Fixed angle lens, 16mm, f/1.4, C-mount	395.00
VCL-9145Y 14:1 Zoom lens, 9-126mm, f/1.6, (S lens mount)	1,595.00
VCL-1206A 6:1 Zoom lens 12.5-75mm f/1.8, C-mount	420.00

Remote Controls for Fujinon Lenses

FMM-6A Focus module for A12X9BERM-88, A14X9BERM, A16X9.5BRMG, and A18X8.5BERM when used with RM-55A	\$ 190.00
FMM-7 Focus module for A7X7BRM lens when used with RM-55A	190.00
LO-1011 Studio remote control kit for Fujinon Lenses:	
A12X9BERM-88, A16X9.5BRM, A14X9BERM, A18X8.5BERM, VCL-1012BY (A12X10BRM)	1,205.00
LO-25 Studio remote control for VCL-1012SY lens for zoom and focus	1,245.00
RMD-2 Remote control box for A10X10BMD-D8, A16X9.5BMD-D8. Controls zoom, focus, and iris	910.00
RM-55A EFP/Studio rear control kit. Includes: CFH-1 focus handle, SRD-52 zoom grip handle, CFC-990 drive cable, ECC-1000 extension cable, MCA-1 (2 sets) handle clamps. Kit requires optional focus module (FMM-7 or FMM-6A)	1,325.00

Extension Cables for Fujinon Lenses

ECM-025F Extension cable between A10X10BMD-D8, A16X9.5BMD-D8 and RMD-2/25'	\$ 385.00
ECM-050F Extension cable between A10X10BMD-D8, A16X9.5BMD-D8 and RMD-2/50'	470.00
ECM-100F Extension cable between A10X10BMD-D8, A16X9.5BMD-M8 and RMD-2/100'	795.00

Remote Controls for Canon Lenses

LO-1309 Studio remote control kit for J15X9.5B, J13X9BE2 and J18X8.5B	\$1,170.00
LO-21 Flexible cable drive for tripod control of zoom and focus of VCL-110YA lens	680.00

Remote Controls for Tamron Lenses

LO-24F Lens conversion kit (for focus) for VCL-1010SY or VCL-914SY	\$ 530.00
LO-24Z Lens conversion kit (for zoom) for VCL-1010SY or VCL-914SY	770.00

Remote Controls for Other Color Camera Lenses

CC-7T Remote control unit	\$ 485.00
CC-8T Remote control unit	350.00
CRD-1B Remote control unit	540.00

Viewfinders

DXF-1820 1.5" viewfinder for the DXC-1820/1821H	\$ 675.00
DXF-3000 1.5" viewfinder with diopter adjustment for DXC-3000	560.00
DXF-M2 1.5" viewfinder for DXC-M2	450.00
DXF-M3A 1.5" viewfinder for DXC-M3A, Mark II	880.00
DXF-40 4" viewfinder, can be used as a rackmountable monitor with RMM-1800	645.00
DXF-50 5" high resolution viewfinder	1,070.00

Canon Lenses for Teleconferencing

J12X10KTS 12X, 10-120mm, f/1.7 remote control servo zoom lens. Requires TCR-10 or TCR-20 or equivalent for operation.	\$1,700.00
J15X9.5BKTS 15X, 9.5-143mm, f/1.8 remote control servo zoom lens. Requires TCR-10 or TCR-20 or equivalent for operation.	1,980.00

Camera Control Units and Related Accessories

CCU-M3 Camera control unit for DXC-3000/M3/M3A Mark II, requires CMA-8 AC adaptor	\$1,605.00
CCU-1820 Camera control unit for DXC-1820/1821H. Requires: CMA-8 AC adaptor	1,220.00
CA-M3 CCU cable extension adaptor for 1000' control for DXC-3000/M3/M3A Mark II requires CMA-9 AC adaptor and CCZ-M10/M100 cable	2,355.00

Camera Accessories

BC-20 Dual battery charger for BP-20/A and BP-60	\$ 210.00
BC-1WA Battery charger for four NP-1A	435.00
BC-65AN Battery charger for BP-65AN	90.00
BC-1000 Battery charger for six BP-20A and BP-60	615.00
BP-60 Battery for DXC-1820, DXC-1821H and CCU-1800/M3	95.00
DC-8G Battery adaptor for Two NP-1A	430.00
CAC-2 Battery attachment for DXC-M3A for DC-8G	60.00
CAC-21 Battery attachment for DXC-3000 for DC-8G	70.00
DC-65AN Battery attachment for BP-65AN, used with DXC-1820	185.00
DC-309AN Battery attachment for BP-65AN used with DXC-M3A	85.00
BP-65AN 4AH NiCad battery for DXC-M3A series, DXC-3000 series and DXC-1820 series	495.00
NP-1A NiCad battery, 1.7AH	85.00
CMA-8 AC adaptor for VO-6800, DXC-1820, DXC-1821H, DXC-3000, DXC-M3A Mark II	635.00
CMA-9 AC adaptor for CA-M3	1,070.00
CMA-10 AC adaptor with remote control capability for DXC-102	440.00
CMA-D1 AC adaptor for DXC-102	290.00
CMA-D5 AC adaptor for SSC-D5 phantom power (single wire video/DC) with 75 ohm coax	235.00
C-74 Shotgun type microphone	920.00
CAC-1 Microphone holder for DXC-M3A Mark II	60.00
CAC-11A Microphone holder for DXC-3000	110.00
ECM-672 Shotgun type microphone	510.00
DR-10A Headset for intercommunication	95.00
DR-100 Lightweight headset for intercommunication	130.00
CAC-3 Chest rest for DXC-M3A	120.00
LC-2003 Carrying case for RMM-1800, CCU-1820, CMA-8, DXF-40	335.00
LC-3001 Carrying case for DXC-3000	195.00
LC-M3A Carrying case for DXC-M3A	535.00
EB-3000 Extension board for DXC-3000	140.00
EB-M3 Extension board for DXC/M3/M3A Mark II	140.00
MVA-12 Microscope attachment with C mount	705.00
MVA-31 Microscope adaptor with bayonet mount	995.00
MVA-32 Microscope adaptor with variable light control with bayonet mount	TBA
MVA-102 Endoscope (Olympus) adaptor with C mount	3,530.00
MVA-102R Endoscope (Storz) adaptor with C mount	3,745.00
MVA-302 Endoscope adaptor for Olympus with bayonet mount	3,745.00
RMM-1800 19" metal rackmount for CCU-1820, CCU-M3, CMA-8, DXF-40	160.00
VCT-12 Tripod adaptor for DXC-3000 series and DXC-1820	120.00
VCT-20A Tripod	140.00
VCT-M3 Tripod adaptor for DXC/M3A Mark II	170.00

Cables

CCDC-10 DC power cable for DXC-101, 32'	\$ 55.00
CCDC-25 DC power cable for DXC-101, 82'	90.00
CCDC-50 DC power cable for DXC-101, 165'	150.00
CCDC-100 DC power cable for DXC-101, 333'	295.00
CCDD-2.5 Tally cable 2.5m, 4-pin	15.00
CCDQ-06 14-pin to 4-pin cable, 2'. DC power cord for CCU-M3 or CCU-1820 from CMA-8	30.00
CCF-6 6-pin extension cable 16" for WEX-SEG	30.00
CCF-10 6-pin extension cable 32" for WEX-SEG	40.00
CCJ-1 10-pin extension cable 5'	65.00
CCJ-5 10-pin extension cable 16'	90.00
CCJ-10 10-pin extension cable 32'	120.00
CCJ-25 10-pin extension cable 82'	195.00
CCJ-50 10-pin extension cable 165'	325.00
CCQ-2AR 14-pin camera cable for VO-6800, DXC-1820, DXC-1821H or DXC/CMA-8, 6'	110.00
CCQ-2ARS 14-pin camera cable for DXC-3000 series to CMA-8 or VO-6800, 6'	110.00
CCQ-5AR 14-pin camera cable for VO-6800, DXC-1820, DXC-1821H or DXC/CMA-8, 16'	140.00
CCQ-10AR 14-pin camera cable for VO-6800, DXC-1820, DXC-1821H or DXC/CMA-8, or DXC-1820, DXC-1821H/CCU-1820, 33'	200.00
CCQ-25AR 14-pin camera cable for DXC/CMA-8 or DXC-1820, DXC-1821H/CCU-1820, 82'	375.00
CCQ-50AR 14-pin camera cable for DXC-1820, DXC-1821H/CCU-1820, 165'	695.00
CCQ-10AM 14-pin CCU cable, 33'	195.00
CCQ-25AM 14-pin CCU cable, 82'	375.00
CCQ-50AM 14-pin CCU cable, 165'	695.00
CCQ-100AM 14-pin CCU cable, 333'	1,390.00
CCJQ-0.5 10-pin to 14-pin cable, 1.6'	75.00
CCJQ-2 14-pin to 10-pin 6'	65.00
CCQK-2 Cameras to SL-2000 camera cable	90.00
CCQQ-1 CCQ-2AR cable extension connector	55.00
CCZ-M10 26-pin CCU cable, 33' for CA-M3	535.00
CCZ-M100 26-pin CCU cable, 333' for CA-M3	2,460.00
CCZZ-1B Bulk head connector for wall mount for CCZ-M10 and CCZ-M100	85.00
CCZZ-1E Extension connector for CCZ-M10 and CCZ-M100	85.00
EC-0.6C2 Microphone cable, 1.6'	45.00
TG-31P/N Interface adaptor for DXC cameras and EVO-210	235.00

Professional Video

VP-5020 U-Matic Videocassette Player

- Programmed operation • Simple remote control • Picture search
- Noiseless still picture • Long pause • Digital tape time counter
- Timer operation • Auto rewind mode • RF modulator • Horizontal resolution: Color 240 lines • 50-15,000Hz frequency response • 8 x 5 forward and reverse search • 7.6" H x 16.7" W x 19.30" D • 16kg

VP-5020\$1675.00



VP-5020

VP-7000 U-Matic Videocassette Player

- Address and frame codes for accurate random access and external computer control • User friendly • System versatility • External sync
- RS-232C interface capability • 33-pin parallel remote control interface • Real time counter • Timer operation • Programmed operation
- RF modulator • 4-unit height/rackmountable • Still picture
- Self-diagnostic functions • 7.6" H x 16.7" W x 19.3" D • 35.3 lbs.

VP-7000\$2335.00

VO-5600 U-Matic Videocassette Recorder/Player

- Front loading tape transport • Direct drive drum and capstan • Digital servo LSI with "Phi Square Servo" • x5 Forward and reverse search
- Noiseless still—Fine still picture • 19" rackmountable • High picture quality • Tilt-out control panel • Switching regulator power supply provides wide range of voltage and frequency • Exclusive connector for RX-303 and RX-353 • Random access/interactive capability • Micro-computer based logic control • External sync lock capability • 9³/₈" H x 17⁵/₈" W x 20³/₈" D • 50 lbs., 9 oz.

VO-5600\$3160.00



VO-5600

VO-5630 U-Matic Videocassette Recorder/Player

- High efficiency power supply permits operation on 110 to 120V, 50/60Hz • Front-loading tape transport • Tilt-out control panel • Direct drive drum and capstan, and digital servo IC • High speed search at 5 times normal speed in forward/reverse • Still frame capability • Long pause with automatic tape protection • Built-in "programmed operation" function allows automatic tape segment repeat • Optional RF modulator allows playback on ordinary TV receiver • Optional timer allows unattended automatic playback stop and start • Random access/interactive capability • Exclusive data in/out connector for RX-303CE/RX-353CE automatic search controls • External sync input capability • PAL/SECAM color recording/playback • NTSC color playback • Dub-in/dub-out connectors • Audio dubbing capability • Audio limiter function • 9³/₈" H x 17⁵/₈" W x 20³/₈" D • 51 lbs., 7 oz.

VO-5630\$4120.00



VO-5630

VP-5040 U-Matic Videocassette Player

- Player version only of VO-5630 • PAL/SECAM color recording/playback • NTSC color playback

VP-5040\$2540.00

VO-5800H High Resolution

B/W Videocassette Recorder/Player

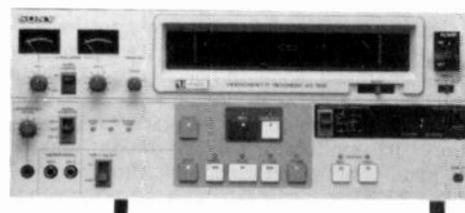
- Same features as VO-5800 plus horizontal resolution monochrome more than 408 lines • U-scan high speed picture search (with RM-580 and KCS tape) • Exclusive connector for RX-353 or RX-303 • 2 audio tracks • Remote control of record start and stop for continuous time lapse recording • Automatic video gain control • 9³/₈" H x 17⁵/₈" W x 20¹/₂" D • 53 lbs.

VO-5800H\$7975.00

VO-7600 U-Matic Videocassette Recorder

- Frame code and RS-232C interface capability • 33-pin parallel remote control interface • External sync • Timer operation • Optional wired/wireless remote control (RM-T10) • Picture search • Still picture • Long pause with tape protection • Programmed operation
- Four unit high rackmountable • Digital hour meter • Self diagnostics
- RF modulator • Audio dubbing on CH-1 • 7.6" H x 16.7" W x 19.4" D • 37.5 lbs.

VO-7600\$3100.00



VO-7600

VO-7630 U-Matic Videocassette Recorder

- Same features as the VO-7600 plus • Dub in and out connectors for high quality picture duplication • PAL and SECAM recording • PAL, SECAM and NTSC playback in low band mode

VO-7630\$4000.00

Professional Video

VO-5800 U-Matic Videocassette Recorder/Player

- Front loading tape transport • Aluminum diecast chassis • Direct drive of both drum and capstan • Digital servo LSI with "Phi Square Servo" • DC motor reel servo • Backspace edit capability • Vertical interval switch between 2 video inputs • Bidirex dial search, x1/30 to x5 • U-scan, high speed picture search (with RM-440 and KCS tape) • LED tape counter with mark-in function • Switching regulator power supply provides wide range of voltage and frequency and low power consumption—75W • Noiseless still • 19" rackmountable • Tilt-out control panel • High picture quality • Exclusive connector for RX-353 • Random access/interactive capability • Video Recording: Rotary 2-head helical scan system • External sync lock capability • Color Signal: Converted subcarrier direct recording • Video Signal System: EIA computer based logic control • Horizontal Resolution: Monochrome 340 lines; Color 240 lines • 9³/₈" H x 17⁵/₈" W x 20¹/₂" D • 53 lbs.

VO-5800\$5500.00



VO-5800

VO-5850 U-Matic Editing Videocassette Recorder/Player

- Front loading tape transport • Aluminum diecast chassis • Drum and capstan direct drive • Digital servo LSI with "Phi Square Servo" • DC motor reel servo • Sophisticated editing with full RM-440 interface • Bidirex dial search 1/30 x5, 15 different speeds • High speed picture search (with RM-440 and KCS tape) • LED tape timer with mark-in function • Built-in preroll editing capability • Noiseless still • Accurate editing 2 frames with one preview • Power supply with switching regulator, wide range of voltage, frequency and low power consumption—75W • 19" rackmountable • Loophrough video input with 75 ohm termination switch • 2 video output connectors—BNC • Tilt-out control panel • Rotary erase heads • Vertical interval switching and framing servo • Dub-in/dub-out connector • End-of-tape automatic rewind • Auto/manual video recording level control • Audio limiter function • Random access/interactive capability • 9³/₈" H x 17⁵/₈" W x 20¹/₂" D • 55 lbs.

VO-5850\$8350.00



VO-5850

VP-9000 U-Matic Videocassette Player

- SP (superior performance) U-matic technology • Automatic SP mode detection system • Type C Dolby noise reduction with auto detection • Sendust Head for improved signal-to-noise ratio • XLR balanced audio connectors • System versatility • TBC connection facilities • RS-232C interface capability • 33-pin parallel remote control interface • Real time counter • Timer operation • Programmed operation • RF modulator • 4-unit height/rackmountable • Still picture • Quick start • Self-diagnostic functions • 7.6"H x 16.7"W x 19.3"D • 37.5 lbs.

VP-9000\$2950.00



VP-9000

VO-9600 U-Matic Videocassette Recorder

- SP (superior performance) U-matic technology • Type C Dolby noise reduction with auto detection • XLR connectors for balanced audio input/output • Audio dubbing on channel 1 • System versatility • Sendust Head for improved signal-to-noise ratio • TBC connection facilities • Rotary 2-head helical scan system • RS-232C interface capability • 33-pin parallel remote control interface • Real time counter • Timer operation • RF modulator • 4-unit height/rackmountable • Still picture • Quick start • Self-diagnostic functions • 7.6"H x 16.7"W x 19.3"D • 37.5 lbs.

VO-9600\$4700.00



VO-9600

SONY

VTR CONTROLLERS/ ACCESSORIES

Professional Video

RM-440 Editing Control Unit

- Interfaces with both U-matic® Editing Recorder/Players and Betamax™ Editing Recorder/Players, allowing U-matic to U-matic, Beta to Beta or Beta to U-matic editing • Edit point memory system memorizes the edit-in points for a player and a recorder and 1 edit-out point for either machine • Insert and assemble editing capabilities • Review and preview functions • Return/jump function: in preview mode, tapes return to edit-in point; in review, tape fast forwards to a point 5 seconds before the cutout point, then returns to normal speed to review edit-out section • Butt edit and trim edit • Cue-Out connector provides cue signal for camera recording and computer generated graphic insertion • Automatic safety pause release • 4 lbs. 14 oz. • 3 1/8" H x 15 3/8" W x 8 3/4" D

RM-440 \$2205.00

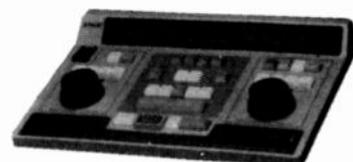
RM-450 Editing Control Unit

- Interfaces between Betamax, U-Matic, U-Matic-SP, Betacam™ and 1" VTR formats (specific models, see specifications) • 33-pin and 9-pin connectors for various VTRs • Can reference off of control track (CTL), time code or relative time code (RTC) • Variable pre-roll lengths • Shuttle/jog modes • Dynamic Tracking functions (noiseless slow-motion, freeze) when VTRs with Dynamic Tracking capability • Error indicators with audible warning • Assemble or Insert editing • Split Editing (insert mode only) • Butt editing • Quick editing • Trim functions • Preview/review functions • Tape protection function prevents tape damage • Cue out connector for tally signal • 3-position synchronization selector for absolute precise editing • VTR time delay pinch learning capability (memory) • Easy data pre-setting (pre-roll, edit timing, etc.) through two DIP switches

RM-450 \$2300.00



RX-353



RM-450

RX-353 Programmable Auto Search Control

- Handheld remote keyboard • Memorizes locations of up to 63 programs and commands automatic playback of any 8 segments in any sequence • Compatible with most Betamax and U-matic units • Automatic repeat plus skip and return • Segment data recording capability for automatic playback retrieval • Timer-activated programmable operating capability with Betamax and U-matic units • 1 lb. 5 oz. • 1 1/2" H x 3 5/8" W x 7 1/8" D

RX-353 \$590.00

RX-303 Programmable Auto Search Control

- Handheld remote keyboard • Memorizes locations of up to 63 programs and commands automatic playback of any 8 segments in any sequence • Compatible with most Betamax and U-matic units • Automatic repeat plus skip and return • 1 lb. 2 oz. • 1 1/2" H x 3 5/8" W x 7 1/8" D

RX-303 \$495.00

Type 5 Accessories

RM-500 Remote Control Unit

- Functions: Stop, FF, Play, Rew, Pause, Rec, Dub, X5 Search Forward, X5 Search Reverse • DC operation (power supplied from VTR) • Cable length: 10' can be extended to 60'

RM-500 \$275.00

RM-555 Multi-Unit Remote Controller

- Simultaneous control with RM-500 or RM-580: Up to 5 VTRs controlled simultaneously; Up to 4 RM-555s can be connected in series for control of up to 20 VTRs • Sequential record/playback with DA-500 or VCS-500: Up to 5 VTRs can be controlled to record or play back in one sequence or in continuous sequences; Timer operation capability enables unattended operation • Individual control with VCS-500 and RM-V5: Any 1 of up to 5 VTRs can be selected with the RM-V5 for control by an RM-500, RM-580 or RM-440. VCS-500 will select appropriate video and audio outputs. RM-300 or RX-303/RX-353 can be used for random access multi-VTR operation

RM-555 \$2413.00

RM-580 Remote Control Unit

- Bidirex search dial • Stop, FF, Play, Rew, Pause, Search (Bidirex Dial), Rec, Edit, Pre-Roll • LED tape timer, includes frame counts • DC operation (power supplied from VTR) • Pre-roll start jack for remote start • Cable length 10' can be extended to 60'

RM-580 \$880.00

RM-690 Remote Control Unit

- For VO-6800, VP-5020/VP-5040, BVU-150 • Handheld • Search function • Easy operation with flexible wire • FF, REW, REC, Play, Pause, Stop and Search

RM-690 \$155.00

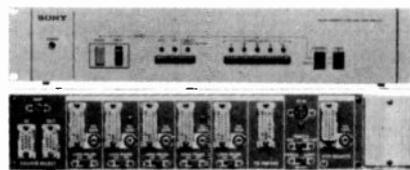
RM-V5 VTR Selector

- Up to 5 VTRs can be selected • 1 out of 5 selection with VCS-500 • Selection can be expanded to 1 out of 1-4 or 1 out of 5-9 using VCS-500 group selector switch • Remote cable length 10' with 20 pin connector can be extended up to 160'

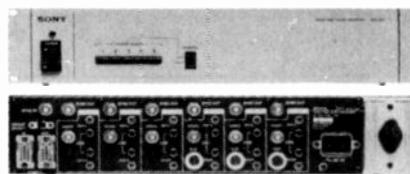
RM-V5 \$305.00



RM-580



RM-555



VCS-500

DA-500 Video and Audio Distribution Amplifier

- 1 video input (BNC), 2 channel audio input RCA and 1 dub input (7 pin) • 5 outputs of each input • Individual direct outputs of each input permit branching to additional distributors • Single input can be expanded to a maximum of 20 outputs with up to 4 DA-500s • Power requirements: 120VAC ± 10%, 20W

DA-500 \$955.00

VCS-500 Video and Audio Switcher

- 5 video inputs (BNC), 2 channel audio (RCA) and 2 dub-in inputs (7 pin) • 1 video output (BNC), 2 channel audio output (RCA) and dub-out (7 pin) • 1 sync input (BNC) and 5 sync outputs (BNC) for external sync-lock operation • Vertical interval switching • Interface with RM-V5 or RM-555 • Dual VCS-500s can be used for control of up to 9 inputs • Power consumption: 20W

VCS-500 \$1635.00

Professional Video



FCG-700

FCG-700 Frame Code Generator

6 Digit Frame Code

The FCG-700 Frame Code Generator generates a 6 digit numeral for each frame which is inserted into the seventeenth and eighteenth lines of the vertical blanking intervals of the video signals to be recorded onto videocassettes. Since the FCG-700 generates frame codes sequentially from 000000 to 299999, it is capable of generating frame numbers for 2 hours and 46 minutes for NTSC and 3 hours and 20 minutes for PAL. The starting point can be set anywhere between 000000 to 299999, and after 299999, it goes back to 000000 automatically and continues sequential generation.

Start Trigger Setting

To assure precise and proper start-up of Frame code generation, the FCG-700 is capable of selecting three start triggers by setting the start trigger switch on the front panel.

External Pulse

The FCG-700 can accept an external pulse trigger through the External Pulse In connector on the rear panel.

Cue Tone

As soon as the FCG-700 detects a 1kHz cue tone, it starts generating the Frame Code.

Manual Mode

Generating starts by simply pressing the start button on the front panel.

In the External Pulse and Cue Tone modes, a preroll time can be set between 0 and 9999 frames so that the user can set the beginning of the Frame Code exactly at the desired position. The default set time is 150 frames for NTSC and 125 frames for PAL.

Character Display

The Frame Code and the status of the Frame Code Generator can be superimposed on the picture output from the VIDEO OUT-2 connector while recording. By setting the superimpose switch, the Frame Code and the status, only the Frame code, or no indications can be superimposed on the screen.

Specifications

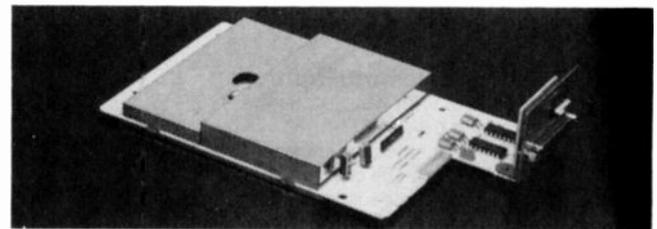
Power Requirements:	120VAC, 50/60Hz (NTSC) 220VAC ~ 240VAC, 50/60Hz (PAL)
Power Consumption:	10W (120V) 12W (220 ~ 240V)
Dimensions:	Approx. 1.9" H x 16.7" W x 10.1" D (49 x 424 x 256mm)
Weight:	Approx. 7.3 lbs (3.3kg)
Video In:	BNC, 1.0Vp-p (75 ohms on/off selectable)
Video Out 1:	BNC, 1.0Vp-p (at 75 ohm load)
Video Out 2:	BNC, 1.0Vp-p (at 75 ohm load)
Audio In:	XLR, + 4dBs phono, -5dBs
Audio Out:	XLR, + 4dBs phono, -5dBs
External Pulse In:	BNC, TTL level
Supplied Accessories:	Rackmount brackets, Operation manual, AC cord
FCG-700	\$2840.00

BKU-701 Computer Interface Board

The BKU-701 reads the Frame Codes that have been recorded on the videocassette's tape when it is installed in a VTR. The BKU-701 provides an RS-232C interface and allows the VTRs to be controlled from an external computer or the RX-707. VIDEO/AUDIO signals can be output or muted by setting the dip switches on the BKU-701 on or off. These switches also allow the baud rate of the BKU-701 to be selected from 1200, 2400, 4800, or 9600 bits per second (bps).

Specifications

Signal:	RS-232C
Connector:	D-sub, 25-pin
Dimensions:	Approx. 2" H x 4.9" W x 8.8" D (52 x 125 x 223mm)
Weight:	Approx. 0.6 lb. (260g)
Usable VTRs:	VO-9600, VP-9000, VP-7000
Supplied Accessory:	Operation manual
BKU-701	\$410.00



BKU-701

RX-707 Auto Search Control Unit

The RX-707 Auto Search Control Unit enables simple search and program operation.

Simple Search

By setting a Frame Code number with the ten-key on the control unit, the desired picture can be retrieved easily. The simplified search procedure saves time and is more efficient.

Program Operation

The RX-707 can memorize up to 15 program (PGM) segments. The playback of each segment can be set at one to nine times, or can be set to repeat continuously.

Sequential playback of all of the program segments can also be set at one to nine times or for continuous repeat.

Specifications

Dimensions:	Approx. 0.7" H x 2.4" W x 8.5" D (18 x 62 x 215mm)
Weight:	Approx. 0.9 lb. (400g)
Cable Length:	5m
Supplied Accessory:	Operation manual
RX-707	\$475.00



RX-707

SLO-420TR Betamax® Videocassette Recorder/Player

- Front-loading and front-panel control • Beta II and III recording capability plus Beta I, II and III playback • SwingSearch™ continuous search in forward/reverse at normal speed, 2 times normal speed, 1/5" and 1/10" normal speed, plus slow-motion, frame-by-frame advance and still frame • BetaScan II™ search in forward/reverse at 9 times (Beta II) and 15 times (Beta III) normal speed • Linear time counter shows exact tape position in hours, minutes, seconds • Double azimuth head eliminates frame jitter and delivers noise-free slow motion • Micro Timing Phase Circuitry maintains precise transitions at record/pause and on/off • Tab Marker™ electronic indexing system • Two channel audio • External sync lock capability • 20 lbs. 12 oz. • 3 1/8" H x 17" W x 13 3/8" D

SLO-420TR\$1890.00

SLO-340 Betamax Portable Videocassette Recorder/Player

- Records in either color or black-and-white video signals (NTSC color system, EIA monochrome signal) • AC power with supplied AC-340 AC adaptor • Battery power with optional BP-60 rechargeable battery pack or battery power with optional DCC-3000 car battery adaptor • Beta I recording and playback for compatibility with professional Beta cassettes • Up to 90 minutes of recording on one optional BP-60 rechargeable battery pack • Control interlock mechanism • Automatic recording level control • Audio dubbing • Recording pause function • Still frame function when you use pause in playback stops the action to let you examine any scene • Plays back on any TV set via supplied RF modulator; can be switched for U.S. TV CH3 or CH4 • Plays back on a video monitor via supplied VMC-1M cable; connects the deck's 10-pin camera jack to a monitor's 8-pin VTR jack • Dew sensor • Automatic dew evaporator • Battery meter • 19 lbs., 13 oz. • 5" H x 11 7/8" W x 13 3/4" D

SLO-340\$1875.00

SuperBeta™ System

The SuperBeta system is designed around a recording technique that shifts the video carrier signal frequency higher by 800kHz, creating a wider luminance bandwidth. The resulting picture is sharper and has finer detail and texture than conventional Betamax VCRs. This system with higher horizontal resolution and superior dubbing picture quality is ideal for program origination as well as multi-generation editing.

The SuperBeta system includes the one-piece GCS-1 SuperBeta movie® color camera/recorder unit, the GCS-50 Betamax editing videocassette recorder and the SLO-1800 duplicator.

GCS-1 SuperBetamovie Camera/Recorder

- Advanced CCD image sensor • Monochrome electronic viewfinder • Sensitivity selector provides 0dB, AGC and 6dB switching • Data display system • Time or date can be recorded directly on tape • Capability to record index signals directly on video tape • 300 TV lines horizontal resolution • X6 power zoom lens with macro, 12mm to 72mm, f/1.4 • Rotary two-head helical scanning system • Built-in electret condenser microphone • 5 lbs., 11 oz. • 5.9" H x 15.2" W x 7.3" D

GCS-1\$2135.00

GCS-50 Betamax Editing Videocassette Recorder

- Less deterioration in dubbing mode • High band recording technology • DA Pro 4 heads • Rotary erase heads • Built-in insert editing function • Jog/shuttle dial • Index capability • Full automatic editing function with RM-E50 • Automatic rewind • 19" rackmountable • 270 TV lines horizontal resolution • 20Hz to 20kHz frequency response • 26 lbs., 7 oz. • 4 3/4" H x 17" W x 17 3/4" D

GCS-50\$2920.00

SLO-1800 SuperBeta Duplicator with Beta Hi-Fi®

- Direct drive mechanism • Electric tension servo • Check terminal • Hours meter • Separate input for hi-fi and conventional audio • Simultaneous control of up to 150 SLO-1800's with RM-S18 • 33-pin parallel remote control • Detachable control knobs • Index function • 19" EIA rackmountable • Recording in B-II and PB in B-I, II, III

SLO-1800\$2000.00



SLO-420TR



SLO-340



GCS-1



GCS-50

Accessories for GCS-1

RM-81	BetaMovie Remote Commander®	\$ 10.00
SAD-100	External microphone shoe	.25.00
TPD-8	Tripod dolly	.85.00
VCT-40	Lightweight tripod	.110.00
VCT-150K	Heavy-duty tripod	.199.95
VCL-0758A	Wide conversion lens	.174.00
VCL-0758WA	Wide attachment lens	.55.00
VCL-1558A	Teleconversion lens	.130.00
VCT-130CB	Video camera brace	.40.00
XB-200W	Video light bulb	.18.00

Accessories for GCS-50

AC-M110	AC power adaptor	\$ 130.00
BC-300V	Multi battery charger	.112.00
BP-400	Battery belt	.280.00
DCC-2600	Car battery cord	.40.00
ECM-K120	Unidirectional external microphone	.80.00
HVL-200W	Video light (200W, AC power)	.109.95
HVR-200	Pan tilter	.290.00
LC-770	Carrying case	.140.00
NP-11	Rechargeable battery pack	.59.00
RM-E50	Automatic editing control unit for GCS-50. Up to 64 programmable memory, two job/shuttle dials, insert/assemble edit, preview/trim/go-to functions	.1425.00
RMM-50	Mounting bracket for GCS-50	.245.00

VTR Cables

UGC-5	BNC-UHF coaxial cable. 16'	\$18.00
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Professional Video

EVP-320 8mm Videocassette Player

- 230 lines resolution • Auto repeat function • Preset program playback • Auto play • High durability • AC/DC operation • Picture search and clean still/reverse • Wireless/wired remote control • Function lock capability

EVP-320\$680.00

EVO-520 8mm Videocassette Recorder/Player

- 230 lines resolution • Auto repeat function • Preset program playback • Auto play • High durability • AC/DC operation • Picture search and clean still/reverse • Wireless/wired remote control • External sync capability • Function lock capability • Cue-in connector • Microphone input

EVO-520\$1090.00

EVO-720 8mm Video Memo Writer

- 250 TVL resolution • Built-in editing facility • Superior dubbing quality • High fidelity audio • Audio after recording • High speed picture search • One monitor editing capability • Still picture memory • Title recording • Data screen

EVO-720\$4950.00

EVO-410 Video 8™ Recorder/Player

- Tuner timer • 148 channel cable ready, 7 day/3 event programmable timer • Wireless remote function • Auto play and rewind • One key recording • Clean still, frame by frame search, noiseless slow motion

EVO-410\$620.00

EVO-210 Video 8™ Portable Recorder/Player

- 3-way power operation up to 150 minutes • Playback on a single NP-22 battery • Automatic track following • Edit switch for better dubbing • Built-in insert editing with flying erase head • Recording in SP mode and playback in SP/LP mode

EVO-210\$600.00

EV-P10 8mm Video Player

- Used to playback recordings made in the field remote from normal power availability • Can be used to feed an edit machine or to dub 8mm cassettes to other VTR formats

EV-P10\$525.00

EVO-1000U Video 8 Duplicator

- Simultaneous control of up to 150 EVO-1000U units by using optional RM-S18 • PCM stereo audio with optional PCM-EV1000U processor • RF signals (CH1, CH2) • Switching pulse outputs for check • Hour meter • Record and playback in SP mode only

EVO-1000U\$1200.00

PCM-EV1000U Video 8 PCM Stereo Processor

- PCM digital audio recording on PCM track • Separate REC level controls for mono AFM/PCM CH1/PCM-CH2 • Peak level meter • 2-line in/outs • Power on/off from EVO-1000U • Headphone jack

PCM-EV1000U\$360.00

EVO-511 Video 8 Recorder/Player

- Simultaneous control of up to 150 EVO-511 units for duplication by using optional RM-S18 • High picture quality in SP mode • Auto repeat and rewind • Tape return • Front loading

EVO-511\$820.00



EVO-1000U



EVO-120

CCD-V110 Pro 8™ Auto Focus Color Camera/Recorder

- 6X power zoom lens auto focus • Linear auto white balance • Built-in character generator • Fade in/fade out • 7 color wipe • 8-frame recording • Interval recording • Flying erase head • Edit switch, and control "L"

CCD-V110\$1995.00

CCD-V3B 8mm Portable Video Camera/Recorder

- Built-in full function playback deck • Auto focus with 12-30mm macro zoom lens • Electronic viewfinder • Solid-state, RGB process 2/3" CCD image sensor • Linear auto white balance • AFM recording • Flying erase head • Edit switch for dubbing

CCD-V3B\$1500.00

EVO-120 8mm Video Camera Recorder/Player

- High picture quality because of the adoption of the 380,000 pixel CCD • Variable electronic shutter speeds of 1/2000, 1/1000, 1/500, 1/100, or 1/60 of a second • Standard microphone on the front of the camcorder • Built-in narration microphone is equipped on the rear • Supplied adjustable angle electronic viewfinder adaptor can be turned 90°, allows choice of two viewing positions • Supplied camera lens cap can be used as a wedge to adjust the shooting angle of the camera • Automatic or manual focus selectable • Six times zoom lens which provides 12mm to 72mm with macro function capability • Automatic or manual iris control selectable • Automatic or manual white balance selectable • Date, time or tape counter and battery, moisture and videocassette mode can be displayed on the LCD window

EVO-120\$1800.00

EVM-1310R 13" Color Monitor/8mm VCR Combination

- 13" black face Trinitron • 230 TVL resolution • Audio/video/RF/headphone outputs • Audio/video inputs • 8mm format front loading VCR • IR remote control • Stable picture in pause • LED VCR status display • On screen monitor display • System logic function • Auto repeat • Record and playback in LP or SP mode

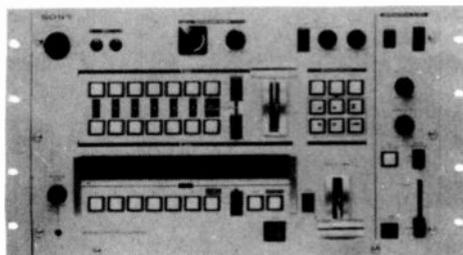
EVM-1310R\$1370.00

EVM-8010R 8" Color Monitor/8mm VCR Combination

- 8" black face Trinitron • 230 TVL resolution • DC audio/video/headphone outputs • Audio/video inputs • 8mm format front loading VCR • Optional infrared remote control • Record SP mode • Playback SP or LP mode

EVM-8010R\$1250.00

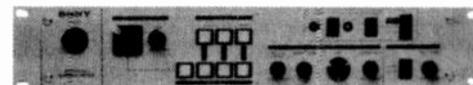
Professional Video



SEG-2000A



WEX-2000



CRK-2000

DIRECTOR 2000 SWITCHER SYSTEM

The Director 2000 Switcher System is made up of three beautifully matched, professional quality components that, as a trio, provide an incredibly diverse range of production possibilities coupled with outstanding control and broad flexibility. The impressive capabilities of the SEG-2000A, the central system component, are enhanced and extended through interaction with the WEX-2000 Wipe Pattern Extender and the CRK-2000 Chroma Keyer and create a system that is capable of very sophisticated and artistic special effects.

The SEG-2000A, by virtue of its ability to operate on either AC or DC power can be used for both studio and field production. The unit mounts in standard 19" racks for optimum studio convenience, yet is light enough at 21 lbs to be eminently portable at the same time. It is equipped with connections for up to six color cameras, one playback VTR, a camera for an external keyer and one camera for downstream keying using the built-in downstream keyer. A full complement of professional controls provide professional results with cut, mix, external key, downstream key and wipe functions. Output connections are extensive with three program outputs, two preset outputs, seven video outputs, four black burst outputs, a V drive output and four tally intercom connectors.

The WEX-2000 extends the wipe pattern selection of the SEG-2000A to 84 different patterns and provides easy-to-use keyboard actuation of the desired pattern with memorization of up to 3 patterns for enhanced convenience. There are auto wipe, servo wipe and trim wipe functions with variable wipe speeds.

The CRK-2000 has dual inputs for composite video signals as well as a separate RGB input. Another unique feature is the natural chroma key facility which creates natural shadow and softness on the compound key camera's picture. It also has a built-in effect amplifier, a background color generator and a sync generator which coupled with its external key input and SC/H phase indicator allow it to be used not only as a chroma keyer but also as a switcher. In operation with the SEG-2000A and WEX-2000, this unit enables the user to create a diverse range of artistic and creative special effects.

System Price\$11,985.00

SEG-2000A Special Effects Generator

• Color System: NTSC color • Switching System: Vertical blanking switcher • Effects: MIX: Dissolve by special effects control lever and PGM/PST mix lever. WIPE: 6 selectable wipe patterns, continuously variable wipe edge softness, border line with continuously variable hue, chroma, luminance, width and amplitude. EXT KEY: 0.7V p-p (VB) or 1.0V p-p (VBS) input signal, 75 ohms unbalanced, BNC connector. DOWNSTREAM KEYER: Genlock with PGM bus line signal, 6 pin B & W camera connector. Output Signal: Horizontal Drive, Vertical Drive, VD 4V p-p, 75 ohms, unbalanced. Input Signal: Video 0.7V p-p, 75 ohms, unbalanced. Shadow: Wide and Narrow, Selectable. BACKGROUND COLOR: Chroma: 0-650mV p-p (variable according to the hue level). Hue: 0° to 360°. Luminance (Y): 0-450mV continuously variable

SEG-2000A\$6,055.00

Optional Accessories

• Sony CVM and PVM Series Color Video Monitors • Sony DXC Series Color Video Cameras • Sony B & W Series Black and White Video Cameras • Sony CCDD, CCF Connecting Cables • BP-60 Rechargeable Battery Pack • LC-2003 Carrying Case for Camera Control Unit and Monitor • LC-2006 SEG 2000A Carrying Case • BC-20 Battery Charger

WEX-2000 Wipe Pattern Extender

• Color System: NTSC color • Genlock Input: Sync 0.3V p-p, Burst 0.3V p-p • Wipe patterns: 84 kinds • Wipe outputs: OUT 1: 6 pin for SEG-2000A (via CCF-5 cable). OUT 2: BNC connector for SEG-2000A or CRK-2000, 1.0V p-p, 75 ohms • Wipe speed: Approximately 0.5 to 9 seconds • Pairing wipe: Every other line • Pattern modulation: Wave length and frequency are continuously variable • Power requirements: 120V AC, 50/60 Hz; 11-15V DC, external DC • Power consumption: 19 W AC, 14 W DC • Operating temperature: 32°F to 140°F (0°C to 40°C) • Dimensions: 3-1/2"H x 19"W x 11-7/8"D (88 x 482 x 300 mm) • Weight: 15 lbs. 7 oz. (7 kg)

WEX-2000\$3,050.00

Supplied Accessory

• AC power cord

Optional Accessory

• CCF-5 interface cable with the SEG-2000A

CRK-2000 Chroma Keyer

• Color system: NTSC color • Video inputs: VBS 1.0V p-p, 75 ohms • RGB inputs: 1.0V p-p, 75 ohms • External key: VIDEO INPUT: 1.0V p-p or 0.7V p-p, 75 ohms. HD/VD OUTPUT: 3.8V p-p • Gen lock input: Sync 0.3V p-p, Burst 0.3V p-p • Video outputs: VBS 1.0V p-p, 75 ohms • Video output channel crosstalk: Better than 40 dB • Video output DP: 1.5% • Video output DG: 1.5% • Video output frequency response: 5MHz +/- 1 dB • Chroma key outputs: VBS 1.0V p-p • Chroma key output crosstalk: 32dB (fsc) • Chroma key output DP: 2.5% • Chroma key output DG: 2.5% • Chroma key output frequency response: 5MHz +/- 1 dB • Black burst outputs: Sync 0.3V p-p, Burst 0.3V p-p • Keying bandwidth: RGB mode more than 2.0MHz, Line mode more than 0.8MHz • Power requirements: 120V AC, 50/60 Hz • Power consumption: 29 W • Operating temperature: 32°F to 140°F (0°C to 40°C) • Dimensions: 3-1/2"H x 19"W x 11-7/8"D (88 x 482 x 300 mm) • Weight: 15 lbs. 7 oz. (7 kg)

CRK-2000\$3,090.00

Supplied Accessories

• AC power cord • Chroma key cloth (Blue) • Instruction tape (U-matic® format)

SEG-WEX PAC Contains SEG-2000A, WEX-2000, CCF-5 extension cable\$8,990.00

Professional Video

PVM-411 Quadruple 4" Monochrome Monitor

- Four independently controlled 4" screens (measured diagonally)
- Fits EIA standard 19" rack
- Individual unit shielding
- Spot-killer circuitry
- Loopthrough capability
- Individual front-mounted contrast, brightness
- V-hold and H-hold controls
- 35 lbs., 4 oz.
- 5 1/4" H x 19" W x 12 1/2" D

PVM-411\$1445.00

PVM-91 9" Monochrome Video Monitor

- Ideal for computer display
- CCTV applications or studio control room monitor
- 800 lines of horizontal resolution at center
- Selectable scanning systems: Normal/Underscan
- DC clamp switch provides a stable reference for the black level
- Accepts an external sync
- Loopthrough BNC connectors for video and sync
- Can be installed/rackmounted as a dual video monitor with the MB-504 optional mounting bracket monitor
- Can be installed with a waveform monitor or a vectoroscope by using an MB-501 optional mounting bracket
- 12 lbs., 12 oz.
- 8 3/4" H x 9" W x 10" D

PVM-91\$400.00

PVM-122 12" Monochrome Video Monitor

- 1000 lines of horizontal resolution at center
- Selectable scanning systems: Normal/Underscan
- DC clamp switch provides a stable reference for black level
- External sync input
- Selectable A/B line inputs with front switch
- Loopthrough BNC connectors for line, A/B and sync
- Built-in speaker for audio monitoring
- Tally lamp
- 21 lbs., 11 oz.
- 12 3/16" H x 12" W x 12 3/16" D

PVM-122\$580.00

PVM-5300 Trinitron® Triple 5" Color Video Monitor

- Fits 19" EIA standard rack
- External sync input terminals
- Loopthrough receptacles for both video and sync
- Setup switch for easy adjustment of white balance and horizontal static convergence
- 52 lbs., 7 oz.
- 7" H x 19" W x 16 1/2" D

PVM-5300\$2625.00

PVM-8020 Portable 8" Color Video Monitor

- Microblack™ Trinitron tube
- 3-way AC/DC operation
- Built-in stand
- Supplied hood
- Push-to-lock controls
- 2 video input/output
- 6-pin DIN connector for optional TU-1110 TV tuner
- Blue-only, normal/underscan and HV-delay

PVM-8020\$690.00

PVM-8220 Trinitron 8" Color Video Monitor

- Can be mounted in a 19" EIA standard rack together with a second PVM-8220 for use as a dual monitor by using the optional mounting bracket (MB-504)
- Underscan, HV-delay, blue only mode select switches
- Accepts an external sync
- Two video inputs can be selected; Video A or Video B
- Microblack Trinitron tube
- Horizontal resolution: 250 TV lines at center
- 16 lbs., 9 oz.
- 8.6" H x 8.5" W x 12.6" D

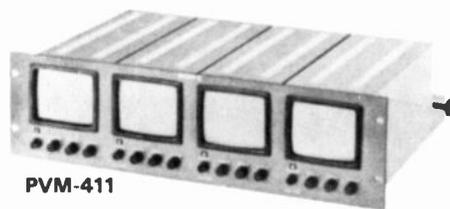
PVM-8220\$645.00

PVM-8221 Trinitron Super Fine Pitch™ 8" Color Video Monitor

- Microblack Trinitron tube
- High resolution of 400 TV lines at center
- Can be mounted in a 19" EIA standard rack together with a second PVM-8221 for use as a dual monitor by using the optional mounting bracket (MB-504)
- Underscan, HV-delay, blue only mode select switches
- Accepts an external sync
- Two video inputs can be selected; Video A or Video B
- 16 lbs., 9 oz.
- 8.6" H x 8.5" W x 12.6" D

PVM-8221\$920.00

COLOR/MONOCROME MONITORS



PVM-411



PVM-91



PVM-5300



PVM-8020



PVM-8221



IDX-5000

IDX-5000 Indextron™ 5" Color Video Monitor

- Ten times brighter than conventional 5" sets: 1,800fL
- Bright enough for daylight viewing without a hood
- Innovative Sony Indextron tube with 5" diagonal screen
- Zero misconvergence, excellent geometric linearity
- One beam electronically indexed to carry all three color signals, as opposed to the usual separate beams for red, green, and blue
- Extra-large cathode gun for high brightness; because one gun occupies the space of three
- No shadow mask, so more electrons reach the screen; conventional color tubes require Shadow Mask to divide the three beams
- Unaffected by the earth's magnetic field
- 220 lines resolution
- Liquid cooling to keep the Indextron tube operating at optimum brightness, to improve tube life
- Splash resistant design for use in all types of field locations
- Compact, portable design is suitable for hand-carrying; built-in handle

IDX-5000\$2955.00

Professional Video

PVM-1220

Super Fine Pitch™ 12" Trinitron® Color Video Monitor

- More than 550 lines resolution • Comb filter • Three sets of video inputs (Channel A/B and TEST) • Normal/underscan selection • Interval check or horizontal and vertical separately and horizontal plus vertical (cross pulse) in delayed scanning mode • Accepts external sync • Auto/color/monochrome selection • White-balance control inside quick-access slide-out drawer • Aperture control adjusts frequency response • Front panel tally lamp • Loop-through connectors for both video and sync allow multiple bridging • EIA standard 19" rackmountable • 55 lbs., 2 oz. • 11¹/₄"H x 19"W x 20¹/₄"D

PVM-1220\$2630.00

PVM-1220



PVM-1271Q

Super Fine Pitch 12" Trinitron Color Video Monitor

- 550 lines resolution with video input and 600 lines with RGB inputs • PAL/SECAM/NTSC/NTSC 4.43 reproduction capability with automatic sensing of each color standard • 80-character, 25-line (2000 characters) computer display capacity • RGB inputs capable of accepting both digital and analog signals • Normal/underscan selection • AFC slow/fast switch • Switchable int./ext. sync • Switchable color temperature 6500°/9300°K • Comb filter • Video/sync/audio loop-through capability for multiple connections • Built-in speaker for audio monitoring • 32 lbs., 2 oz. • 13³/₁₆"H x 13¹/₂"W x 15³/₁₆"D • IBM PC compatible

PVM-1271Q\$1065.00

PVM-1271Q



PVM-1380

Trinitron 13" Color Video Monitor

- Picture tube: black face Trinitron 14", visible picture size 13" measured diagonally • Horizontal resolution: 250 TV lines at center • 25 lbs., 6 oz. • 14.4"H x 14.0"W x 16.1"D

PVM-1380\$480.00

PVM-1390

Fine Pitch 13" Trinitron Color Video Monitor

- 450 lines resolution • S video connector • Analog/digital RGB input allows microcomputer connection • Dual video inputs (BNC, 8-pin/S video) • Computer input (D-sub, 25-pin) • Sound monitoring capability • NTSC color system

PVM-1390\$880.00

PVM-1390



PVM-1910

19" Trinitron Color Video Monitor

- Line A (Tuner)/Line B/VTR/RGB/CMPTR • Built-in interface for IBM-PC • Accepts analog/digital RGB • RGB loop-through • RGB/NTSC superimposition • Display center adjustment for convenient adjustment of left side of display margin • Comb Filter Select Switch (COMB/TRAP) • AFC switch (Fast/Slow) • Built-in speaker • Removable screen frame/shield • 63 lbs., 15 oz. • 18¹/₄"H x 19¹/₄"W x 21¹/₄"D

PVM-1910\$970.00

PVM-1910Q

19" Trinitron Color Video Monitor

- PAL/SECAM/NTSC/NTSC 4.43 switches automatically • Line A (Tuner)/Line B/VTR/RGB/CMPTR • Built-in interface for IBM-PC • Accepts analog/digital RGB • RGB loop-through • RGB/NTSC superimposition • Display center adjustment for convenient adjustment of left side of display margin • Comb Filter Select Switch (COMB/TRAP) • Automatic Frequency Control (AFC) switch (Fast/Slow) • Built-in speaker • Removable screen frame/shield • 63 lbs., 15 oz. • 18¹/₄"H x 19¹/₄"W x 21¹/₄"D

PVM-1910Q\$1310.00

PVM-2030/BS (20")/PVM-2530/BS (25")

Cubic Color Video Monitors

- 560 lines resolution • Prismatic cube shape, can be stacked both horizontally and vertically • Monitor function controls replaced by a hidden front touch panel embedded under the monitor's thin frame • 2,000 character display with RGB input • Delay line aperture control uses comb filter with notch switch • Dynamic Focus™ circuitry with electro magnetic quadrupole lens • Velocity Modulation™ scanning system continually adjusts the speed of the electron beam • Auto white balance • 3 video inputs, BNC loopthrough, 8-pin VTR input and a 25-pin connector for RGB • 15W built-in stereo amplifiers (PVM-2530/BS); 5W (PVM-2030/BS) • Unswitched AC input allows other monitors or video equipment to be directly connected

PVM-2030/BS\$1125.00
PVM-2530/BS1525.00

PVM-2530/BS



SSM-2010 20" Trinitron Color Video Monitor

- Microblack™ high-contrast screen • Suitable for wherever you need a presentation monitor • 400 lines horizontal resolution • Audio/video inputs, audio/video outputs • Sub-panel controls

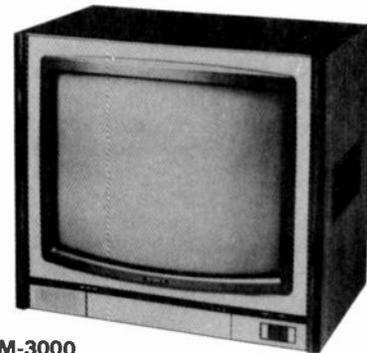
SSM-2010\$550.00

Professional Video

CVM-3000 30" Color TV Receiver/Monitor

- Line/VTR/TV selection
- VHF/UHF synthesizer tuner with automatic station memory that holds up to 14 channels
- Velocity modulation system and comb filter for improved resolution
- Audio power output for external speaker (10W)
- Front panel controls including CRT adjustment and manual degauss
- Remote commander (RM-503) controls power on/off, channel selection, sound level and sound muting
- Loophrough capability for multiple monitor connection
- 275 lbs., 9 oz.
- 29³/₈" H x 33⁷/₈" W x 22⁷/₈" D

CVM-3000 \$8720.00



CVM-3000

CVM-1271 Super Fine Pitch™ 12" Trinitron® Color TV Receiver/Monitor

- High resolution — more than 500 lines with video input
- 10 key VHF/UHF Express Tuning™ plus sequential up/down channel selector and LED channel indicator
- Line/VTR/TV input selector
- Monitor/Line/TV video outputs
- AFC slow/fast switch
- Comb filter improves picture quality — no color spill or noise distortion
- Up/down volume plus sub-volume control for presetting initial sound level
- Rackmountable with optional MB-502 rack attachment plus optional SLR-102 Slide Rail
- Color temperature selector
- 32 lbs., 2 oz.
- 13¹³/₁₆" H x 13¹/₂" W x 15³/₁₆" D

CVM-1271 \$920.00

MB-502 Rackmount bracket 165.00

SLR-102 Slide Rail 155.00



CVM-1271

KV-1967 19" Trinitron Color Television

- Trinitron picture tube with Mirrorblack™ screen
- Cable-compatible Express Tuning system
- Color Pure Filter™ (comb filter) for sharp detail
- LED indicator: channel
- Silver finish
- 10-key channel tuning, channel up/down, sliding volume control, power on/off
- Accurate quartz-locked frequency synthesis tuning
- Tunes in up to 125 cable/181 total channels with no presetting required
- 18¹/₂" H x 24¹/₂" W x 18¹/₂" D
- 48 lbs., 8 oz.

KV-1967 \$500.00



KV-1967

Professional Video

VPH-1040Q Super Bright™ Color Video Projector

- Light output of more than 600 lumens
- Accommodates screen sizes from 60" to 250", measured diagonally
- Flexible placement: Can be mounted on a desk, suspended from the ceiling, or placed on an optional low-rise pedestal (Sony SU-722)
- Total screen flexibility: Projects onto any flat screen, high-gain curved screen (optional Sony VPS-100HG1), translucent rear screen or even directly onto a white wall
- Convenient scan reversal for ceiling mount and rear projection, via reversible connectors and switches
- Four video signal standards: Automatic sensing and selection of PAL, SECAM, NTSC, and NTSC 4.43
- Analog RGB inputs
- Transportable with optional VLC-1030 carrying case
- Simplified set-up requires no special training; internal test pattern for quick alignment
- Built-in audio eliminates the need for bulky external PA equipment
- Ultra-high horizontal resolution: 520 lines via video inputs; 900 lines (center) via RGB input
- Special Blue Mode selects blue background to enhance legibility of computer images
- Three powerful 5.5" coolant-sealed picture tubes for high brightness; large-diameter guns for high resolution; liquid color filtering for exceptional color purity
- Bright f/1.0/130mm lenses use glass/acrylic hybrid design for superior resolution and contrast
- Dual-focus lens with separate internal adjustments for center focus and corner focus; maintains clarity across the face of the screen
- Optional VPR-722 Remote Control maintains full flexibility in permanent installations

VPH-1040Q \$6,820.00

VPH-1031Q

Multi-Scan™ Data/Video Projector

- Full automatic locking for computer signals (H:15-36kHz, V: 40-150Hz)
- High resolution (RGB: 1100 TVL, Video: 650 TVL)
- Displays 4000 characters
- High brightness of 300 lumens
- PAL/SECAM/NTSC/NTSC 4.43
- Auto sense for TV standard
- RGB/video superimpose
- 2 RGB inputs
- Built-in speaker

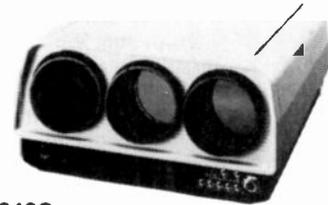
VPH-1031Q Factory adjusted for 100" flat screen
60"-250" adjustable \$10,499.00

VPH-600Q High Resolution Color Video Projector

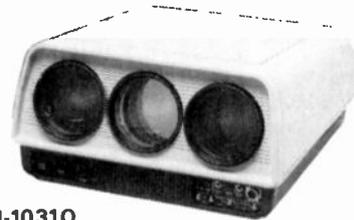
- Factory adjusted for 60" flat screen
 - High resolution (RGB: 900 lines, Video: 520 lines)
 - High brightness of 300 lumens
 - Displays 2000 characters
 - PAL/SECAM/NTSC/NTSC 4.43
 - Auto sense for TV standard
 - Built-in speakers
- VPH-600Q \$3,995.00

Accessories

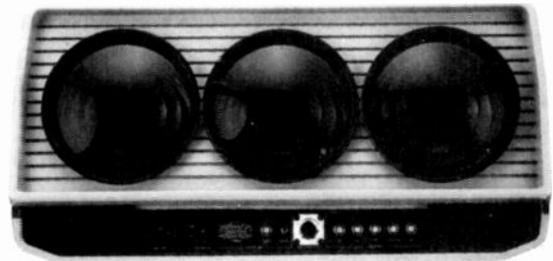
- PSS-10 Projector suspension support for all VPH projectors \$ 570.00
- PSS-722 Projector suspension support for ceiling mount for all VPH projectors 220.00
- SU-722 Stand for floor mount for all VPH projectors 610.00
- ST-72TV TV tuner, 181 channel stereo decoding (MTS). 430.00



VPH-1040Q



VPH-1031Q



VPH-600Q

- VLC-21 Heavy-duty shipping case for VPH-600Q, VPH-722Q1HR, VPH-1020Q1HR, and VPH-2020Q1HR ... \$ 670.00
- VLC-722 Carrying case for VPH-600Q, VPH-722Q1HR, VPH-1020Q1HR, and VPH-2020Q1HR 630.00
- VLC-1030 Carrying case for VPH-1031Q and VPH-1040Q ... 660.00
- VLC-60S Carrying bag for VPS-60/VSS-60 275.00
- VPR-722 Remote control for all VPH series projectors. 555.00
- VPF-720 Ornamental frame for 72" screen (VPS-72HG1)... 605.00
- VPS-60 Portable 55" diagonal high gain screen. Gain = 19. ... 330.00
- VPS-72HG1 High gain concave screen for VPH-1040Q, VPH-1031Q, and VPH-HR series. Gain = 13 980.00
- VPS-100HG1 High gain concave screen for all VPH series projectors (100" diagonal) includes ornamental frame. Gain = 13. 3,795.00
- VPS-100F1 Flat screen (100" diagonal) for all VPH series projectors, includes winding mechanism and stopper. Gain = 2.5 690.00
- VSS-60 Screen stand for VPS-60, quick set-up with adjustable screen height/angle mechanism 330.00
- Extension Cables
- CCQ-2AR 6' \$110.00
- CCQ-5AR 16' 140.00
- CCQ-10AR 33' 200.00
- CCQ-25AR 82' 375.00
- CCQ-50AR 165' 695.00

Professional Video

ProMavica™ Still Video System

MVR-5500A Still Video Recorder/Player

The MVR-5500A is an ideal tool for still video picture presentation systems. It records a still video picture with a simple press of the recording button. Its video in/out and RGB in/out connectors allow connections with various video equipment and microcomputers. It can be directly connected with Betacam equipment through the optional VDC-62 cable to allow high quality duplication. It is also provided with manual control of the video input level, external time base corrector connector, etc. to meet the demands of high quality business/industrial applications.

MVP-2500 Still Video Player

As a player-only deck, the MVP-2500 is a cost effective way to display presentations that are created with the MVR-5500A. An affordable and efficient editing system can be created with the MVP-2500, MVR-5500A, and RM-E5500.

High Picture Quality

The ProMavica series produces high quality pictures with 360 lines of horizontal resolution and a 46dB S/N ratio. It is capable of providing clear information due to its vivid still picture imaging system.

Quick Random Access

Quick random access to any desired picture is achieved between 30ms (to the next track) and 1.5 seconds (from the first track to the fiftieth track) when the MVR-5500A is operated from the RM-E5500, or when the MVP-2500 is controlled from the RM-E5500 or RM-2500.

Simple Remote Control

Playback operations of the MVR-5500A/MVP-2500 can be controlled from an optional simple remote controller, the RM-52. With the combination of the RM-E5500 and the RM-52, forward or backward execution of the program can be controlled remotely.

External Control

The MVR-5500A/MVP-2500 can be controlled by an external micro-computer through the RS-232C connector to allow even more advanced applications than are possible by simply using the remote controllers. Cue tone control is possible through the TC sync connector because the picture of the next track is played back when the MVR-5500A/MVP-2500 detects a 1kHz tone signal.

ID Number Display

The ID Number is displayed when the ID button is pressed. Six digit ID numbers, such as dates of recording or product numbers, can be recorded with the desired pictures when the MVR-5500A is connected with the optional RM-E5500 Editing Controller.

Track Number Display

The current track number appears on the upper right corner of the screen when the Track button is pressed.

Track Number Information Display

The Track Number Information Display shows recording information. It indicates which tracks have been recorded and whether they are field-recorded or frame-recorded, and which tracks are vacant. The information will be automatically updated every time recording or erasure takes place.

Frame/Field Information

The MVR-5500A/MVP-2500 automatically detects field and frame recorded pictures and plays back field/frame pictures accordingly. The Field Only button allows field playback of frame recorded pictures. It is very useful when playing back a frame recording of a fast moving object.

Review/Continuous Function

The recorded pictures can be reviewed immediately after recording when the Review button has been pressed, or the recording on the next track will be set for recording when the Cont. (continuous) button has been pressed. (MVR-5500A only).

MVR-5500A Still video recorder/player \$3,940.00
MVP-2500 Still video player 2,680.00



MVR-5500A



MVC-A7AF

MVR-5500A PAC Pro Mavica Recorder/Editing Package Includes: 2 MVR-5500As, 1 MVP-2500, 1 RM-E5500, 1 VDC-52, 1 RM-52 \$9,020.00
MVP-2500 PAC Pro Mavica Player/Editing Package Includes: 1 MVR-5500A, 1 MVP-2500, 1 RM-E5500, 1 VDC-52, 1 RM-52 7,800.00

Accessories

RM-52 Remote control \$ 166.00
RM-2500 Program editing control unit for MVP-2500 730.00
RM-E5500 Program editing control unit for MVR-5500A/MVP-2550 1,260.00
10 MP-50 Video floppy disc (10 discs) 100.00
PAC-4020 Video copy stand with DXC-3000H camera . . 11,680.00
RMM-57K Rackmount kit 490.00
VDC-52 Dubbing cable 166.00
VDC-62 Dubbing cable for Betacam 260.00
VID-4020 Copy stand/lighting 1,950.00
SMF-2003 Connector cable (SMC-2000) to Mavica 187.00
SMF-2031 RS-232C cable, 2m 104.00

MVR-A770 Portable Still Video Recorder

• Provides a high horizontal resolution of 360 TV lines • Frame/field mode recording selectable • Time compressed audio recording/playback (9.6 sec./track) • Playback detection system for 5 sec./track, 10 sec./track, and 20 sec./track is provided • Smooth and quick track dial operations • RS-232C interface provided • Analog RGB output (25-pin) • AC/DC power sources available

MVR-A770 \$3,140.00

MVC-A7AF Still Video Camera/Recorder

• Fully automatic single lens reflex video camera • Automatic or manual focus selectable • Programmable automatic exposure • Self-adjusting automatic white balance • Audio recording capability (9.6 sec./track) • Sound can be added to the still video • CCD with 380,000 picture elements • Frame/field mode recording selectable • Zoom lens (6X, macro) provides 12mm (f/1.4) – 72mm (f/1.7) (Approximately equal to using a 48mm – 288mm lens on a 35mm camera)

MVC-A7AF \$3,995.00

MVC-A7AF PAC Pro Mavica Camera/Portable Package Includes: 1 MVC-A7AF, 1 MVR-A770, 1 ACP-150, 1 MFL-30, 1 box 10 MP-50 7,730.00

Accessories

MFL-30 Electronic flash \$415.00
RMS-7 Remote control 105.00
ACP-150 AC and battery charger 310.00
NP-1A NiCad battery, 1AH 85.00
BC-1WA Battery charger for four NP-1As 435.00

LDP-2000 Series Videodisc Players

All of the LDP-2000 configurations utilize a semiconductor laser. An automatic optical block locking mechanism, which is activated when the power is turned off, obviates the need for manual lockdown screws during transportation. The motor-driven, front-load videodisc tray on the players is activated manually, by external computer. The players also incorporate CX™ noise reduction system for improved signal-to-noise ratio.

To enable users to select the level of player capability best suited to their needs, the LDP-2000 players are available in 5 different configurations. Upgrading from one configuration to another is achieved by the simple addition of boards making additional wiring or add-ons unnecessary.

LDP-2000/1

- In its most basic form, the LDP-2000 is a linear (Level 1) player controlled by an external computer
- Built-in RS-232C computer interface port
- Switchable baud rates of 9600, 4800, 2400 and 1200

LDP-2000/1\$2099.00

LDP-2000/2

LDP-2000/1 + Control Expansion Board (DB-2010)

- Permits the playback of videodiscs with audio track control programs
- In this configuration, the player reads the command codes on the disc and stores them in the expansion board's random access memory (RAM)

LDP-2000/2\$2435.00

LDP-2000/3

LDP-2000/2 + Parallel Interface Board (DB-2020)

- Designed for applications that require the basic features of the LDP-2000/2 with a parallel interface
- The DB-2020 is the IEEE-488 standard interface board for fast data communication between the player and an external computer
- The IEEE-488 bus also permits computer control of up to 15 videodisc players via just one IEEE-488 port on an external computer.

LDP-2000/3\$2553.00

LDP-2000/4

LDP-2000/2 + Computer Data/SFA Board (DB-2040)

- Expands the capabilities of LDP-2000/2 with the added dimension of Still Frame Audio (SFA)
- SFA is an audio signal digitally compressed to take up considerably less space on the videodisc, enabling the extension of audio playback while still pictures are displayed on the monitor
- SFA data is recorded in blocks
- One block consists of 2 to 32 frames or 2 to 40 seconds of audio
- In conventional systems, 300 frames are required to record 10 seconds of audio, and only 30 minutes of playback is possible on one side of a disc
- With the DB-2040 SFA board, only 15 frames are needed for 10 seconds of audio—this permits 15 hours of audio playback
- In this configuration, SFA can be used either in a standalone mode or controlled by an external computer via the RS-232C port.

LDP-2000/4\$3762.00

LDP-2000/5

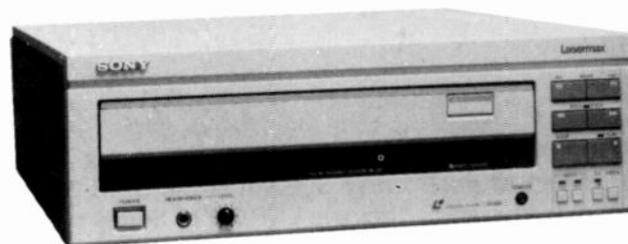
LDP-2000/2 + DB-2010 + DB-2020 + DB-2040

- The fully configured LDP-2000/5 allows an external computer to read computer data recorded on a videodisc with the same reliability as a micro floppydisc
- Digital data access is achieved via the DB-2010 and DB-2040 boards
- The DB-2020/IEEE-488 bus permits high speed transfer of digital data.

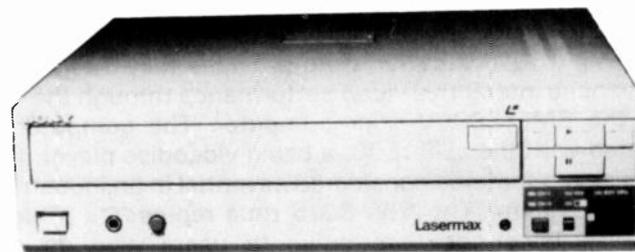
LDP-2000/5\$3860.00

LDP-1500 Videodisc Player

- Provides random access in 2.5 seconds or less to any video frame on a CAV disc
- Incorporates an RS-232C interface port for excellent software control over the player through a wide range of commands, automatic feedback codes and queries
- Contains a semiconductor laser



LDP-2000



LDP-1500

- and features automatic locking of the optical block assembly when power is turned off
- The front loading videodisc tray is motor-driven for ease of use, with functions controllable manually or by external computer

LDP-1500\$1195.00

LDP-1550 Videodisc Player

- May be configured for stand-alone Level I applications and fully integrated Level III systems which connect the videodisc player to virtually any external computer
- Reduced access time and track jump capability allow highly interactive programs to respond instantly to viewer input
- External sync lock and generator
- Automatic optical block locking mechanism

LDP-1550\$1435.00

LDP-1200 Videodisc Player

- Ideal for use in Level I and Level III applications
- Standard RS-232C communications port
- Built-in character generator
- Primary code compatibility with Sony's higher-end state-of-the-art players
- Automatic optical block locking mechanism

LDP-1200\$925.00

Accessories

RM-2001	Remote control unit	.....\$ 86.00
RMM-201A	Rails & handles for rackmounting (LDP-2000)	...260.00
LDM-2000	Interface manual (LDP-2000)	.....37.00
RMM-201B	Rails and handles for rackmounting (LDP-1500, 1550, 1200)	.....300.00
DB-1550	External sync board (LDP-1500, 1550, 1200)	...300.00
LDM-1500	Interface manual (LDP-1500, 1550, 1200)	.....35.00
DB-2010	Control expansion board for LDP-2000, level II, audio control capabilities	...336.00
DB-2020	IEEE-4888 parallel interface bus for LDP-2000	...98.00
DB-2040	Computer data and still frame audio	.....1327.00
DB-2050	Sync generator board to synchronize up to 33 LDP-2000 units	.....385.00
DB-2060	Used with DB-2050 board to loop through the reference signal	.....210.00
IF-100	Chapter Selector	.....700.00

IBM Info Window Cable Kits

LDP Cables 232	.....\$145.00
LDP Cables 488	.....143.00

IBM Info Window Compatible

VIW-3015/VIW-3020 Interactive Video Systems

At the heart of each VIEW System is the SMC-3000V Microcomputer and either the LDP-2000 Series or LDP-1500 Videodisc Player. These components can easily be internally configured and mated to a variety of options to suit a broad range of interactive video applications.

VIW-3015 VIEW System

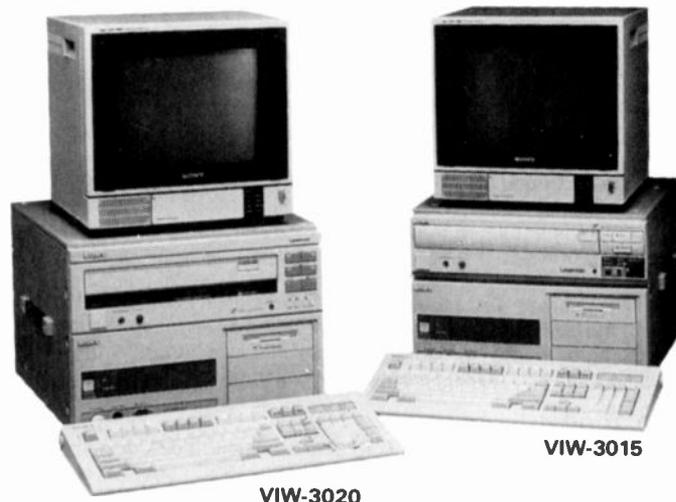
The VIW-3015 VIEW System provides fully integrated, advanced interactive video performance through the use of the SMC-3000V Microcomputer. The computer is mated with the LDP-1500, a basic videodisc player that has all the features considered essential in an industrial-grade system. The VIW-3015 thus represents a high-quality, lower-cost alternative to users who do not require the expandability of the LDP-2000 Series Videodisc Player.

- Integrated single package simplifies installation and transportation, reduces space requirement, and ensures trouble-free operation
- Runs commercially available VIEW courseware and authoring software
- Intel 80286 microprocessor in SMC-3000V runs at 8MHz for fast performance and operates under MS-DOS for IBM PC/AT compatibility
- AT-standard 16-bit bus with 5 open slots permits expansion and customization of system using plug-in boards readily available from many sources
- Advanced graphics capability, including IBM CGA-compatible and VIEW System HG graphics; up to 672 x 496 resolution; multi-page memory for faster graphics displays updates; RGB Superimposer for combined video/graphics

LDP-1500 Videodisc Player

- **Quick Random Access** — Any video frame on a CAV disc can be accessed in 2.5 seconds or less
- **External Computer Interface** — RS-232C protocol provides a high degree of software control over player's functions through a wide range of commands, automatic feedback codes, and status queries
- **Automatic Optical Block Lock-down** — protects critical optical assembly from potential damage during transportation and eliminates need for manual lock-down screws
- **Automatic Front Loading** — Motor-driven disc tray can be operated manually or by external computer

VIW-3015\$7580.00



VIW-3020 VIEW System

The VIW-3020 VIEW System comprises the SMC-3000V Microcomputer and the LDP-2000 Series Videodisc Player, a combination which must be considered the state-of-the-art in interactive video.

It delivers all the hardware, software, graphics, and compatibility features of the VIW-3015 VIEW System. The integration of the LDP-2000 Videodisc Player, however, gives the VIW-3020 the added dimension of easy system expandability.

LDP-2000 Series Videodisc Player

The key to the LDP-2000's expandability is its modular design, which makes it possible to configure the player through simple board additions. Because you can choose only those functional capabilities you truly need, you won't have to pay for unnecessary features. And you can upgrade your system at a later date without external additions and messy wiring or, worse, replacing the entire player.

In addition to all of the features found on the LDP-1500, plus an even faster random access (any CAV disc video frame can be accessed in 1.5 seconds or less), the LDP-2000 provides the following optional capabilities:

- **Still Frame Audio Option** — Allows you to play videodiscs with still frame audio, which permits compressed digital audio to be stored in each video frame, thus greatly enhancing the audio capabilities of the VIEW System.
- **Videodisc Computer Data Option** — Allows the external computer to read data from a videodisc as reliably as from magnetic media (e.g., floppy disks)
- **IEEE-488 Interface Option** — Permits player control via a parallel interface and provides faster transmission rates when transferring digital data from videodisc to external computer

VIW-3020\$8495.00

BVU-950 SP U-Matic® Videocassette Recorder/Player

- Sendust heads
- 340 TV lines
- Type-C Dolby NR
- 15kHz ± 3dB
- 52dB S/N with Dolby NR off
- 72dB with Dolby NR on
- Dolby NR auto detection system
- Accurate audio insert editing
- BKU-901 plug-in time base corrector, optional
- BKU-905 plug-in time code generator/reader, optional
- Dial operation concept
- Built-in editing facility
- Speeds of still to 10 times high speed picture search
- RS-422 serial interface (remote 1, 9-pin)
- TBC remote connector
- 24-pin parallel interface (remote 2, amphenol)
- External TBC connection
- Video/out-1/-2 two monitor output connectors
- REF video in and out connectors
- Self diagnostics
- Digital hour meter
- Anti-clog facility
- 19" EIA rackmountable
- Hinged and detachable front panel

Supplied Accessories

- AC power cord
- VDC-5 dubbing cable (5m)
- RCC-5G remote control cable (9-pin - 9-pin)
- Extension board (small/large)
- Operation and maintenance manual

BVU-950 \$12,500.00

BVU-900 SP U-Matic Videocassette Player

- Compatible with Superior Performance (SP) or conventional U-matic formats
- Dubbing output
- 340 TV lines in SP mode
- Dolby type-C NR (sendust heads and playback circuitry extends frequency response to 15kHz ± 3dB and provides an S/N ratio of 72dB, 52dB with Dolby NR switched off)
- Built-in time code reader
- Dial operation
- Simplified circuit design
- High speed picture search with jog and shuttle modes
- Two remote ports: RS-422 serial interface and 24-pin parallel interface
- Two monitor outputs and two video outputs
- Two monitor connectors and two video connectors REF video in and out connectors
- Anti-clog facility prevents tape damage and head clog
- Rackmountable with optional RMM-950 rackmount kit
- Hinged and detachable front panel

Supplied Accessories

- AC power cord
- RCC-5G remote control cable (9-pin - 9-pin)
- Extension board (small/large)
- Operation and maintenance manual

BVU-900 \$8,500.00



BVU-950



BVU-900

Accessories

- BKU-901A** Plug-in time base corrector, only for BVU-950/900 \$4,000.00
- BKU-902** Plug-in digital noise reducer, connected to the BKU-901A/901, only for BVU-950/900 2,500.00
- BKU-905** Plug-in time code generator/reader, can be slave locked to an external time code or the time code previously recorded during assemble editing 1,500.00
- RMM-950** Rackmount kit, permits BVU-950 to be installed in EIA standard 19" equipment racks .. 280.00
- BVG-1600** Time code generator, LTC/VITC generator, 8-digit LED display 5,565.00
- BVG-1500** Time code reader, readout capability of LTC/VITC and user bits 4,280.00
- BVG-100** Portable time code generator, LTC/VITC generator for portable 1" and portable U-Matic recorders 2,035.00

SONY
PRO/
PLUS

U-MATIC RECORDER/PLAYERS/ TBC/REMOTE CONTROLS

BVU-150 Portable U-Matic®

Videocassette Recorder/Player

- Two modes of record/replay: SP U-matic mode and conventional U-matic mode • Compact, lightweight, and rugged design • Improved picture quality employing Y/C separator, chroma enhancer, and noise canceller, etc. • SP tape activates SP mode for the highest possible video and audio quality
- Video confidence playback • Backspace editing capability
- External time base corrector facility • Dolby C noise reduction system • Audio mixing for recording and playback
- Status and malfunction indicators

Supplied Accessories

- Carrying case • Carrying strap • Shoulder strap • Carrying handle • Level control knob • Operation and maintenance manual

BVU-150 \$6,855.00



BVU-150

BVU-850 SP U-Matic Videocassette Recorder/Player

- Two modes of record/replay: SP U-matic mode and conventional U-matic mode • Improved picture quality resulting from the Y/C separator 3-line comb filter, chroma enhancer, and noise canceller • CCD based DOC • Comprehensive built-in editing facility • High speed picture search function: bidirex search at 1/30, 1/10, 1/5, 1/2, 1, 2, 5 or 10 times normal speed
- Jog mode provides field by field tape movement • Plug-in time code generator/reader, optional • Interfaces with RS-422 serial interface and 36-pin parallel interface • 19" rackmountable with 6 units of space • Improved audio frequency response and editing accuracy • Audio mixing for recording and playback • S/N ratio: > 52dB (Dolby off) • Tape Speed: 9.53cm/sec. • Horizontal Resolution: SP mode: 340 lines NTSC • Frequency Response: 50Hz to 15kHz ± 3dB (SP mode)

Supplied Accessories

- AC power cord • VDC-5 dubbing cable • Remote control cable • RCC-5G extension board • EX-7 operation and maintenance manual

BVU-850 \$15,225.00



BVU-870

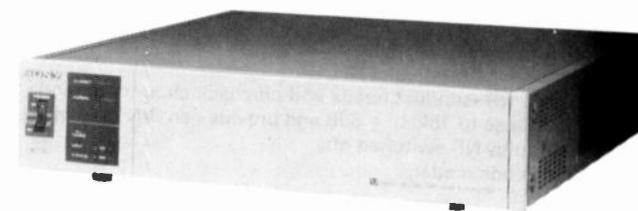
BVU-870 SP U-Matic Videocassette Recorder/Player

- Wide range Dynamic Tracking™ • Two modes of record/replay: SP U-matic mode and conventional U-matic mode • Improved picture quality resulting from the Y/C separator, 3-line comb filter, chroma enhancer, and noise canceller • CCD based DOC • Comprehensive built-in editing facility • high speed picture search function: bidirex search at 1/30, 1/10, 1/5, 1/2, 1, 2, 5 or 10 times normal speed • Jog mode provides field by field tape movement • Plug-in time code generator/reader, optional • Interfaces with RS-422 serial interface and 36-pin parallel interface • 19" rackmountable with 6 units of space
- Improved audio frequency response and editing accuracy • Audio mixing for recording and playback • S/N ratio: > 52dB (Dolby off) • Tape speed: 9.53cm/sec. • Horizontal Resolution: SP mode—340 lines NTSC • Frequency response: 50Hz to 15kHz ± 3dB (SP mode)

Supplied Accessories

- AC power cord • VDC-5 dubbing cable • Remote control cable • RCC-5G extension board • EX-7 operation and maintenance manual

BVU-870 \$21,000.00



BVT-810

BVT-810 Digital Time Base Corrector

- For capstan servo color under VTRs • Chroma noise reduction • 15 H p-p window correction • Remote control capability

BVT-810 \$11,550.00

BVR-800 Remote Control Unit

- Full operational capability • Up to 500m capability with RS-422 interface

BVR-800 \$1,390.00

BVR-820 Remote Control Unit

- Full operational capability • Cuepoint memory • Dynamic tracking • Up to 500m capability with RS-422 interface

BVR-820 \$2,570.00



EDITING CONTROL UNITS/ SPECIAL EFFECTS GENERATOR

BVE-600 A/B Roll Editing Control Unit

- Two search dial operation • Audio mixer interface for the Sony MXP-29 audio mixer • GPI (General Purpose Interface) ports allow interfacing with various external equipment • Split editing allows video/audio independent in-point setting • Status display (with the optional BKE-611/621). Time code data of the VTR selected for the main monitor can be superimposed • Dynamic motion control. Editing of slow or fast motion pictures can be performed when using VTRs equipped with the Dynamic Tracking (DT™) function • Power requirements: 90-132VAC, 198-264V (switchable between 100V/200V systems) • Power consumption: max. AC 110W • Three VTR control, two players and one recorder can be controlled • Enables A/B roll editing with effects to be performed when used with the optional plug-in switcher board and an external MXP-29 audio mixer

Supplied Accessories

- O/M manual • AC power cord • 15-pin mixer control cable (5m)

BVE-600 \$7,700.00



BVE-600

BVE-900 Automatic Editing Control Unit

- Four VTR control • Switcher control for full effects • Audio mixer control • 2 auxiliary sources—both can be assigned to access • Multiple source selection • Longitudinal, vertical interval time code, control track references • Color framing • Cue tone record/playback option • Dynamic motion control—1 to +3 times normal speed synchronization • Matched frame edit • 128 edit decision list

Supplied Accessories

- Extension board for card file unit • 8-pin keyboard cable (5m) • 15-pin D sub connector (male) • 25-pin D sub connector (male) • AC power cord • Operation and maintenance manual

BVE-900 \$7,875.00

BVE-900 PROPAC (includes BVE-900, CPD-121, 2 BKE-904's) 10,350.00

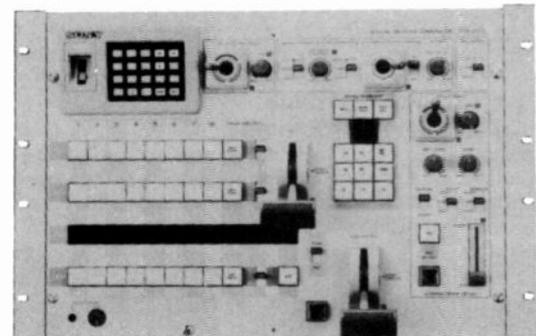


BVE-900

SEG-2550A Color Special Effects Generator

- 137 wipe patterns • Wipe pattern customizing • Sony's E-File™ system stores panel settings and effects, displays stored files on dedicated monitor triggers by front-panel take button, remotely triggered by GPI trigger, or through serial port (allows file selection) • Standard RS-232C computer port for operation with Sony BVE-900 Edit Controller (with BKE-915 board) or other editors • Cut and dissolve between inputs • Mixing, external keying, and wipe effects between any pictures on A and B bus lines • Nine different wipe patterns accessible by pushbutton • Built-in downstream keyer (DSK) with shadow and color generators, hard and soft edge • Expandable with optional external chroma keyer, Sony CRK-2000 • Complete set of inputs for eight video sources • Four bus lines • Built-in RS170A NTSC sync generator • Genlock function for synchronizing with house sync • Genlock input and output • Built-in SC and H phase indication • Tally/intercom circuit for two-way communication • Torque adjustment • Standard EIA 19" rack-mount capability for studio production • Frequency Response: 8MHz ±0.5dB • S/N ratio: >-60dB • Power requirements: 120VAC, 60Hz

SEG-2550A \$9,800.00



SEG-2550A

Professional Audio

ECM-23F Cardioid Back Electret Condenser Microphone

- Operates for more than 6,000 hours with one size "AA" battery
- Suited to professional and creative use in recording and broadcast studios as well as sound reinforcement systems

ECM-23F\$155.00



ECM-23F

ECM-33F Uni-Directional Back Electret Condenser Microphone

- Powered by an external phantom power DC source • Will operate for approximately 1,000 hours on a single battery (Eveready 126 or equivalent) • Low-cut switch • Pad switch • Wind screen

ECM-33F\$241.00



ECM-33F

ECM-44S/44B Omni-Directional Lavalier Electret Condenser Microphone

- Miniature $\phi 11/32 \times 19/32$ ", ($\phi 8.5 \times 14.5$ mm) 0.07 oz. (2g) microphone head • Satin-nickel plating (ECM-44S) or black finish (ECM-44B) • Operation on AA-size battery • Supplied holder clip and urethane wind screen

ECM-44S/44B (XLR Output)\$179.00

ECM-44BPT/44SPT (Pigtail)\$89.00

ECM-44BC/44SC (SMC9-4P Connector)\$131.00



ECM-55

ECM-66

ECM-77

ECM-44

ECM-55S/55B Omni-Directional Lavalier Electret Condenser Microphone

- Omni-directional electret condenser design • Designed for miking musical instruments and voice pickup • Frequency response range of 30 to 18,000Hz

ECM-55S/55B (XLR Output)\$281.00

ECM-55BPT/55SPT (Pigtail)\$179.00

ECM-55BC/55SC (SMC9-4P Connector)\$219.00

ECM-66S/66B Uni-Directional Lavalier Electret Microphone

- Wide-range, uni-directional back electret capsule • Clean, natural reproduction of musical instruments • Excellent isolation from the acoustic environment • Power supply includes a battery on-off switch • LED battery condition indicator • Frequency range of 70 to 14,000Hz

ECM-66S/66B (XLR Output)\$325.00

ECM-66BPT/66SPT (Pigtail)\$240.00

ECM-66BC/66SC (SMC9-4P Connector)\$280.00



ECM-672

C-76



C-535P/C-536P

ECM-77S/77B Omni-Directional Lavalier Microphone

- Fingernail-size—5.6mm • Frequency response range of 40 to 20,000Hz • Enables unobtrusive miking but reduces glare • Permits intelligible voice reproduction even if the microphone is hidden inside a costume

ECM-77S/77B (XLR Output)\$320.00

ECM-77BPT/77SPT (Pigtail)\$245.00

ECM-77BC/77SC (SMC9-4P Connector)\$280.00

ECM-672 Unidirectional Back Electret Condenser Microphone

- Frequency range of 50-16,000Hz • Operates on one AA size battery for 3000 hours • LED battery condition indicator • Built-in low cut filter operated by on/off switch • Supplied urethane wind screen has a stopper to prevent it from falling off the microphone

ECM-672\$475.00

C-48 Dual Diaphragm Condenser Microphone

- Omni-directional, cardioid, and bi-directional • Selector switch • PAD switch and low-cut switch add to the operational features • 2-way power capability • Smooth, clear, natural sound • Low-noise, high-gain FET preamplifier • Frequency response over a range of 30 to 16,000Hz • Handles a minimum of 128dB SPL without audible distortion or coloration

C-48\$995.00

C-76/C-74 Super Uni-Directional Gun-Type Condenser Microphones

- For use in theaters, on sound stages, in large halls, in television studios and even outdoors • The microphone is simply aimed at the sound source • Suited to the performing arts • High sensitivity • Broad frequency response • Excellent transient capability • The microphones discriminate against background noise and unwanted sounds

The C-74 is shorter than the C-76 and therefore slightly more maneuverable.

C-74\$860.00

C-76\$995.00

C-535P/C-536P

Uni-Directional Condenser Microphones

- Inconspicuous on stage. Users can select the model that best suits their microphone positioning needs • C-535P is designed for on-axis sound pickup • C-536P is designed for applications requiring minimum clearance and right angle pickup • The microphones have a frequency response of 30 to 16,000Hz • Dynamic range of 116dB • Output impedance is 200 ohms • Maximum sound input pressure level is 138dB • 48VDC phantom powered, equipped with a 10dB switchable pad and offer a Canon XLR-3-12C type connector • Each unit measures 21 by 154mm • Weighs 148g

C-535P/C-536P\$487.00

SONY BROADCAST

STUDIO/FIELD/COLOR CAMERA/ ACCESSORIES

BVP-360 Studio/Field Camera

- For high quality field production and studio systems
- f/1.2 optical system gives superior sensitivity and depth of field
- Comprehensive auto alignment system ensures the highest quality picture
- 2/3" MS Plumbicon or MS Saticon™ tubes give high performance surpassing conventional larger tubes
- High resolution — 700 TV lines at center, 600 TV lines in corners
- Digital registration compensation ensures precise registration
- Superior S/N ratio of 60dB
- Streamlined mechanical design with compact and lightweight camera head for great maneuverability
- State-of-the-art triax transmission system
- RGB full band transmission for multicore system
- BVF-7000Q/7000QM 7" color viewfinder
- BVF-70/70CE 7" B/W viewfinder
- Convenient filing facility — setup files, scene files and lens files

Specifications

Camera Head

Pickup Tube System: 2/3" MS Plumbicon or MS Saticon 3-tube system

Optical System: f/1.2 prism

Filter Wheels: Color filters: A—Cross; B—3200°K; C—4300°K; D—6300°K; ND Filters: 0—cap; 1—clear; 2—1/4; 3—1/16

Sensitivity (at 90% Reflectance): 2000 lux with f/4.5 typical (MF "PbO"), 2000 lux with f/4 typical (MF "Saticon")

Minimum Subject Illumination: Approx. 10 lux f/1.2 + 24dB gain (MS "PbO"), Approx. 12 lux f/1.2 + 24dB gain (MS "Saticon")

S/N Ratio: 60dB (NTSC), typical

Resolution: 700 TV lines at center

Registration Error: Zone 1: 0.05%; Zone 2: 0.1%; Zone 3: 0.15%

Geometric Distortion: 1% (all zones)

Tracker: Intercom use

Incom/PGM

Audio (2-ch): Double headset jack

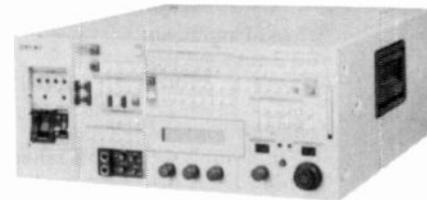
Weight: Approx. 64 lbs.

BVP-360/TP\$62,300.00

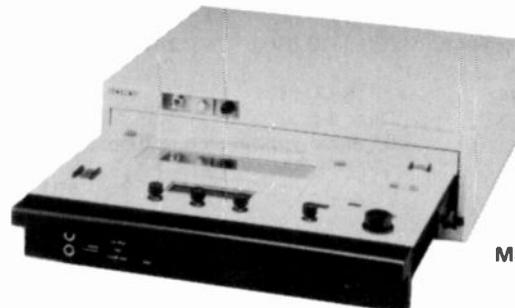
BVP-360/MP56,000.00



BVP-360



CCU-360



MSU-360

MSU-360 Master Set-up Unit

- A maximum of 8 BVP-360 cameras can be set up with one MSU-360. Together with the expansion unit, 36 cameras can be controlled
- RS-232C external computer interface port
- Two types of control panels, the OCU-3610 (drawer type) and OCU-3620 (console type) are available
- Manual digital registration control
- Self-diagnosis facility
- Cable compensation facility

MSU-360\$9,000.00

CCU-360 Camera Control Unit

- Self contained power supply block makes utility AC power available for the camera head
- RGB chroma key outputs with triax/multicore cable
- SMPTE/EIA color bars
- 2-wire, 4-wire, or RTS intercom system is provided
- Detachable CCU control panel can be used as a remote control panel
- Fully system-designed inputs/outputs facility is provided
- Control panel, optional

CCU-360T\$19,000.00

CCU-360M18,000.00

RCP-3620/3621 Type-II Remote Control Panels

- Versatile field application
- Remote control for outside broadcasting
- Basic painting facility
- Simple auto setup functions
- Joystick iris/master black control (RCP-3620)
- Independent rotating controls for iris/master black control (RCP-3621)

RCP-3620\$3,000.00

RCP-36213,000.00

RCP-3630/3631 Type-III Remote Control Panels

- Sophisticated production
- Creative production remote control
- Extended painting facilities including differential gamma and flare
- File facilities
- Joystick iris/master black control (RCP-3630)
- Independent rotating controls for iris/master black control (RCP-3631)

RCP-3630\$3,900.00

RCP-36313,540.00

SONY BROADCAST

PORTABLE COLOR VIDEO CAMERA/ ACCESSORIES

BVP-350 3-Tube Portable Color Video Camera

- Ergonomically designed for operator ease and comfort and versatile shooting applications • f/1.2 optical prism block system matches the sensitivity and depth of field or larger format cameras • MS Plumbicon™ pickup tubes, high field operation and dynamic beam focusing techniques result in high resolution of 700 TV lines • Minimum illumination as low as 10 lux (at maximum gain) • Internal switch adds an additional 6dB when the camera is switched locally to 18dB for a total of 24dB gain • Employment of MS Plumbicon tubes, FET, pre-amplifier technology, an S/N ratio of 60dB (luminance) • High dynamic range allows acceptance of up to 600% of normal video level • Automatic digital registration compensation provides extremely precise and quick registration adjustment • Two optical filter wheels allow independent neutral density (ND) and color temperature adjustment • Viewfinder can be rotated 360° as well as adjusted horizontally, vertically, and laterally to enable the camera to be comfortably employed in complex handheld shooting sequences • Viewfinder has multiple status messages and alarms

Supplied Accessories

- Carrying case • Rain cover • VCT-13 tripod adaptor • Board extractor • EX-38, EX-90 extension boards • 6-pin connector • Shoulder belt • CAC-11A microphone adaptor • Operation and maintenance manual

Specifications

Pickup Tube: 2/3" MS Plumbicon
System: RGB 3-tube system
Color Filters: A: cross, B: 3200°K, C: 4300°K, D: 6300°K
ND Filters: 0: cap, 1: clear, 2: 1/4, 3: 1/16
Lens Mount: Bayonet mount
Sensitivity: 2000 lux with f/4.5 at 90% reflectance, typical (MS "PbO")
Illumination: Approx. 10 lux (f/1.2 lens, + 24dB gain)
Geometric Distortion: 1% (all zones)
Power Requirements: 12VDC (10.5V to 17V), 24W
Operating Temperature: -4°F to 122°F
Weight: 13 lbs., 6 oz.
Viewfinder: 1.5" monochrome picture tube; Tally; peaking switches: 500 TV lines

BVP-350 \$51,400.00

CCU-355 Camera Control Unit

- Designed for use with the BVP-350 Color Camera via triax cables
- Remote operation of up to 1800 meters with 14.5mmØ triax cables
- Will accept Y/R-Y/B-Y signals. RGB or Y/R-Y/B-Y output is selectable with the built-in encoder • Directly interfaces with the MSU-360 and the OCU-3610/3620 to allow the BVP-350 to be integrated into a multiple BVP-360 camera system • Any of the RCF-3600 series of remote control panels can be directly interfaced with the CCU-355 via serial digital control • Full communication facility including talkback and program audio feeds to the camera, and camera reverse talkback to the CCU • Camera, CCU call, red and green tally circuits are also included
- Compact, half a 19" rack size

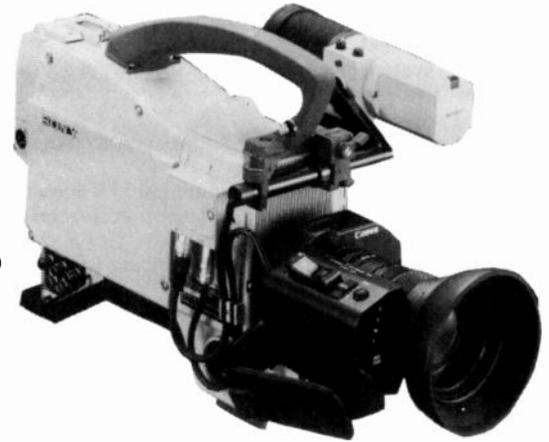
Supplied Accessories

- Power cable • Tally number label • 4-pin connector for waveform monitor • Operation and maintenance manual

CCU-355 \$14,000.00

CCU-350 Camera Control Unit

- Combines a high performance system interface and flexible remote video control with portability and low power consumption to provide dual purpose operation with either the BVP-350 or BVP-50 cameras
- The encoder is incorporated into the CCU to provide RGB or



BVP-350



CCU-350



CCU-355

- Y/R-Y/B-Y output selectable with an internal switch, along with composite output • Directly interfaces with the MSU-360 and OCU-3610/3620 to allow the integration of the BVP-350 or BVP-50 portable cameras into a multiple BVP-360 camera system • Any of the RCP-3600 series of video panels directly interface via serial digital control with the CCU-350, thus allowing a flexible choice of operational control • Interfacing capability with BVP-50 series cameras with the CA-50 camera adaptor, thus offering precise adjustment of CCD cameras for field production applications • Remote operation up to 300 meters • 19" rackmountable with the optional RMM-301 rackmount unit (half rack size wide) • Built-in genlock • Full communication facility including talkback and program audio feeds to the camera, plus camera reverse talkback to the CCU • Camera/CCU call, red and green tally circuits

Supplied Accessories

- Power cable • PCB extension board • Tally number label • Operation and maintenance manual

CCU-350 \$10,500.00

SONY BROADCAST

PORTABLE COLOR VIDEO CAMERAS

BVP-50 3-CCD Portable Color Video Camera

- 550 TV lines horizontal resolution • f/5.6 sensitivity at 2000 lux
- No lag or image burn-in • No vertical smear due to Frame Interline Transfer (FIT) CCD • Rejects interference from strong electric or magnetic fields • High precision CCD image geometry eliminates registration adjustments and results in 0.05% registration error in all zones
- Electronic shutter speeds of 1/100, 1/125, 1/175, 1/250, 1/500, 1/1000 and 1/2000 second enables capture of clear images of high speed objects
- Compact, lightweight (7 lbs., 7 oz.) and efficient (11.5W) • Dynamic contrast control (auto knee control), switchable, extends dynamic range to 600% resulting in crisp pictures even in high contrast environments • Automatic iris control • Automatic white/black balance with dual white balance memories for each filter position (4) • Multiple indicators in viewfinder including filter indicator, zebra pattern (video level), audio level and low battery • Can be interfaced with 1", U-Matic® and Betacam™ portable VTRs and can be docked to Betacam VTRs to configure a camcorder for ENG/EPF use

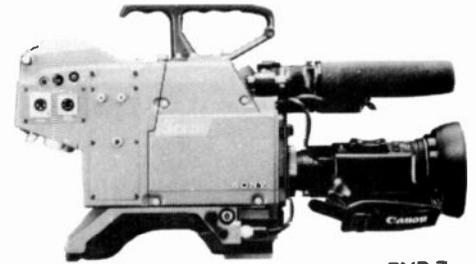
Supplied Accessories

- VCT-14 Tripod adaptor • Extension board • Extractor • Chest pad
- 50-pin connector cap • Rain cover • Cap for handle hole • Carrying handle • Operation and maintenance manual

BVP-50 \$25,500.00



BVP-50



BVP-7



BVP-5



BVP-3A/30

BVP-7 3-CCD Portable Color Camera

- High resolution CCD for 700 TV lines resolution • No lag or burn-in, impervious to vibration and shock and not affected by magnetic or electric interference • Free from registration adjustments (0.05% registration in all zones) • Variable electronic shutter (1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 second shutter speeds) captures clear images of high speed objects • Dynamic contrast control (auto knee control) extends high light dynamic range by 600% enabling a clear picture in high contrast environments (switchable) • CCD structure results in reduced vertical smear when handling severe highlights • Automatic W/B balance system includes two white balance memories for each optical filter (4 positions) • Viewfinder features high resolution CRT (550 lines) with quick start-up (1.5 sec.). Other features include video level, audio level (CH1), gain, filter position in addition to other indicators, vibration-resistance, sharp-directional microphone and two direction position adjustment • 2H image enhancer produces crisp pictures • Linear matrix features highly faithful color reproduction shading compensator for lens extender automatically selected • Can be coupled with a Betacam™ VTR for a one-piece camcorder or connected to various 1", Betacam or U-Matic® VTRs for standard ENG or production applications • CA-3A or CA-50 camera adaptors allow connection to a variety of VTRs, video systems (optional)

Supplied Accessories

- VCT-14 tripod adaptor • Extension board • Extractor • Chest pad
- 5-pin connector cap • Rain cover • Handle-hole cap • Carrying handle • Operation and maintenance manual

BVP-7 \$23,000.00

BVP-5 3-Chip CCD Portable Color Camera

- 550 lines horizontal resolution • High quality CCD pickup device
- High sensitivity: f/5.6 (NTSC) • Minimal lag and high resistance to image burn-in • Impervious to vibration and shock • Minimum effects from electric/magnetic fields • Free from registration adjustment
- Compact and lightweight: super maneuverability (only 7 lbs., 1 oz. with VF) • Dynamic contrast control ensures wide dynamic range
- Automatic iris control • Automatic white/black balance • 2H image enhancement • Viewfinder indications for warning/confirmation
- 1.5" viewfinder with horizontal slide mechanism • Color framing out from multi-connector • Video level indicator

Supplied Accessories

- Tripod adaptor • Extension board • Extractor • 50-pin cap • Rain cover • Cap for handle hole • Carrying handle

BVP-5 \$18,000.00

BVP-3A/30 3-Tube Portable Color Video Cameras

- BVP-3A: Three 2/3" MS Saticon™ tubes • BVP-30: Three 2/3" Diode Gun Plumbicon™ tubes • 650-line resolution at center, improved corner resolution • S/N: 59dB • Auto white balance with 3-position digital memory • Auto centering • Automatic beam optimizer • Wide dynamic range to accept excessive light • Shading compensation with lens extender • Two line image enhancer • Genlock facility with CA-3 or CA-30 camera adaptors, optional • CCU-300 interface with CA-30 camera adaptor, optional • Accepts lenses with 6 and 12 pin connectors, optional • Color framing out from multi connector • Video level indicator

Supplied Accessories

- Tripod adaptor • Extractor • Tripod bracket • Chart for automatic centering adjustment • Extension board • Operation and maintenance manual • Microphone adaptor

BVP-3A \$25,650.00
BVP-30 \$34,500.00

BVW-550 SP Camcorder

- The BVP-50 Color Camera is combined with the BVV-5 Betacam Recorder to configure a camcorder for ENG use
- Simultaneous playback of video and audio
- 4-channel audio
- Built-in LTC, VITC, user bit generator with genlock capability
- Audio/video confidence playback
- Phantom power supply
- Built-in loudspeaker
- 8-digit LCD display
- Backspace edit
- CCD eliminates problems of lag, image burn-in and registration adjustments
- Electronic shutter speeds of 1/100, 1/125, 1/175, 1/250, 1/500, 1/1000, and 1/2000 second
- Dynamic contrast control (auto knee control), switchable, extends dynamic range to 600%
- Automatic iris control, white/black balance with dual white balance memories for each filter position (4)

Supplied Accessories

- Shoulder belt
 - Tripod adaptor (VCT-14)
 - Extension board
 - Extractor
 - Chest pad
 - 50-pin connector cap
 - Rain cover
 - Cap for handle hole
 - Carrying handle
 - Operation and maintenance manual
- BVW-550**\$36,500.00

BVW-530 Betacam SP Camcorder

- Can be separated into two parts: the three 2/3" diode gun Plumbicon tube camera (BVP-30) and the recorder part (BVV-5)
- 4-channel audio
- Built-in LTC, VITC, user bit generator with genlock capability
- Audio/video confidence playback
- Phantom power supply
- Built-in loudspeaker
- Back space edit
- Auto centering
- Auto white balance with 3-position digital memory
- Automatic beam optimizer
- Wide dynamic range to accept excessive light
- Two line image enhancer
- Color framing out from multi connector
- Video level indicator

Supplied Accessories

- VTR bracket
 - 50-pin connector caps
 - 4-pin connectors
 - Shoulder belt
 - Screws M4
 - Tripod adaptor, bracket
 - Extension board
 - Extractor
 - Chart for automatic centering adjustment
 - Operation and maintenance manual
 - Microphone adaptor
- BVW-530**\$45,500.00

BVW-507 Betacam SP Camcorder

- Can be separated into two parts: the BVP-7 3-CCD Portable Color Camera and the BVV-5 Betacam Recorder
- 4-channel audio
- Built-in LTC, VITC, user bit generator with genlock capability
- Audio/video confidence playback
- Phantom power supply
- Built-in loudspeaker
- Backspace edit
- Eliminates problems of lag, burn-in, vibration and electric interference
- Variable electronic shutter (1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 second shutter speeds)
- Dynamic contrast control (auto knee control) extends high light dynamic range by 600% enabling a clear picture in high contrast environments
- Automatic white/black balance system includes two white balance memories for each optical filter (4 positions)
- 2H image enhancer
- Shading compensator for lens extender automatically selected



BVW-505

Supplied Accessories

- Shoulder belt
 - VCT-14 tripod adaptor
 - Extension board, extractor
 - Chest pad
 - 50-pin connector cap
 - Rain cover
 - Handle-hole cap
 - Carrying handle
 - Operation and maintenance manual
- BVW-507**\$34,000.00

BVW-505 Betacam SP Camcorder

- Can be separated into two parts: the BVP-5 3-CCD Portable Color Camera and the BVV-5 Betacam Recorder
- 550 lines horizontal resolution, 58dB S/N ratio
- f/5.6 at 2000 lux
- 4-channel audio (2 longitudinal, 2 AFM)
- Capable of simultaneous monochrome video playback in the viewfinder
- Genlock capability
- Dynamic contrast control allows 600% highlights
- Phantom power supply
- Built-in time code generator/reader
- Built-in loudspeaker and microphone
- Automatic iris control
- Automatic white/black balance (4 positions)
- 2H image enhancement
- Linear matrix
- Shading compensation for lens extender
- 1.5" viewfinder with horizontal slide
- Weighs 14.3 lbs.

Supplied Accessories

- Tripod adaptor
 - Extension board
 - Extractor
 - 50-pin cap
 - Rain cover
 - Cap for a handle hole
 - Carrying handle
 - Shoulder belt
 - Operation and maintenance manual
- BVW-505**\$29,000.00

BVW-503 Betacam SP Camcorder

- Can be separated into two parts: the BVP-3A 2/3" MF Saticon™ Color Camera and BVV-5 Betacam Recorder
- Accepts lenses with 6 and 12-pin connectors
- Auto centering
- Auto white balance with 3-position digital memory
- Automatic beam optimizer
- Wide dynamic range to accept excessive light
- Two line image enhancer
- Shading compensation with lens extender
- 4-channel audio
- Built-in LTC, VITC, user bit generator with genlock capability
- Audio/video confidence playback
- Phantom power supply
- Built-in loudspeaker
- Backspace edit

Supplied Accessories

- Shoulder belt
 - Tripod adaptor, bracket
 - Extension board, extractor
 - Chart for automatic centering adjustment
 - Operation and maintenance manual
- BVW-503**\$36,650.00

BVW-200 Betacam® SP Camcorder

- 3-chip 2/3" interline CCD pickup device
- Built-in Filters: 1: 3200°K, 2: 5600°K + 1/4ND; 3: 5600°K, 4: 5600°K + 1/16ND
- 58dB video S/N ratio
- 550 TV lines horizontal resolution
- Compact, lightweight (15 lbs., 3 oz.), and efficient (20W) with miniaturized tape transport and high density circuits in a one-piece VTR/camera system
- Automatic iris control with improved response speed
- Automatic white/black balance with dual white balance memory for each filter (4 positions)
- Dynamic contrast control (auto knee control) compresses highlight signals in high contrast environments
- Can use metal particle tape for the Superior Performance (SP) recording format or oxide tape for conventional Betacam format recording
- Monochrome viewfinder is selectable between viewing luminance or chrominance (CTDM) signal playback
- Recording review function rewinds tape 2-10 seconds, plays back last scene and stops at previous pause location
- Full function control (eject, play, rewind, FF, stop) are covered by safety lid and inhibited during recording mode
- Built-in time code generator/reader
- Time code slave lock function can slave or provide TC for other devices
- 8-digit LCD multiple display
- Detachable microphone is phantom powered and can be used for ambient audio or detached for interviews
- Two channels audio input with phantom powered microphone or line inputs, Dolby NR (noise reduction) on linear channels and two AFM audio channels simultaneous recording



BVW-200

- Built-in loudspeaker for monitoring individual or mixed audio channels and alarm tone
- Diagnostic system
- Record status, battery, 5-segment audio level, W/B balance and tape remaining indicators in viewfinder

Supplied Accessories

- Tripod adaptor
- Extension board
- Operation/maintenance manual
- Shoulder belt
- Rain cover

BVW-200 \$25,000.00

BVV-5 Betacam SP Recorder Unit

- Simultaneous playback of video and audio
- Can be operated as a combo camcorder when connected to BVP-3A/30/5 cameras, or as a portable recorder VTR when connected to an optional VA-5 VTR adaptor
- 4-channel audio
- Built-in LTC, VITC, user bit generator with genlock capability
- Audio/video confidence playback
- Phantom power supply
- Built-in loudspeaker
- 8-digit LCD display
- Back space edit
- 7 lbs., 3 oz.

Supplied Accessories

- VTR bracket
- 50-pin connector cap
- 4-pin connector
- Operation and maintenance manual
- Shoulder belt
- Screw M4

BVV-5 \$11,000.00

Optional Accessories

VA-5 VTR Adaptor

When attached to the BVV-5, the BVV-5 can be operated as a stand-alone recorder. Accepts composite or component signals via the 26-pin connector from the camera head \$2,200.00

VA-500 Playback Adaptor

When connected to the BVV-5 via a 20-pin connector, the BVV-5 can provide color playback, and it outputs either composite or VHF RF signals \$2,700.00



BVV-5
Shown with
optional VA-5



VA-500

SONY BROADCAST

BETACAM RECORDER/ PLAYERS

BVW-60 Betacam® SP Studio Player

- Maximum playback time of over 90 minutes
- In addition to the two conventional longitudinal audio channels, two AFM audio channels are added, making a total of four channels available
- 160W power consumption
- High speed picture search
- Built-in time code reader and time base corrector
- Built-in character generator and characters can be superimposed via Video Output 3
- Free from color framing as long as the recording component signals are fed directly from the component signal source
- RS-422 serial interface and 36-pin parallel interface
- 59 lbs., 8 oz.; 5 rack units high



BVW-60

Supplied Accessories

- AC power cord
- Remote control cable RCC-5G (9-pin)
- Extension board
- Operation and maintenance manual

BVW-60 \$22,500.00

BVW-35 Betacam SP Portable Recorder/Player

- Portable VTR with RS-422 interface based feeder capability
- 4-channel audio
- Built-in LTC, VITC, user bit generator and reader
- Frame accurate back space edit
- Feeder capability with RS-422 for field editing
- Audio/video confidence playback
- Phantom power supply
- Component and composite input/output
- Provision for TBC connection
- Built-in RF modulator
- Search mode
- 8-digit LCD display
- Weighs only 15 lbs.



BVW-35

Supplied Accessories

- Antenna selector switch
- Coaxial cable with F-type connector (NTSC)
- Coaxial cable with standard aerial connector (PAL)
- Extension board
- Soft carrying case
- Operation and maintenance manual

BVW-35 \$14,000.00

BVW-22 Betacam SP Player

- Simply designed control panel, user-friendly
- Plays back Betacam SP (metal particle) and conventional Betacam (oxide) videotapes
- Plays back S-size 5/10/20/30 and L-size 60/90 minute videotapes
- Front-loading function convenient for limited spaces
- Four audio channels feature two linear channels with Dolby Type-C NR (Noise Reduction) and two AFM channels
- Dolby NR is automatically switched on when a metal tape is played and switchable when an oxide tape is played
- RM-770 wired/wireless remote control, supplied, features playback, FF, rewind, 3.5X search (forward/reverse), superimpose, functions and can be used in a wireless configuration or wired with a 5m cable, supplied
- Recognizable monochrome pictures at 3.5X speed in search mode with instant lockup
- Built-in RF modulator allows monitoring audio/video on ordinary TV receiver tuned to CH3 or CH4
- Superimpose function superimposes time code, CTL and user bit data on the monitor through the video, RF or monitor outputs, selectable on/off
- LED display shows TC, CTL, user bit, error messages or adjustment modes
- Compact and rackmountable (4 units high)



BVW-22

Supplied Accessories

- Remote control unit including remote control cable and battery (RM-770)
- Antenna selector
- Coaxial cable with F-type connector
- Operation and maintenance manual

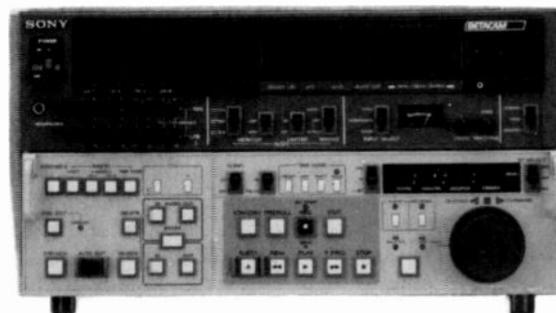
BVW-22 \$4,950.00

SONY BROADCAST

BETACAM RECORDER/PLAYERS

BVW-75 Betacam® SP Studio Editing Recorder/Player

- Can be directly connected to other Betacam studio VTRs, BVE Series editors and BVH Series 1" VTRs via the RS-422 communication cable
- 36-pin parallel interface
- Dynamic tracking capability --1 +2
- Variable memory for DT editing
- 4-channel audio
- Capstan override ± 16%
- Time code reader/generator for LTC, VITC, U-bits
- Video/audio confidence
- Character display
- High speed picture search
- Two independent SC-H phase indicators
- Built-in TBC with remote control
- Color framing
- Simple audio mixing
- 66 lbs.



BVW-75

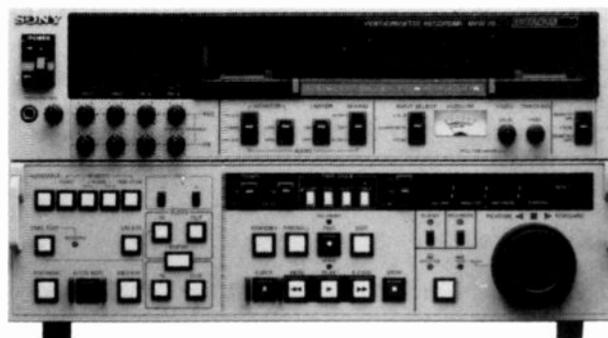
Supplied Accessories

- AC power cord
- Remote control cable RCC-5G (9-pin)
- 12-pin dubbing cable
- Extension board
- Operation and maintenance manual

BVW-75 \$35,900.00

BVW-70 Betacam SP Studio Recorder/Player

- Maximum playback time of over 90 minutes
- In addition to the two conventional longitudinal audio channels, two AFM audio channels are added, making a total of four channels available
- High speed picture search
- Built-in time code reader and time base corrector
- Built-in character generator and characters can be superimposed via Video Output 3
- Free from color framing as long as the recording component signals are fed directly from the component signal source
- RS-422 serial interface and 36-pin parallel interface
- Recording capability
- Built-in editing facility
- 225W power consumption
- Two independent SC-H phase indicators for composite input and output
- 66 lbs., 2 oz.; 5 rack units high



BVW-70

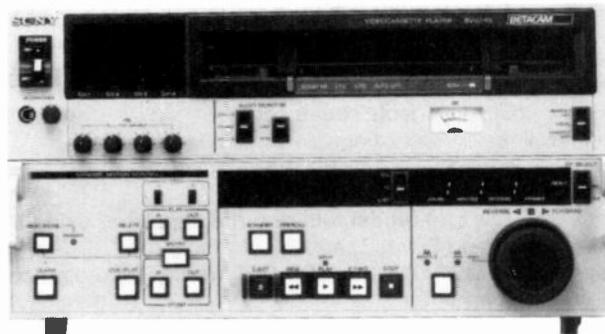
Supplied Accessories

- AC power cord
- RCC-5G remote control cable (9-pin)
- 12-pin dubbing cable
- Extension board
- Operation and maintenance manual

BVW-70 \$32,000.00

BVW-65 Betacam SP Studio Player With Dynamic Tracking (DT)

- Maximum playback time of over 90 minutes
- In addition to the two conventional longitudinal audio channels, two AFM audio channels are added, making a total of four channels available
- High speed picture search
- Built-in time code reader and time base corrector
- Built-in character generator and characters can be superimposed via Video Output 3
- Free from color framing as long as the recording component signals are fed directly from the component signal source
- RS-422 serial interface and 36-pin parallel interface
- Dynamic motion control (DMC) playback which, when activated, will allow the BVW-65 to memorize the tape speed trajectory for noiseless playback picture within the Dynamic Tracking range of -1 to +2 times normal speed
- 175W power consumption
- 61 lbs., 11 oz.; 5 rack units high



BVW-65

Supplied Accessories

- AC power cord
- Remote control cable RCC-5G (9-pin)
- Extension board
- Operation and maintenance manual

BVW-65 \$26,500.00

BVH-3000 (Sync)/BVH-3100 (Non-Sync) 1" SMPTE Type C Format Video Tape Recorders

- Air threading technology limits tape handling to a minimum for ease of operation and tape protection
- Easy manual tape threading with wide movable guide system
- Time base corrector function supplied as a standard
- Two types of time base corrector processors available—Standard TBC Processor or High Quality TBC Processor
- High Quality TBC Processor provides a steady DT playback picture
- Self-aligning DT system for Dynamic Tracking playback within a DT range of -1 to +3 times normal playback speed
- Separate SC-H phase meters for tape SC-H phase and reference signals provided
- Serviceability improved with the sophisticated one-circuitboard/one-function design
- Full scale built-in editing facility
- Video/audio confidence playback
- Versatile system interface available for system expandability
- Two hour recording and playback
- Computer controlled servo system including sophisticated self-diagnostics
- 147 lbs., 7 oz.

Supplied Accessories

- Extension board (EX-136)
- Empty reel (R1-11VA)
- 37-pin D-sub connector
- 50-pin D-sub connector
- Phone plug adaptor
- Key ID label
- Overlay sheet (printed)
- Overlay sheet (blank)

BVH-3000 \$48,000.00

BVH-3100 40,125.00



BVH-3000

BVH-2500 1" Video Tape Recorder

- Various Δt recording modes:
 - Still—Records or replaces a selected field or frame
 - Step—Steps forward one time increment and records or replaces a selected field or frame
 - Slow—Records at speeds from $1/60$ to $8/60$ (NTSC), $1/50$ to $3/50$ (PAL), $1/60$ to $5/60$ (PAL-M) normal, set by the variable speed control

- No preroll for Δt recording
- Compatible with SMPTE/EBU type C format
- Standard real time recording
- Instantaneous and repeatable re-write capability using a DT Record, Play and Erase Head
- Approx. 400,000 fields or 200,000 frames recording capability with 2-hour reel
- Built-in time code generator/reader

Supplied Accessories

- 50-pin connector for Remote Out-3
- 37-pin connector for Monitor Select
- Empty reel
- Extension board
- Phone plug adaptor
- Operation and maintenance manual

BVH-2500 \$70,000.00



BVH-2500

SONY BROADCAST

1" VIDEO TAPE RECORDERS

BVH-2800/2830 1" Digital VTRs with PCM Sound

- BVH-2800 for 2 hour operation; BVH-2830 for 3 hour operation
- Playback compatible with BVH series VTRs
- A total of 5 audio channels—2 PCM audio channels and 3 analog audio channels
- PCM audio editing capability
- Video and audio (analog and digital) simultaneous playback during recording/editing
- Versatile system interface with a simple connection
- Integral time base corrector with a wide 15H p-p correction window (optional)
- High speed dynamic tracking system with DT ranges from -1 to +3 times normal speed
- Easy tape threading with movable head gate system
- Computer controlled servo system including sophisticated self-diagnostics
- Life of the lower drum improved and extended
- Mechanical squeeze plate to minimize impact error



BVH-2800

Supplied Accessories

- 50-pin connector for remote out-3
- 37-pin connector for monitor select
- Extension board EX-113
- Phone plug adaptor
- PC board indication label
- Screw B5 x 16
- Operation and maintenance manual

BVH-2800 \$42,500.00
 BVH-2830 60,000.00

BKH-2801 PCM Audio Processor

- When interfaced with BVH-2800 VTRs, enables high quality 2-channel digital recording and playback
- Three sampling rates, 48kHz or 44.1kHz/44.056kHz can be selected
- All of the audio function controls and indicators are located on the front panel for ease of operation
- Optional circuit boards for digital I/O interface (BKH-2804) and audio D/A converter (BKH-2805) are available
- 19" rackmountable or, with the BKH-2803 Processor Mount Adaptor, VTR mountable for desktop use

BKH-2801 \$15,000.00



BKH-2801

BKH-2802 Control Panel

- Designed exclusively for BVH-2800 VTRs and houses all of the function keys needed for 2 machine editing including the numeric keypad
- In addition to the conventional editing capabilities of 1" machines, this control panel provides independent CH1 and 2 digital audio editing

BKH-2802 \$7,000.00



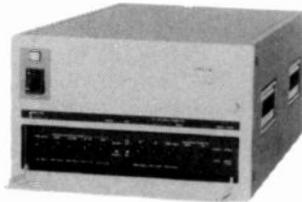
BKH-2802



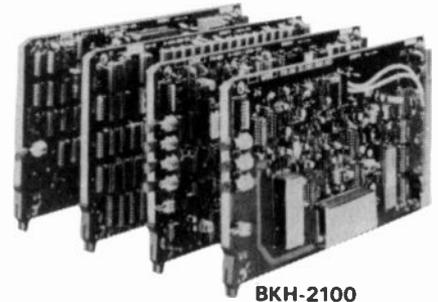
BVH-500A



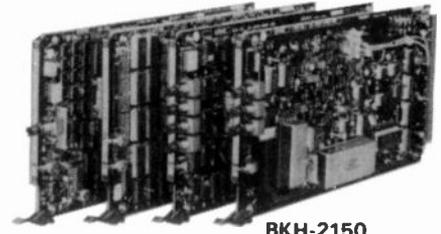
BVH-2180



BVT-2000



BKH-2100



BKH-2150

BVH-2180 1" Video Tape Recorder

- Tape transport with three-hour recording and playback capability
- High speed Dynamic Tracking System; Wide DT range from -1 to +3 times normal speed; Programmed play; DT variable memory function
- Easy threading head gate system with precise cross roller guide
- Three types of control panel (option)
- Plug-in time code board (option)
- Full scale editing facility
- Versatile system interface
- Front operation and improved serviceability
- Self-diagnostic system
- 170 lbs.
- 28.2"H x 24.5"W x 22.5"D

Supplied Accessories

- 50-pin connector for remote out-3
- 37-pin connector for monitor select
- Empty reel
- Extension board
- Phone plug adaptor

BVH-2180 \$53,600.00

BVH-500A Portable 1" Video Tape Recorder

- Back space assemble edit with on/off switch
- Digital servo system
- Electric tension servo system
- Advanced gyro rolling characteristics
- Color framing facility
- Warning indicators
- Reel size selector
- 60 minutes recording/playback
- Dust and weather-proof housing
- 35 lbs.
- 7"H x 15"W x 16.5"D

Supplied Accessories

- Empty reel
- CCQ-2AR
- Operation and maintenance manual

BVH-500A \$33,700.00

Optional Accessories

- HT-500A Color stabilizer (NTSC) \$3,585.00
- BVR-500 Function remote control \$410.00
- CLP-550 Color playback for adaptor for (using with a TBC)
NTSC \$5565.00

BVT-2000 Digital Time Base Corrector

- For BVH-2180/2500/2800/2830 1" VTRs
- Correction range of 12H p-p
- Dynamic tracking playback with BVH-1100/1100A/1180/2180/2500/2800/2830 series
- 9-bits, 4X fsc sampling
- 1H prior drop-out compensation with digital Y/C separation
- Built-in velocity error compensation
- Built-in sync generator
- Built-in video processor
- Built-in automatic advanced sync generator
- Synchronized to external reference signal with high and low tape speed
- Simultaneous playback monitoring
- Remote control facility

BVT-2000 \$14,300.00

BKH-2100 Digital Time Base Corrector

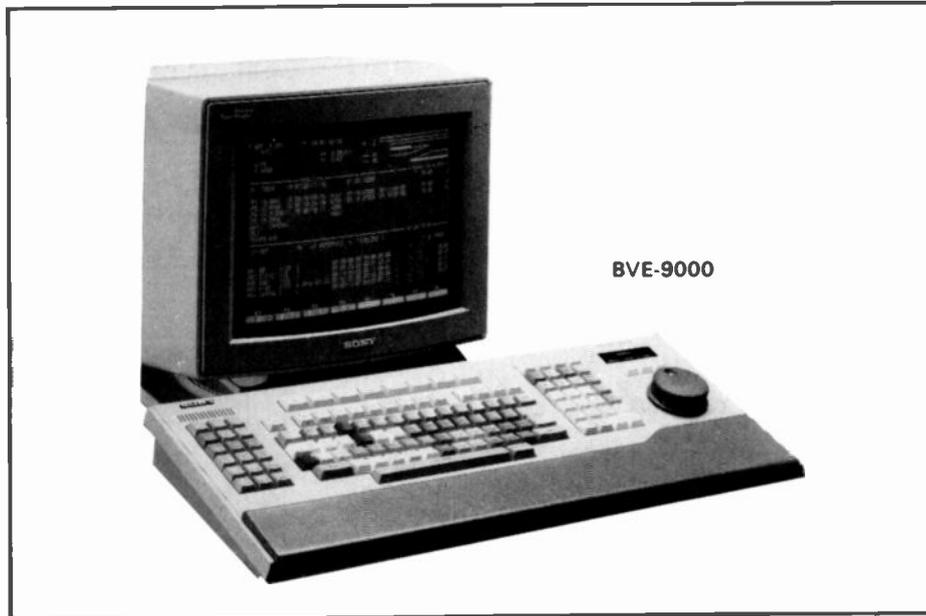
- Plug-in TBC for BVH-2180/2800/2830
- Consists of 4 circuit boards (plug-in type)
- PAL/SECAM switch selectable (BKH-2300)
- 1H p-p window correction
- 8-bits, 4X fsc (NTSC)
- Recognizable B/W picture, up to ± 50 times normal speed
- Second order velocity error compensation
- Selectable vertical blanking 10H to 21H
- Full remote control capability

BKH-2100 \$8,425.00

**BKH-2150 Digital Time Base Corrector
With Dynamic Tracking**

- Plug-in TBC for BVH-2180/2800/2830
- Consists of 4 circuit boards (plug-in type)
- PAL/SECAM switch selectable (BKH-2350)
- 15H p-p correction window
- 9-bits 4X fsc (NTSC), 8-bits 4X fsc (PAL/PAL-M) 8-bits 1135
- fH (SECAM) sampling frequency
- Recognizable monochrome picture up to ± 50 times normal speed
- Recognizable color picture up to ± 8 times normal speed
- Broadcast quality picture from -1 to +3 times normal speed
- Digital dropout compensation
- Second order velocity error compensation
- Selectable vertical blanking 10H to 21H

BKH-2150 \$12,300.00



BVE-9000 Editing Control System

- Can be configured in its basic form to control 4 VTRs, a video switcher, and an audio mixer, and then be expanded to suit customer requirements
- Operator communicates with the system through dialogues with the CRT which keeps the operator informed of the current editing status
- Sony VTRs, such as the BVH Series 1", Betacam, BVU Series U-Matic and Component Digital VTRs, can be simultaneously controlled
- A maximum of 27 Sony VTRs, equipped with RS-422 interfaces, a video switcher and an audio mixer can be interfaced with the BVE-9000 system
- Standard RS-232 port dedicated for printer use
- Two 3.5" floppy disk drives provided as standard
- Machine control ranges from manual control (fast forward, rewind, shuttle and jog) to automatic control (preroll synchronization and audio recording)
- Dynamic Motion Control (DMC) is standard
- Provides full control of the main functions of the switcher in use
- Editing can be executed on selectable time references—VITC, LTC or CTL can be used individually or in any combination
- Synchronization is selectable from seven grades in order to execute editing under various circumstances
- Up to six player VTRs, two auxiliary inputs and black signals can be utilized as sources to perform assemble editing or insert editing by using Video, Audio 1, 2, 3, 4 in any combination
- Memory capacity provides a total of 512 events as standard and is optionally expandable to 999 events. Additional comments can be added to the EDL data and stored in the memory
- Time code, VTR operation status and the editing process can be superimposed on the sub-picture monitor or the main picture monitor to enable operators to remain informed of the BVE-9000 operations
- Provides powerful self-diagnostics on a block basis, and board basis
- Editing data display is available in either color or monochrome

Specifications

CPU:	16-bit microprocessor, common bus control, operational program in 3.5" floppy disk
Operation:	Data and source control by keyboard with VDU of edit data and source status
Keyboard:	58 keys in typewriter order, color coded; 24 keys for basic functions; 12 keys for system defined and user programmable function keys; 17 self lighted keys for source and monitor select and search dial mode keys; 18 keys for extra functions; Bidirex search control, shuttle, jog, DMC audible alarm
CRT Display:	B/W: 6 x 7 dot matrix x 80 characters x 29 lines, 640 x 261 graphics; Color: 6 x 7 dot matrix x 80 characters x 29 lines, 16 colors, 640 x 261 graphics, 16 colors
Edit Reference:	CTL, LTC (SMPTE/EBU), VITC (SMPTE/EBU)
Edit Accuracy:	±0 frame with time code operation (Normal play mode)
EDL I/O:	Standard 3.5" micro floppy disk, optional 8" floppy disk, printer, TTY, microcomputer, PTP/R
VTR Interface:	Model: BVH, BVW, BVU, DVR-1000/DVPC-1000, and HDV series VTRs. Maximum of 27 VTRs connectable. Maximum of 14 VTRs (6 players and 8 recorders) controllable
Video Switcher Interface:	Grass Valley Group 100/300/1680 series
Audio Mixer Interface:	MXP-29/MXP-2000 series
GPI:	3 standard ports + 32 optional output ports + 8 optional input ports. Programmable pulse output
RS-232C Port:	One standard port (printer) + 4 optional ports. Programmable baud rate and bit
BVE-9000	\$15,500.00

DVR-1000 4:2:2 Component Digital VTR

- SMPTE D-1/EBU standard
- Meets the CCIR rec. 601 4:2:2 Component Digital Standard
- 525/60, 625/50 switchable
- Two levels power supply voltage (100-120V and 220-240V)
- Both L (Large) and M (Medium) size SMPTE D-1 cassettes usable
- Complete frame edit operations are assured with no picture shift
- Editing with direct digital data streams drastically reduces the signal degradation from multiple dubbing in editing, thus overcoming the inevitable limitations of analog recordings
- Both digital and analog I/O ports are provided for various video and audio inputs/outputs
- The analog ports can be used with any conventional studio equipment (RGB, Betacam)
- The digital port, which conforms to the SMPTE RP-125 and the EBU Tech 3246-E parallel digital interface standards, will allow interfacing with other digital studio equipment
- Each audio channel has a storage capacity of 20 bits per sample at a sampling rate of 48kHz
- The recording mode can be selected from eight modes available. The selected mode specifies the number of audio bits per sample and defines the type and quantity of associated ancillary data, thus ensuring transparency to AES digital audio signals
- The four digital audio channels provide high quality sound and flexible production capability
- System flexibility due to three RS-422 ports
- Wide Electroluminescence (EL) display system
- Broadcast level playback and freeze pictures at up to $\pm 1/4$ times normal speed
- Color pictures in shuttle up to ± 40 times
- Separate unit system, tape transport unit and processor unit

DVR-1000 \$140,000.00



DVR-1000

DVR-10 D-2 Digital Cassette with Dynamic Tracking™ VTR

- Conforms to SMPTE D-2 composite digital format
- With digital interfaces, more than 20 generations with no signal degradation in audio and video can be obtained
- Dynamic tracking facility permits noiseless still, slow motion and variable speed playback within -1 to 3X normal playback speed. (Audio channels muted during DT use)
- Wide bandwidth of 6MHz and high signal-to-noise ratio of 54dB
- Error correction/concealment feature for dropout-free performance
- Four digital audio channels
- Compact (6 rack units high) and lightweight (103 lbs., 10 oz.)
- Accepts both M-size (94 minute operation) and S-Size (32 minute operation) cassettes
- Large electroluminescent display (640 x 200 dots) with 12 menus for operation control and audio metering
- Two machine editing control (built-in) via RS-422 port
- Up to 99 cue points can be stored and selected for random accessing and pre-roll
- Control panel can be angled or removed and connected to the rear panel for maintenance
- DFX-1200 (D-1 to D-2) and DFX-2100 (D-2 to D-1) digital rate converters available for digital conversion

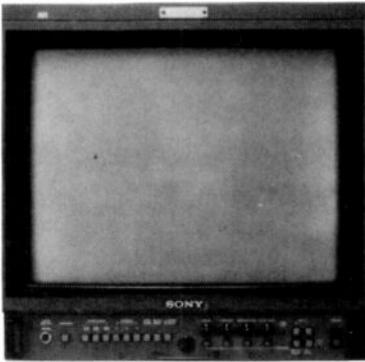
Supplied Accessories

- Control panel BKDV-101
- Extension board (EX-138)
- Extension board (EX-185)
- Rackmount kit
- Connector plug (50-pin)
- AC power cord
- Plug holder
- Operation and maintenance manual

DVR-10 \$72,500.00



DVR-10



BVM-1912

BVM-1912 Automatic Set-up Color Monitor

- Auto convergence and geometry adjustment • Auto setup capability (with the optional BKM-2053 probe) • Optional plug-in type decoder boards are available for viewing other TV standard systems • Component (Y, R-Y, B-Y) and RGB inputs available • Optional component (Y, R-Y, B-Y) and R, G, and B outputs are available with the BKM-1440 • Stabilized color temperature is obtained by employing a newly developed beam current feedback • A picture setup switch for accurate incoming video level alignment • Up to 6dB of aperture correction at 4.5MHz and 6.5MHz, selectable • Built-in cross hatch and white signal generator (100 IRE) for easy monitor alignment • Split screen (upper half: color mode; lower half: monochrome mode) • VITC display (with optional BKM-1460) • Safe area display (with optional BKM-1470) • With the optional BKM-1480, the black level signal generator is available for easy and precise adjustment of black level settings of the monitors • Blue only mode with monochrome display for noise component evaluation • A lockable pull-out drawer gives control access • Comb filter • Fast/Normal/Slow AFC mode switch • Over drive protection protects against picture tube damage • Provided with D-sub 9-pin RS-422 interface for future available remote control unit • 19" rackmountable with optional BKM-2000

Supplied Accessories

- BKM-1410 NTSC decoder • BKM-1411 NTSC comb filter • BKM-2056 auto setup adaptor

BVM-1912 \$10,000.00



BVM-1910

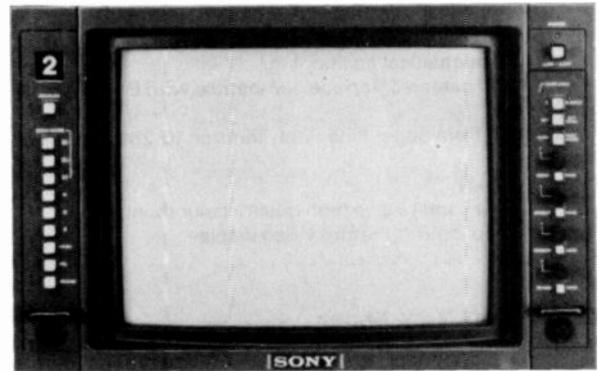
BVM-1910 19" Auto-Setup Color Monitor

- Auto setup capability (optional BKM-2056) • By using optional decoder boards (plug-in type), a maximum of 3 TV standard systems can be selected in the drawer • Component (Y, R-Y, B-Y) and RGB input facilities are available • Stabilized color temperature • Optional component (Y, R-Y, B-Y) and R, G, and B output facilities are available with the BKM-1440 • Split screen (upper half: color; lower half: monochrome) for precise picture confirmation • VITC display facility (with optional BKM-1460) • Safe Area Display facility (with optional BKM-1470) • Pulse cross facility is provided to check the horizontal and vertical syncs simultaneously • Built-in cross hatch and white signal generator (100 IRE) • With the optional BKM-1480, the black level signal generator is available for precise adjustment of black level settings • Blue only mode with monochrome display to evaluate noise components precisely • A lockable pull-out drawer gives access to convergence, color balance, level adjustment and other controls • Over Drive Protection circuit protects against picture tube damage • Super Fine pitch CRT assures a center resolution of 900 TV lines at 30fL • 19" rackmountable with the optional BKM-2000 • Precise convergence; convergence errors are less than 0.4mm at the center and 0.7mm at the edges

Supplied Accessories

- BKM-1410 NTSC decoder board • BKM-1411 NTSC comb filter adaptor • AC power cord • Extension board • 10-pin connector • Tally number plates • Operation and maintenance manual

BVM-1910 \$7,400.00



BVM-1310

BVM-1310 13" Color Monitor

- 700 TV lines center resolution at 40fL • Auto setup capability (option) • 3 TV standard systems out of the 4 TV standard NTSC, PAL, SECAM, or PAL-M can be selected using the optional decoder boards (plug-in type) • Stabilized color temperature obtained by a beam control circuit • Picture setup switch for accurate alignment • Up to 6dB aperture correction at 4.5MHz and 6.5MHz selectable • Built-in cross hatch and white signal generator (100 IRE) • Built-in component (Y, R-Y, B-Y) and RGB input facility with optional output facility • Pulse cross function for simultaneous checking of horizontal and vertical sync • Provides US standard phosphors • Over drive protection circuit protects picture tube from damage • Raster size stability within 1% from 0 to 40fL • Comb filter • 19" rackmountable with optional kit • Split screen (vertical only) for precise picture confirmation • VITC display facility (option) • Blue only mode with B/W display to evaluate noise component precisely • Two lockable pull-out drawers give access to convergence, color balance, level adjustment and other controls • AFC switch provides 3 modes (Fast/Normal/Slow) • Auto/manual degaussing

Supplied Accessories

- AC power cord • 10-pin connector • Screwdriver • Fuses and tally number labels • Operation and maintenance manual

BVM-1310 \$4,850.00



BVM-8021

BVM-8021 8" Portable Color Monitor

- Suitable for ENG/EFP applications • High resolution of 400 TV lines at center (composite input) • Operates with one or two NP-1A battery packs, a 12V car battery, or an AC outlet • BP-90 capability with optional bracket VLC-100 • Easy connection to TV tuner unit TU-1110 series using the tuner connector • Spring loaded control knob prevents control damage • Normal scan/under scan select switch • Blue only mode switch • H/V delay function displays horizontal and vertical sync signals • Input A or input B (BNC or tuner) selectable • Built-in charger for battery pack NP-1A

Supplied Accessories

- AC power cord • Hood • Operation and maintenance manual

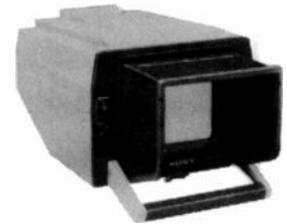
BVM-8021 \$1,100.00

BVF-7000Q 7" Color Viewfinder

- Specially designed for use with BVP-360
 - Various camera indications provided in viewfinder
 - Wide range of mechanical positioning
 - Dimensions and camera interface compatible with BVF-70 7" viewfinder
 - High resolution from Super Fine Pitch Trinitron (0.2mm center, 0.25mm side)
 - Underscan display
 - RGB inputs from camera give high quality color monitoring
 - Composite video input for return video display
- BVF-7000Q**\$8,500.00



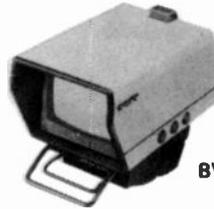
BVF-7000Q



BVF-70

BVF-70 7" B/W Viewfinder

- Specially designed for use with the BVP-360—for direct camera installation
 - High resolution, 800 TV lines at center
 - Various camera indications provided in viewfinder
 - Wide range of mechanical positioning
- BVF-70**\$4,950.00



BVF-50



CCU-300L

BVF-50 5" B/W Viewfinder

- 600 TV lines resolution at center
 - Adjustable center position marker with on/off switch
 - Panning and tilting facility
 - For all BVP series portable cameras
- BVF-50**\$2,250.00



AC-500/500CE



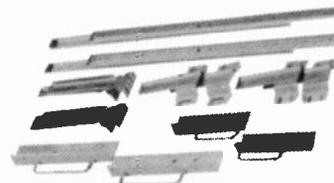
BC-210/210CE

CCU-300L Camera Control Unit

- AC/DC 2-way power operation
 - 600m max. power operation
 - Genlock function
 - Multi and mixing monitor
 - Double jacks for headset
- CCU-300L**\$9,000.00



DC-100



RMM-100



BP-90

AC-500/500CE AC Adaptor

Supplies DC power to Sony BV-series equipment; genlock functions by means of a VBS signal; AC power cord and DC cord 2m (1-551-258-00) with XLR-4P supplied; Power Requirements: 100/120/220/240VAC adjustable, 50/60Hz; Power Consumption: 120W max.; Input/Output Terminals: Camera connector (14-pin); Video out connector (BNC type) NTSC 1V p-p, 75 ohms; Mike out connector (equivalent to XLR-3-31), Reference Output: -60dBm 600 ohms, balanced; DC out connector (equivalent to XLR-4-31), +12.3V, 7A; Ext. VBS input connector (BNC type), VBS (1V p-p) or BS, 75 ohms; 9 lbs., 8 oz.; 3.6"H x 8.5"W x 12.9"D\$590.00

BC-210/210CE Battery Charger For BP-90

Battery charger for BP-90 battery packs; up to four BP-90 batteries; AC power cord supplied; Power Requirements: 100/120/220/240VAC adjustable, 50/60Hz; Power Consumption: 70W; Output Terminals: Battery jacks (for charging x 4) 2.0A (typical); Charging Time: Approx. 2 hrs. per BP-90; 11 lbs., 7 oz.; 3.6"H x 8.5"W x 12.4"D\$890.00

BC-1WA Battery Charger For NP-1A

The BC-1WA is a battery charger for the NP-1A battery pack used in the Betacam; Up to four NP-1A batteries can be charged sequentially; Power Requirements: 120VAC ± 10%, 50/60Hz (for USA and Canada), 220 to 240VAC ± 10%, 50/60Hz (for Europe and UK); Power Consumption: 58W; Charging Time: Approx. 1 hr. (max. 2 hrs.); Rechargeable Battery: NP-1A only (per NP-1A); 5 lbs., 5 oz.; 3.1"H x 4.2"W x 10.3"D\$460.00

DC-100 Battery Case For NP-1A

Battery case for one NP-1A battery; specially designed for the BVV-1A Betacam recorder; Metal fitting x 2, Screw (B 3 x 6) x 2, Screw (B 4 x 6) x 2 and Lace supplied; 10 oz.; 8"H x 3.3"W x 2"D\$265.00

DC-300 Battery Case For BP-90

BP-90 battery case (one BP-90) for BVP-350 camera and CA-50/CA-3A/CA-30/CA-300 equipped cameras; 1 lb., 3 oz.; 7.3"H x 6.4"W x 1.9"D\$595.00

DC-310 Battery Case For NP-1A

Battery case for BVP series 3-tube cameras and CA-3/CA-30/CA-300 equipped cameras; Up to two NP-1 batteries can be carried; Holder x 1 and Screws x 1 set supplied; 1 lb., 6 oz.; 8"H x 3.5"W x 3.1"D\$550.00

RMM-100 Rackmount Kit

Can be rackmounted on a standard 19" rack or system console. For all Studio Betacam VTRs\$325.00

RMM-301 Rackmount Kit

The DCU-300 CCU adaptor and the CCU-300 can be rackmounted side by side in a standard EIA rack; 10 lbs., 6 oz.; 5.2"H x 19"W x 13"D\$175.00

BP-90 Rechargeable Battery Pack

Type of Battery: NiCad rechargeable; Voltage: 12V; Current Capacity: 3.5AH; 3 lbs., 12 oz.; 6.9"H x 4.8"W x 15.1"D\$365.00

NP-1A Rechargeable Battery Pack

Type of Battery: NiCad rechargeable; Voltage: 12V; Current Capacity: 1.5AH; 1 lb., 8 oz.; 1"H x 2.8"W x 7.3"D\$85.00



V1-K Series

V1-K Series 1" Video Tape

- Offers smooth transport in all modes and on all C-format VTRs

Cartons—V1-K-18B, V1-K-34B, V1-K-66B, V1-K-96B

Shipper Case—V1-K-18SP, V1-K-34SP, V1-K-66SP, V1-K-96SP, V1-K-126SP, V1-K-156SP, V1-K-188SP

V-16 Series 1" Video Tape

- High sensitivity for mastering durability to withstand stress of editing and repeated play • Minimal dropouts 3 per minute.

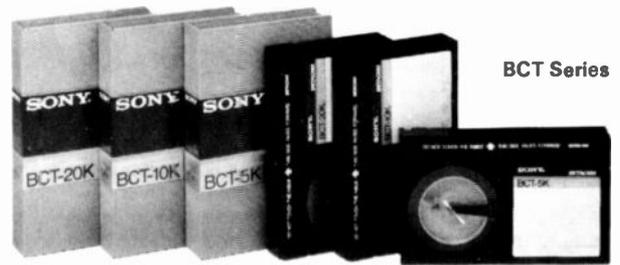
Cartons—V-16-18B, V-16-34B, V-16-66B, V-16-96B, V-16-126, V-16-188

Shipper Case—V-16-18SP, V-16-66SP, V-16-34SP, V-16-96SP

HD-1 Series High Definition 1" Video Tape

High density Vivax™ magnetic particle rendering high quality picture and sound reproduction required for HDVS.

Shipper Case—HD-1-33SP, HD-1-48SP, HD-1-63SP



BCT Series

BCT Metal Series Betacam SP Videocassettes

- Ultra-fine metal particle for enhanced video/audio characteristics
- BCT-5M, BCT-10M, BCT-20M, BCT-30M (small metal cassettes)
 BCT-5ML, BCT-10ML, BCT-20ML, BCT-30ML, BCT-60ML, BCT-90ML (large metal cassettes)
 BCT-5MNP, BCT-10MNP, BCT-20MNP, BCT-30MNP, BCT-20K-SC

4:2:2 Component Digital Video Master Cassettes

- Super Vivax magnetic particles • High Polymer binder system ensures uniform, high density particle distribution
- DCM-200, DCM-400, DCM-600, DCM-1600, DCM-75CL

D-2 Composite Digital Video Master Cassettes

- Metal particle formulation for outstanding picture quality • Small cassettes—DCS-60M, DCS-100M, DCS-180M, DCS-250M; Medium cassettes—DCM-60M, DCM-100M, DCM-180M, DCM-250M, DCM-300M, DCM-750M

1/2" PRO X Series Videocassettes

- Ultra fine super precision Vivax • Beta S/N improved by 1dB, color S/N by .5dB • VHS S/N by 1.5dB compared to ESX Hi-Fi • For recording video master tapes, editing and dubbing, PCM digital audio recording
- | | |
|--------------|------------|
| BETA | VHS |
| L-250, L-500 | T-120 |

Professional Grade VHS

30, 60, 90 and 120 minute lengths

1/2" Dynamicron-Series Videocassettes

- Economical, high value performance for general purpose recording
- | | | |
|----------------------|--------------|--------------------------|
| BETA | VHS | 1/2" Reel-to-Reel |
| L-125, L-250, L-500, | T-60, T-90, | V-30H, V-32, V-35 |
| L-750, L-830 | T-120, T-160 | |

MP Series Metal Particle 8mm Videocassette

- Cosmiclite Ultra-fine magnetic particle ensuring high output and low noise • Unique UST (Ultra Surface Treatment) eliminates dropouts

Packaged—P6-30MP, P6-60MP, P6-90MP, P6-120MP

Bulk—P6-30PH, P6-60PH, P6-90PH, P6-120PH

Bulk 8mm cassettes—P6-30PHB, P6-60PHB, P6-90PHB, P6-120PHB

EVPCASE—P-case for bulk cassettes must be ordered separately

D-1/4, D-1/2 Series Open Reel Digital Audio Tape

- High coercivity magnetic particles and precise surface technology provide excellent resolution and high output, especially in the high frequencies

1/4" —D-1/4-730, D-1/4-1460, D-1/4-2190

1/2" —D-1/2-1460, D-1/2-2920

3/4" Digital Audio Master Cassette

- Extremely low dropout rate • High precision cassette shell for reliable tape transport

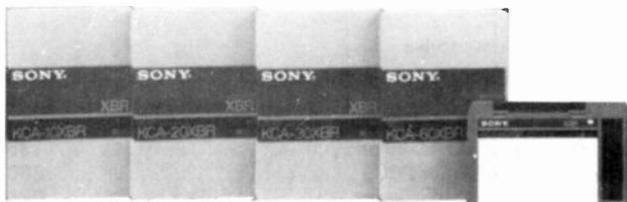
KCA-60BRK-PCM, D-3/4 75U, DAU-30, DAU-60, DAU-75

Professional DAT

DT-60R, DT-90R, DT-120R, DT-10CL

Tape Accessories

CL-25—U-Matic tape case; **CL-1-SPS**—1" Tape shipper case (9" dia.); **CL-1-SPM**—1" Tape shipper case (10.5" dia.); **CL-16SPL**—1" Tape shipper case (14" dia.); **KCS-1CL**—U-Matic cleaning cassette; **BCT-5CL**—Betacam cleaning cassette; **L-25CL**—Betamax cleaning cassette; **V-25CL**—VHS cleaning cassette; **RI-9V**—1" Empty reel (9"); **RI-10V**—1" Empty reel (10.5"); **RI-11V**—1" Empty reel (11.75"); **RI-14V**—1" Empty reel (14")



XBR Series

XBR Series U-Matic® Videocassettes

- The ultimate broadcast master • Offers improved video and audio characteristics, greater durability, reliability and low dropout rate

KCA XBR Videocassettes (for standard size U-Matic machines)

KCA-10XBR, KCA-20XBR, KCA-30XBR, KCA-60XBR

KCS XBR Mini Videocassettes (for portable, in-field use)

KCS-10XBR, KCS-20XBR

BRS Series U-Matic Videocassettes

- Broadcast standard videocassette • Carbon Mirror™ backcoating and anti-static shell

KCA BRS Videocassettes (for standard size U-Matic machines)

KCA-10BRS, KCA-20BRS, KCA-30BRS, KCA-30BRS-SC, KCA-60BRS, KCA-60BRS-SC

KCS BRS Mini Videocassettes (for portable, in-field use)

KCS-10BRS, KCS-20BRS, KCS-20BRS-SC

KSP Series U-Matic Videocassettes

- Designed especially for use with Sony Pro Plus VCRs • Super Vivax magnetic particles allows tape to handle higher FM carrier frequency of the U-matic SP system

KSP 10, 20, 30, 60, KSPS Mini S10, S20

BCT Series Betacam Videocassettes

- Reliable, durable, broadcast quality cassettes
- BCT-5K, BCT-10K, BCT-20K, BCT-30K, BCT-60L, BCT-90L (to be used only with Betacam SP VTRs capable of loading large cassettes)

Call For Current Pricing

Prices and Specifications Subject to Change Without Notice.

SERIES 200 CONSOLES

- Internal working level of -6dB, allowing +26dB internal headroom level
- Low noise/hi-slew rate mike preamp
- 48V phantom power, switchable on each individual input
- Balanced tape returns
- Separate control room output on rear panel
- Balanced line inputs
- Channel pre-fade insert point
- Direct assign to subgroups
- Direct assign to stereo buses
- -10 or +4 internal switching
- Four aux. sends
- Pre or post EQ selection for aux. sends
- Pre or post fader selection for aux. sends
- Talkback selection; to all groups, or to aux. 1 and 2
- 8 track monitoring
- Balanced mix output
- Ground compensated aux. and group outputs
- Low profile, solid constructed frame
- Internal oscillator with level control assigned to groups, mix, and aux. 1 and 2
- Head-phone jack on master module
- Can be used for a variety of applications, including recording, video production and post production, broadcast
- By utilizing the eight monitor returns for effects returns (allowing for 8 extra line inputs), it can also be used as a sound reinforcement console

200SR

- 4 band fixed EQ
- Balanced mike/line inputs
- 4 aux. sends
- 4 group assignments
- 4 effects returns with 2 band EQ
- 48V phantom power
- Channel insert points

200SR	8/4 standard	.....	\$2430.00
200SR	8/4 rackmount	.....	2430.00
200SR	16/4	.....	3975.00
200SR	24/4	.....	5475.00
200SR	32/4	.....	6950.00

200B

- 4 band fixed EQ
- Balanced mike/line input
- 4 aux. sends (pre/post EQ or fader internal selection)
- 4 sub groups and direct mix assignment
- 8 monitor/FX returns
- -10/+4 internal switching
- Balanced outputs
- 48V phantom power
- 26dB headroom
- Channel insert points

200B	8/4 standard	.....	\$3045.00
200B	8/4 rackmount	.....	3045.00
200B	16/4	.....	4625.00
200B	24/4	.....	6300.00
200B	32/4	.....	7950.00



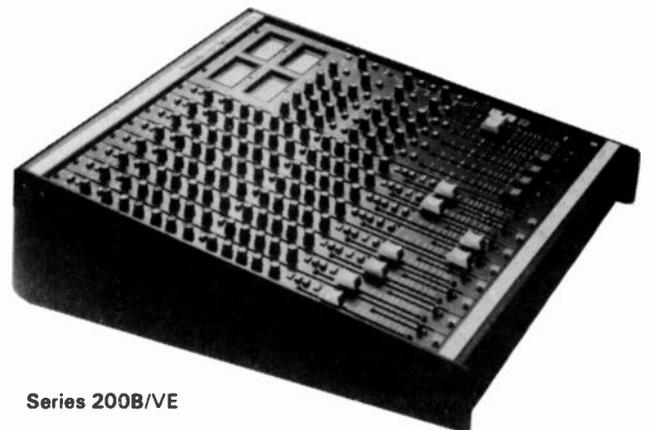
Series 200

Modules and Accessories

Standard Input Module for 200SR	.....	\$ 110.00
Blank Panel for 200SR	.....	35.00
Standard Input Module for 200B	.....	150.00
Blank Panel for 200B (Fixed or SEQ)	.....	35.00
Stereo Input Module for 200B	.....	260.00
Spare Power Supply (All Series 200)	.....	575.00
Spare Power Supply Cable (All Series 200)	.....	75.00

Series 200B/VE Console

- 8 input version of the Series 200B mixing console, specially adapted to work closely with a video editor
- Audio crossfades can be made totally under editor control, though the console is also capable of operating in a standalone mode as a Series 200B
- The edit decision list is created on the editor in the usual way which allows audio control to match video with simplicity and flexibility
- The Series 200B retains all its facilities, including low noise microphone inputs with high common mode rejection and superlative transient performance
- A parallel interface version for direct connection to a Sony BVE 900 or other similar system is available
- Serial interfaces are optional
- All auxiliary sends normally follow the fading action of the VCA, Aux. 1 and Aux. 2, however, may be switched pre-EQ and pre-VCA by moving internal push-on jumpers
- Can respond to both control modes of the Sony BVE 900 with the BKE 916 card DIP switches up, 8 inputs are controlled as 4 stereo pairs, with accurately ganged fader control
- With the DIP switches down, 6 inputs are controlled separately in a mono format, and 2 inputs are left under complete manual control
- A compact additional 45mm fader controls the extent to which the BVE 900 can attenuate the signal and sets the maximum fade depth, significantly enhancing the control capabilities of this type of system
- Either standard or sweep EQ input modules may be specified
- Incorporates sophisticated solid-state switching between listening to the stereo master output, and the relay signal from the two-rack mastering machine
- Monitor output is automatically dimmed by 20dB during VTR spooling to prevent high level signals from causing annoyance and possible loudspeaker damage
- A large LED indicator on the output panel illuminates to show clearly when the console is under BVE control



Series 200B/VE

8 channel console with STD EQ	.....	\$4370.00
8 channel console with SEQ	.....	4950.00
16 channel console with STD EQ	.....	6545.00
16 channel console with SEQ	.....	7645.00

Series 500 Mixing Consoles

- Available in 4 mainframe sizes • Will accommodate 16, 24, 32 or 40 input modules with eight subgroup modules • Ideal for live work and can also be used as monitor channels when the console is used for 8-track recording • Console may be further extended by four input modules (optional) • Signal-to-noise ratio > -80dB (unity gain) • Adjacent-channel crosstalk -70dB at 1kHz • Distortion 0.005% at 1kHz • Fully modular
- External power supply unit provides both the $\pm 17V$ audio rails and the +48V phantom power • Each input is electronically balanced • 4-band variable frequency equalization • Six auxiliary sends • Pan pot • Soloing facility • Individual post-fader line out jack socket • 8-bus console, selected in pairs from each input module and grouped in pairs for convenience at the output modules • Signal can be routed either to the stereo master mix or to any or all of the eight subgroups • Eight effects returns for outboard signal processing units (reconfigurable as 8-track monitor returns for the smaller recording facility)

Series 500

16 channel console.	\$ 8,950.00
24 channel console.	11,850.00
32 channel console.	14,850.00
40 channel console.	17,500.00

Series 500 Monitor

24 channel monitor console.	\$12,250.00
32 channel monitor console.	15,250.00
40 channel monitor console.	17,950.00

Series 2400 Mixing Consoles

- Logical format of the split design makes it simpler to memorize the layout and complex signal paths used in the recording session • Controls are easy to reach without stretching • With inputs and output/monitor modules at either end of the desk, the producer can use the monitor section without hindering the engineer while laying down tracks • In mixdown, it gives you the option of using all the monitor channels as effects returns, so the 24 input console gives you 40 equalized inputs, while the 28 input version allows up to 52 inputs • Choice of mainframe sizes makes it ideal for the large studio as well as the personal recording facility or smaller studio • 24 input mainframe provides 16 track equalized monitoring as standard, but also accommodates the 24 track monitor module to access tracks 17-24 • Both versions are designed to cater to the Soundcraft automation system • Automation option memorizes fader and mute facilities, and provides VCA grouping—making more complex recording systems that much simpler • Electronically balanced mike inputs • Every input module features the 4 band semi-parametric equalizer with sweepable mids, and a high pass filter that has a continuously variable turnover frequency between 50Hz and 800Hz • Monitor modules each contain a 3 band equalizer with sweepable mid frequency, which gives EQ control over effects returns.

Series 2400

24 x 16 VU console	\$28,950.00
28 x 24 VU console	39,500.00
28 x 24 LED console.	44,950.00



Series 2400

TS12 24-Track In-Line Recording Console

- In-line design • Matrix system • 8 separate subgroups • 6 stereo returns • 4 band parametric EQ • Versatile routing • Optional mono effects returns module • Separate 12-group output section which can also be used to create stereo audio subgroups into the mix bus • 6 discrete auxiliary sends • 2 programmable mute groups • Provides for SMPTE/MIDI control of switch functions, to interface with external control devices • 6 equalized stereo effects returns are provided with the option to add a further 16 mono returns • Patchbay is a full 352 point rackmountable bay with high quality metal Bantam jacks • Mix fader provides monitoring of the group output, with the equalizer and auxiliary sends in the mix signal path • In mix-down mode each tape track is normalled back into an I/O channel path • Equalizer and auxiliaries may be switched into the channel path, with the mix fader monitoring the tape return • Signal may be routed to the mix bus and any of the group outputs via the channel fader and pan

TS12 Series

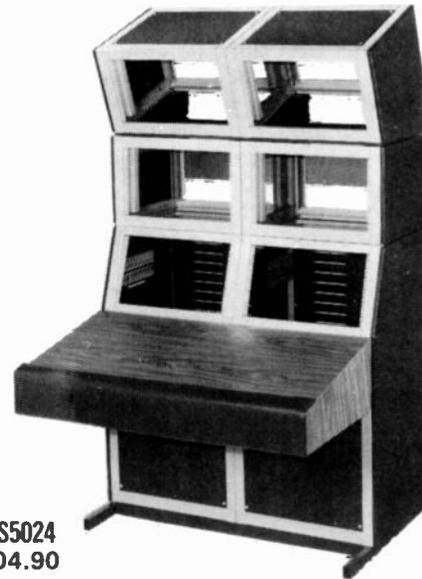
24 channel with STD patchbay VU metering	\$29,950.00
24 channel with metal patchbay VU metering	34,250.00
36 channel with metal patchbay VU metering	43,250.00
24 channel with STD patchbay LED metering	32,950.00
24 channel with metal patchbay LED metering	37,250.00
36 channel with metal patchbay LED metering	46,250.00



WELDED SLOPING FRONT CABINETS



(D) VCAS5022
\$1378.85



(F) VCAS5024
\$2204.90



(E) VCAS5023
\$1698.90

The products illustrated are representative of what can be designed using the Stantron basic modules.

You can design your own console by selecting the basic modules and accessories that fit your requirements.

(A) VCAS5019 \$2313.69

QUANTITY	CATALOG NO.	DESCRIPTION
3	VCSF30025	CABINET
2	VCSS30025	SIDE PANEL LOUVRED
3	VCP31L	REAR PANEL LOUVRED
3	VCP21	BOTTOM PANEL
3	VCP21	FRONT PANEL
1	VCEDF3	EDITOR DESK FLAT
3	VCSB240022	SLOPING BASE
3	VCAS241022	CABINET ASSEMBLY
3 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 709 lb.

(B) VCAS5020 \$2679.27

QUANTITY	CATALOG NO.	DESCRIPTION
3	VCSF30025	CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
3	VCP31L	REAR PANEL LOUVRED
3	VCP21	BOTTOM PANEL
3	VCP21	FRONT PANEL
1	VCSD44	SLOPING DESK
1	VCSWD22	SWITCHER DESK
3	VCSB240022	SLOPING BASE
3	VCAS241022	CABINET ASSEMBLY
3 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 715 lb.

(C) VCAS5021 \$2535.06

QUANTITY	CATALOG NO.	DESCRIPTION
3	VCSF30025	CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
3	VCP31L	REAR PANEL LOUVRED
3	VCP21	BOTTOM PANEL
3	VCP21	FRONT PANEL
1	VCSD44	SLOPING DESK
1	VCSWD22	SWITCHER DESK
3	VCAS241022	CABINET ASSEMBLY
3 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 720 lb.

(D) VCAS5022 \$1378.85

QUANTITY	CATALOG NO.	DESCRIPTION
2	VCSF30025	CABINET
2	VCSS30025L	SIDE PANEL LOUVRED
2	VCP31L	REAR PANEL LOUVRED
2	VCP21	BOTTOM PANEL
2	VCP21	FRONT PANEL
1	VCEDF2	EDITOR DESK FLAT
2 Sets	VCC3	3" CASTER
1	VCLT2	LAMINATE TOP

APPROXIMATE WEIGHT: 419 lb.

(E) VCAS5023 \$1698.90

QUANTITY	CATALOG NO.	DESCRIPTION
2	VCSF30025	CABINETS
2	VCSS30025L	SIDE PANEL LOUVRED
2	VCP31L	REAR PANEL LOUVRED
2	VCP21	BOTTOM PANEL
2	VCP21	FRONT PANEL
1	VCEDF2	EDITOR DESK FLAT
2	VCSB240022	SLOPING BASE
2	VCAS241022	CABINET ASSEMBLY
2 Sets	VCC3	3" CASTER

APPROXIMATE WEIGHT: 543 lb.

(F) VCAS5024 \$2204.90

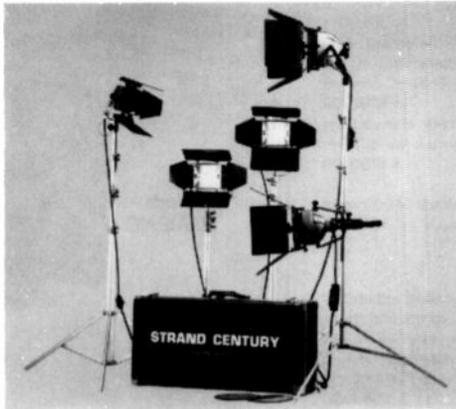
QUANTITY	CATALOG NO.	DESCRIPTION
2	VCSF30025	CABINETS
2	VCSS30025L	SIDE PANEL LOUVRED
2	VCP31L	REAR PANEL LOUVRED
2	VCP21	BOTTOM PANEL
2	VCP21	FRONT PANEL
1	VCSD44	SLOPING DESK
2	VCSB240022	SLOPING BASE
4	VCAS241022	CABINET ASSEMBLY
1	VCAT44	ANTI-TIP BASE

APPROXIMATE WEIGHT: 629 lb.

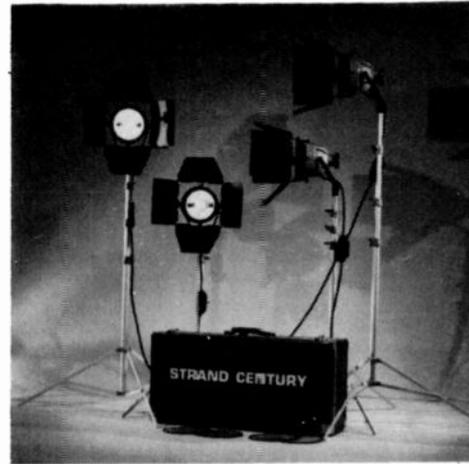


Strand Lighting

PORTABLE LIGHTING KITS



KIT V



KIT VII

Pulsar 600W

A light, compact, open faced floodlight, it is ideally suited for remote and location work. Stand camera-mounted or handheld, the Pulsar's fiberglass "cool touch" housing is a great asset. It gives a soft edged beam with variable spread, has a rapid-turn fast focus knob and an integral heat dissipator—and slips into compact storage. Operates both 120V and 240V lamps.

lanebeam 650W

lanebeam floodlights have basic features in all sizes: They are open faced, lightweight, compact, durable and ideally suited for work in film, television and still photography. They provide a soft edged beam with variable spread and fast focus. The 650W model accepts a variety of tungsten-halogen lamps for both 120V and 240V operation.

lanebeam 1000W

The 650W and 1000W lanebeam floodlights feature molded fiberglass housing for "cool touch" operation permitting faster pack-up after shooting as well as comfortable handling. The 1000W accepts a

variety of tungsten-halogen lamps and like all lanebeams has available a wide variety of accessories and both yokes for stanc mounting as well as gaffer grips.

lanebeam 2000W

The largest lanebeam offered as a kit component is the 2000W which features a lightweight aluminum housing, will operate on 120V and provides a soft edged beam with variable output. It has rapid-turn fast focus knob, is equipped with yoke and stand mounting bracket and a complete range of mounting and grip equipment and accessories. Will also operate on 240V.

ladi 1000W

This unit provides high output fill light for portable and remote applications in television, film and still photography and features a one piece reflector for a wide field and smooth light distribution. The compact housing with folding, springloaded integral 4-way barndoors is ventilated for cooling and efficient operation on a wide range of tungsten-halogen lamps for both 120V and 240V operation.

Century Kit I (1051)

Includes:			
3-4515MP	Pulsar	1-1228	Half Single Scrim
3-1310	4-leaf Barndoor	3-DYS	600W, 75 hrs., 3200°K
1-1225	Full Double Scrim	3-1529	Stand
1-1226	Full Single Scrim	1-1977	Case
1-1227	Half Double Scrim		\$1120.00

Century Kit II (1052)

Includes:			
2-4501MP	lanebeam 650	1-1217	Single Scrim
2-1230	Accessory Holder	2-1529	Stand
2-1324	4-leaf Barndoor	1-1978	Case
1-1216	Double Scrim		\$811.00

Century Kit III (1053)

Includes:			
3-4501MP	lanebeam 650	1-1217	Single Scrim
2-1230	Accessory Holder	3-1529	Stand
2-1324	4-leaf Barndoor	1-1977	Case
1-1216	Double Scrim		\$1028.00

Century Kit IV (1054)

Includes:			
2-4501MP	lanebeam 650	1-1217	Single Scrim
2-1230	Accessory Holder	2-4522	ladi Fill
2-1324	4-leaf Barndoor	4-1530	Stand
1-1216	Double Scrim	1-1978	Case
			\$1339.00

Century Kit V (1055)

Includes:			
2-4503MP	lanebeam 1000	3-4522	ladi Fill
2-1230	Accessory Holder	1-1963	Gaffer Grip with
2-1324	4-leaf Barndoor		5/8" (16mm) stud
1-1216	Double Scrim	4-1535	Stand
1-1217	Single Scrim	1-1978	Case
			\$1589.00

Century Kit VI (1056)

Includes:			
4-4501MP	lanebeam 650	2-1217	Single Scrim
4-1230	Accessory Holder	4-1535	Stand
4-1324	4-leaf Barndoor	1-1978	Case
2-1216	Double Scrim		\$1494.00

Century Kit VII (1057)

Includes:			
4-4503MP	lanebeam 1000	2-1217	Single Scrim
4-1230	Accessory Holder	4-1535	Stand
4-1324	4-leaf Barndoor	1-1978	Case
2-1216	Double Scrim		\$1494.00

Century Kit VIII (1058)

Includes:			
3-4503MP	lanebeam 1000	1-1217	Single Scrim
2-1230	Accessory Holder	3-1529	Stand
2-1324	4-leaf Barndoor	1-1978	Case
1-1216	Double Scrim		\$1028.00

Century Kit IX (1059)

Includes:			
2-4503MP	lanebeam 1000	1-1217	Single Scrim
2-1230	Accessory Holder	2-1530	Stand
2-1324	4-leaf Barndoor	1-1979	Case
1-1216	Double Scrim		\$811.00

Century Kit XI (1061)

Includes:			
2-4505MP	lanebeam 2000	1-1223	Half Double Scrim
2-1325	4-leaf Barndoor	1-1224	Half Single Scrim
1-1221	Full Double Scrim	2-1535	Stand
1-1222	Full Single Scrim	1-1973	Case
			\$1311.00

Handheld Wireless Microphone Transmitters

MARK SM58/PL80	Handheld VHF transmitter: supplied with Shure SM58 or Electro-Voice PL-80 element. Features Swintek dBS audio scaling expander, 100dB dynamic range minimum. Black body standard (gold and chrome optional): supplied with 2 ea. THR-B NiCad batteries, THR-BC charger and BUB 9V battery adaptor.	\$1295.00
MARK SM55	Omni handheld VHF transmitter: supplied with Sony ECM-55 electret mike element for broadcast interviewing applications. Same specifications and accessories as SM58/dBS.	\$1295.00
MARK SM78, SM87, M500	Rock handheld VHF transmitters: featuring the Shure SM78, SM87, or the Beyer M500 mike elements. Same specifications and accessories as the MARK SM58/dBS.	1395.00



Mark 50A/ENG

Body Pac Wireless Transmitters

MARK 50A	Body Pac VHF transmitter: features the complementary Swintek audio scaling expander/compander dBS to achieve a S/N ratio >90dB, which helps eliminate buzz zones and other forms of low level interference. Incorporates military step attenuator with external adjust; switching Pos/Neg bias for all condenser mikes; LED indicator for compressor adjust and battery level; transmitter is equipped to accept 100K ohm music input via 4-pin TA4F jack; steel 9V battery clip. Supplied with flex antenna and battery.	\$580.00
MARK 50A/S	MARK 50A/dBS with mike mute switch.	580.00
MARK 50A/2	Dual frequency MARK 50A/dBS, PL-2 input deleted.	680.00
MARK 50A/ENG	Body Pac ENG dBS VHF transmitter: features the Swintek dBS audio scaling expander/compander with high gain mode for whisper sound or high impedance boom mike. In addition to dynamic mike operation, switchable Pos/Neg bias is supplied for condenser mike use. Headset monitor output for fish pole microphone. Microphone input attenuator is a military step attenuator supplied with coax antenna and batteries.	\$780.00
MARK 50A/ENG/2	High powered dual frequency ENG dBS VHF transmitter: same specs as MARK 50A/ENG.	980.00
MARK 50A/UHF/ENG	UHF Body Pac dBS transmitter: same specs as MARK 50A/ENG, supplied with coax antenna and batteries.	780.00



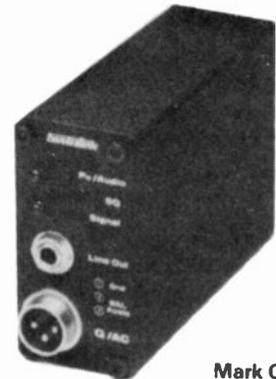
Mark QDC

Switching Diversity AC Receivers

MARK 1L/RFSD	Pro Stage AC switchable diversity VHF receiver: features LED indicators for peak audio, analog field strength, AC, external squelch switch. Outputs: balance mike level on XLR; high level with volume control. Supplied with whip antenna, AC cord, and NiCad handheld recharger (check for receiver options).	\$1260.00
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Portable DC Receivers

MARK 3	Cinematography DC portable VHF receiver: powered by AA batteries or external $\pm 10-16VDC$, LED indicators for analog field strength, audio and battery on. MARK 3 receiver equipped with 3-pin audio (XL) connector, internal high level switch and external LEMO power input plug. Supplied with ANT-3 antenna, batteries, and LEMO plug for external power input.	\$1175.00
MARK QDC	Mini Pro Video DC Body Pac VHF receiver: supplied with dBS compander, 12dB Sinad at .5 μ V, unbalanced low level out at -30dBV, powered by two transistor batteries or external 12-18VDC, external LED indicator for battery power and audio level; adjustable line output at +10dBV; pocket size: (5.6" L, 2.75" W, .90" thick) excluding knobs and connectors; weight 10 oz.	\$780.00
MARK QDC/2	Dual frequency QDC receiver: same specs as MARK QDC.	\$880.00
MARK QAC	Weather resilient AC Q receiver: features 12dB Sinad at .5 μ V balanced low level out at -40dBV powered by external 12-18VDC source, LED modulation indicator balanced at +10dBV.	580.00
MARK QAC/2	Dual frequency QAC receiver: same specs as MARC QAC.	680.00



Mark QAC

Complete Wireless Microphone System Packages

Handheld Switching Diversity Systems

MARK 1L/SM58	Complete Pro Vocal system featuring the Shure SM58 mike element, high-band diversity receiver, NiCad batteries with charger and carrying case.	\$2588.00
MARK 1L/SM78	Same as above featuring the Shure SM78 mike element.	2588.00
MARK 1L/PL80	Same as above featuring the EV PL80 mike element.	2688.00
MARK 1L/SM87	Same as above featuring the Shure SM87 mike element.	2688.00
MARK 1L/M500	Same as above featuring the Beyer M500 mike element.	2688.00

Body Pac Switching Diversity Systems with Mike

MARK 1L/50A	Complete Pro Stage lavalier system, including pocket transmitter, Sony 55 lavalier mike, hi-band diversity receiver, transmitter battery and carrying case.	\$1988.00
MARK 1L-50A/ENG	Same as above but supplied with the hi-power ENG transmitter on specified broadcast frequencies.	2188.00
MARK 1L-50A/UHF	Same as above but supplied on UHF broadcast frequencies.	2488.00

Portable Wireless Systems with Mike

MARK 3-50A	Complete Pro Cinematography hi-band system which includes receiver, lavalier transmitter, Tram lavalier mike, batteries and carrying case.	\$1888.00
MARK QDC-50A	Complete Pro Video mini hi-band wireless system which includes Beta Cam.	1488.00
MARK QDC/SM55	Same as above but supplied with Omni handheld transmitter.	2088.00
MARK QDC/ENG	Same as above but supplied with hi-power ENG transmitter on specified broadcast frequencies and with Sony 55 Lavalier mike.	1888.00
MARK QDC-50A/2	Dual frequency MARK QDC-50A system.	1688.00
MARK QDC/ENG/2	Dual frequency MARK QDC-ENG system.	2088.00
MARK QAC-50A	Complete audio/visual hi-band system featuring durable weather resilient receiver, lavalier transmitter with lavalier mike and batteries.	1288.00
MARK QAC/SM58	Same as above but supplied with SM58 handheld transmitter.	1888.00
MARK QAC/50A/2	Dual frequency MARK QAC-50A system.	1488.00



Mark 1L RFSD/PL80

300 Series Recording/Sound Reinforcement Mixers

Eight, twelve or twenty input channels with the following on each channel:

- Mike or line selectable inputs
- Separate mike and line trim controls
- 3-band sweep-type parametric EQ
- EQ bypass switch
- 2 assignable aux. send controls
- Effects send control
- Direct out jack
- Insertion jack
- Mute and channel "on" indicator, overload LED
- PFL
- PGM and stereo bus assign matrix and pan control
- 4 PGM bus master sections with AFL
- Stereo and mono master sections
- 8 assignable tape return monitor sections with level and pan
- 2 effects return master sections
- Multiple monitor selection with stereo outputs and headphone jack
- +4dBm balanced and unbalanced outputs on PGM, stereo and mono buses
- 6 selectable VU meters with LED peak indicators

Features of the M-312B and M-320B only:

- 2 additional aux. sends in tape monitors
- Built-in talkback mike and signal routing switch array

M-308B (8 input channels, phantom power) \$2299.00
 M-312B (12 input channels, phantom power) 3399.00
 M-320B (20 input channels, phantom power) 4599.00



M-308B



M-312B



M-320B

M-106 Production Audio Mixing Console (6 x 4 x 4)

- 6 input channels with selectable mike, line or tape inputs
- 4 PGM buses
- Aux. bus with master level control
- Effect bus with master level control
- Each input channel provides: Input selector (CH 1 and 2; Mike-Att-Line, CH 3 to 6; Mike-Att/Phono-Line), Trim control, low (100Hz) and high (10kHz) EQ (12dB boost/cut), Direct out, Insertion, Post/Line Select Switch for Aux. Bus, Aux. Send Level Control, Effect Send Level Control, PGM Assign/Pan, Input Fader, Overload Indicator
- PGM insertions
- 4 PRGM master faders
- Effect return with level control and PGM bus assign/pan
- Monitor outputs (L, R) with monitor select matrix, mono switch and monitor level control
- Headphone jack (1.5W + 1.5W)
- 2 VU meters with peak indicators
- Meter select switch (PGM 1-2, PGM 3-4, Aux./Effect)
- PGM sub in/effect sub in/aux. sub in
- 2 fader-link knobs supplied
- Frequency response: 20Hz-30kHz, +1dB, -1.5dB
- Optional portable case (CS-106)
- Optional EIA 19" rackmount angle (RM-106)
- Weight: 15.5 lbs.
- Dimensions: 5.3" H x 15.5" W x 15.5" D

The M-106 is equipped with a flexible combination of functions so it can be used in a wide range of applications, from small studio recording, to mixing in PA and disco systems and mixing audio productions.

M-106 \$699.00



M-106

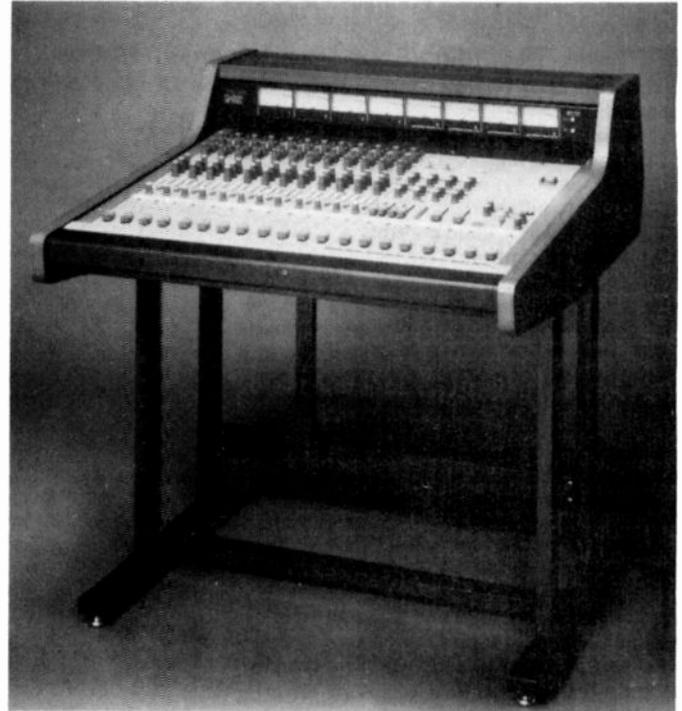
M-500 SERIES MIXING CONSOLES

The M-500 Series are sophisticated audio mixing consoles designed for professional production applications. The M-520 (20-in/8-bus) is intended primarily for 16-track studios, while the M-512 (12-in/8-bus) is ideal for 8-track installations.

- 20-input channels on the M-520, 12-input channels on the M-512, each with selectable inputs, provide:
 - 20 (M-520), 12 (M-512) balanced XLR microphone inputs with individually switchable phantom power.
 - 2 pair of instrument inputs (1/4" phone and RCA pin).
 - 2 RIAA phono inputs (RCA pin).
 - 16 (M-520), 8 (M-512) line inputs (RCA pin).
 - 16 (M-520), 8 (M-512) multi-track tape returns (RCA pin).
 - 2 pair of stereo tape returns (RCA pin).
- 8 main program busses with bus master controls
- 4 independent auxiliary busses
- 16 (M-520), 8 (M-512) groups of stereo monitor mix controls
- 8 balanced amplifiers (input; RCA pin/22K ohms, output; XLR/600 ohms)
- Access Send/Receive on each input channel and program bus
- 3-band parametric EQ on each input channel
- Mute switch on each input channel
- Direct Out on each input channel
- Built-in talkback mic plus slate tone/test oscillator
- Stereo SOLO
- PFL (Pre Fader Listen)
- 12 (M-520), 8 (M-512) VU meters with LED peak indicators
- 100mm input and bus master faders (compatible with PG-3000)
- Bipolar 15 volt power supply
- Optional pedestal (CS-520 for M-520, CS-512 for M-512)
- Optional top/side board (CS-521 for M-520, CS-513 for M-512)

Specifications

Crosstalk:	Better than 70dB (1kHz) Better than 60dB (15kHz)
Total Harmonic Distortion	
1 line to 1 PGM out:	0.02% (1kHz, nominal level)
1 mic to 1 PGM out:	0.025% (1kHz, 50dB above nominal level, MIC ATT 30dB on)
Fader Attenuation:	80dB or more
Overload Indicator:	25dB above nominal level
Meter Peak Indicator:	10dB above nominal level
Dimensions:	
M-520:	1082W x 240H x 798D mm
M-512:	802W x 240H x 798D mm
Weight:	
M-520:	47kg
M-512:	38kg
Frequency Response: Line In to —	
PGM out:	20-20kHz, ± 1dB
Aux out:	20-20kHz, ± 1dB
Mon out:	20-20kHz, ± 1dB
Equalizer	
Type:	Sweep
Level:	Boost/Cut ± 15dB
Frequency (low):	50Hz to 500Hz
(mid):	100Hz to 5kHz
(high):	2.5kHz to 15kHz
Oscillator Frequencies:	40Hz, 1kHz, 10kHz switchable
S/N Ratio:	(nominal input level, EQ out, UNWTD/"A" WTD)
1 line to 1 PGM out:	85dB, 87dB
1 mic to 1 PGM out:	68dB, 70dB
1 tape to 1 PGM out:	86dB, 70dB
M-512 12 input channels	.....\$4499.00
M-520 20 input channels	.....6999.00



M-512



M-520

112 4-Track 2-Channel Stereo Cassette Deck

- High stability transport using diecast and precision machined parts
- Dolby® HX Pro for enhanced high frequencies
- Dolby B and C noise reduction
- Cue and review functions to monitor during fast wind modes
- High slew-rate IC electronics

112\$679.00
112R Bi-directional version of 112\$59.00



112

122 MK II Studio Cassette Deck

- 3 head (Cobalt Amorphous)
- Cue and review function
- Dolby HX Pro
- Dolby B, C
- Zero return, stop/play and cue point stop/rewind loop functions
- Standard speed 1 7/8 ips
- Tape run time counter and index mode
- XLR + 4 RCA -10 connectors
- Weight: 19 lbs.

122 MK II\$1099.00



122 MK II

133B Stereo Plus Cue Cassette Recorder/Reproducer with Auto Present Features

Recorder Features:

- + 4 balanced XLR/-10 unbalanced inputs and outputs
- 2 speeds: 1 7/8-3 3/4 ips
- Dolby NR System
- Simul-sync recording or multitrack recording

Auto Present Features:

- Cue pulse generates a 25Hz tone on the cue channel (does not affect the projector operations but triggers the auto present)
- Automatic shutoff or rewind at cue tone



133B

Recommended Accessories:

- AH-50 Rackmount Handles
- RC-133 Remote Control
- FC-133 Flight Case
- RX-8 dbx* -II Interface

133B\$1349.00

234 Syncaset® 4-Track Production Cassette Deck

- 3 3/4 ips tape speed
- dbx noise reduction switchable
- Function select
- 4 x 2 internal mix
- Weight: 21 5/8 lbs.
- Dimensions: 5 13/16"H x 19"W x 14 1/16"D

Recommended Accessories:

- AH-50 Rackmount Handles
- RC-90 Remote Control
- TO-122A Test Tone Oscillator

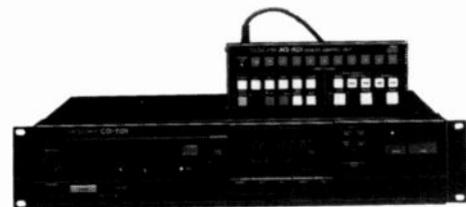
234\$1099.00



234

CD-501 Compact Disc Player

- Pair of electronically balanced XLR type line output connectors. A Mono (L + R) switch permits summing the left and right channel signals to provide monaural output if required. For broad system versatility a separate pair of RCA-jack monitor outputs are provided — one Fixed and one Variable
- AQ-501 wired remote control unit permits remote control of all playback and programming operations
- Remote control system can be used to control two CD-501's linked via a simple phone plug cable. Switching between "CD1" and "CD2" control is accomplished directly from the remote control unit
- Accessible via the remote control unit is 20-selection random programming
- Original LSI incorporating the TEAC ZD Digital Circuit (ZD stands for "Zero Distortion") effectively minimizes digitally-generated distortion products
- Oversampling Digital Filter is used to double the sampling frequency of the digital signal
- Dual Monaural 16-bit D/A converters used for the left and right channels eliminate the need to de-multiplex a combined left/right signal from single-converter systems, thereby eliminating de-multiplexing (switching) noise

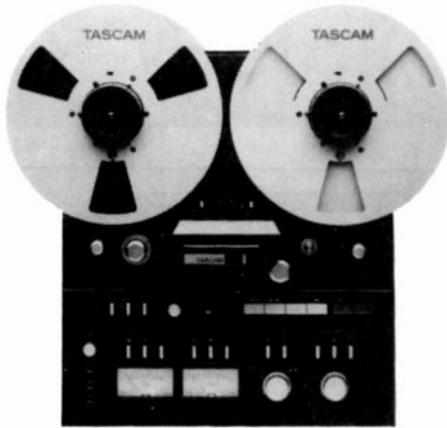


CD-501

- 3-beam Laser Pickup is directly driven by a precision Linear Pickup Drive Motor instead of the conventional rotary motor/gear system
- Three repeat modes—Automatic repeat playback of the entire disc or a programmed sequence, or a specified A—B segment
- Next Function

CD-501\$1249.00

- *Dolby is a registered trademark of DOLBY LABORATORIES, INC.
- **dbx is a registered trademark of dbx, INC.



32



34B



38

Series 30 Recorder/Reproducers

- 38—8-Track, 8-Channel
- 34B—4-Track, 4-Channel
- 32—2-Track, 2-Channel

The Series 30 sync and repro heads offer identical response so you don't lose sound quality during track bouncing operations. Further, contour effect has been minimized and head life has been extended by 20%. Even the erase heads are improved with a material that allows more complete erasure.

Special DC reel motors achieve extremely high torque to minimize wow and flutter and provide higher fast-wind speed. A belt-driven, FG servo controlled DC capstan motor ensures exceptionally precise tape speed. A microprocessor transport control guarantees smooth, positive switching with no appreciable stop between fast wind and play/record modes. Lower noise levels are realized with the use of selected integrated circuits and amplifiers.

On each deck, each track has a Function Select button that places it in the Safe or Record Ready mode. There are three Output Select buttons that determine the source of the line output: Input, Sync or Repr.

Remote punch-in recording is also possible using the remote transport control unit (RC-71) or a remote footswitch (RC-30P). Each deck offers a Cue lever, Zero Return function, Pitch control, expanded VU meters, and full dual process dbx noise reduction compatibility (DX-2D/4D optional). The 32 and 34B also offer 19 cm/sec tape speed along with the studio standard 38cm/sec. Other features that are extra on the 32 and 34B are microphone inputs, Mike/Line switches and 0/20dB attenuators, input and output level controls and a monaural headphone monitor output with track assignment switches.

32 1/4" Half Track Master Recorder/Reproducer

- 10 1/2" reel capacity • 15 and 7 1/2 ips • Independent record mode L & R • Simul-sync • Full frequency response in sync mode • Function select and output select • Punch in/out recording • Pitch control ± 12% • Dump edit • Mike inputs • Independent input/output level control • Headphone jack and volume control • Cue control • FL tape counter • Zero return
- 32\$1749.00

Recommended Accessories

- RC-71 remote control • RC-30P foot control • Optional dbx® • RM-300 rackmount • CS-607 console for Series 30

DX-2D

- Two channel professional dbx1 • Dual process dbx noise reduction for 32 only\$349.00

34B 1/4" 4-Track Recorder/Reproducer

- Track format: 4-track, 4-channel, 1/4" tape • Reel size: 10 1/2" • Tape speeds: 38 and 19cm/sec. • Wow and flutter (peak, weighted): ± 0.06% at 38cm/sec., ± 0.09% at 19cm/sec. • Frequency response (0VU): 40Hz—22kHz, ± 3dB at 38cm/sec., 40Hz—16kHz, ± 3dB at 19cm/sec. • S/N ratio: 68dB at 38cm/sec., 66dB at 19cm/sec. • THD: 0.8%, (0VU, 1kHz) • Dimensions: (461mmH x 410mmW x 256mmD) • Weight: 20kg.

34B\$2199.00

Recommended Accessories

- RC-71 remote control • RC-30P foot control • RM-300 rackmount • CS-607 console for Series 30

DX-4D

- 4-channel professional dbx1 • Dual process dbx noise reduction • For use with 34B (one unit) • For use with 38 (two units)
- DX-4D\$649.00

38 1/2" 8-Track Recorder/Reproducer

- 8-tracks on 1/2" tape • 10 1/2" reel capacity • 15 ips • Pitch control ± 12% • TASCAM function select and output select • Punch in/out recording • Dump edit • Cue control • FL tape counter • Zero return

38\$2999.00

Recommended Accessories

- RC-71 remote control • RC-30P foot control • RM-300 rackmount • YTT-1144 calibration tape • CS-607 console for Series 30

®dbx is a registered trademark of dbx, Inc.

48L 8-Channel Logger

- Operates at 15 ips tape speed • Recommended 3M #8206 and Ampex #705 • Tape counter will display a maximum reading of 23 hours and 59 minutes • Counter operates in either direction additive or subtractive • 8-track, 8-channel • Head configuration: 3-heads; erase, record and reproduce • Remote control optional with RC-71 • 17" x 19 7/8" x 12 7/16" • 81 9/16 lbs.

The 48L is slow speed, logger version of the 48 multi-channel recorder/reproducer. It is designed for long term, multi-channel recording in an industrial, broadcast, or governmental setting. The 48L may be externally controlled for continuous operation by means of a computer, or intermittent operation by means of a voice actuated circuit (VOX) or computer control.

48L 8-channel \$4995.00
44L 4-channel \$3495.00

48 OB Recorder/Reproducer

- Operates at 15 ips with industry standard equalization • Nominal +4dBm balanced inputs and outputs are standard • -10dBV RCA jacks are provided • Headroom: 24dB at the XLRs; 28dB headroom at the RCAs • All three motors are under servo control • Rapid spooling mode • Normal play/record speed can be fixed via an internal crystal, externally controlled or adjusted over a full $\pm 12\%$ • Capstan motor: Phaselock loop DC, direct drive • 19" H x 17" W x 12 7/16" D • 89.6 lbs.



48 OB

The 48 OB is a high quality 8-track 1/2" recorder/reproducer designed for audio and video production work where flexibility, reliability and synchronized operation are primary requirements. We have improved the audio electronics, added a total servo system under microprocessor control, and provided single plug compatibility with popular SMPTE controller/synchronizer systems.

48 OB \$4999.00

44 OB 4-Track Compact Recorder/Reproducer

- All 3 motors are under servo control • Rapid spooling mode permits forward or reverse winding 8 times normal play/record speed • Normal play/record can be fixed via an internal crystal, externally controlled or adjusted over a full $\pm 12\%$ range • Tape motion is fast and accurate • Search-to-zero and Search-to-cue functions • Tape counter displays positive or negative "real time" • Microprocessor control of all transport functions • Each track has its own function selector and pre-load selector • Sync response is equal to repro response • Precision splicing block • Simple installation and signal operator controllability

The 44 OB is a high quality 4-track 1/4" recorder/reproducer designed for audio and video production work where flexibility, reliability and synchronized operation are primary requirements. The 44 OB operates at 15 ips and 7 1/2 ips with industry standard NAB equalization, and can be set for flux reference levels of 250 or 320 nanoWebers per meter. Nominal +4 standard, and -10dBV RCA jacks are also provided for the broadest possible compatibility.

44 OB \$3999.00



44 OB

42B 2-Track Recorder/Reproducer

- Full servo system including capstan and reel motors • Electronically-balanced +4dBm inputs/outputs • Custom microprocessor ensures rapid yet gentle tape handling in all modes • PLL Direct drive capstan motor and non-magnetic ceramic capstan shaft • Long-life hard perm-alloy heads mounted on a solid base plate • Manual edit, dump edit and stop edit • Front-access to all adjustment for transport and amplifier • Precision real time tape counter

The 42B is an exceptionally versatile high-performance 2-track, 2-channel tape recorder/reproducer that uses 1/4" wide tape and operates at tape speeds of 15 ips (38cm/s) and 7 1/2 ips (19cm/s).

Designed especially for demanding production applications, including lockup to SMPTE/EBU controller/synchronizers, the 42B transport is built on an extra heavy-duty chassis that ensures stable tape motion and stable alignment despite the long hours of high speed, start-stop shuttling that are typically part of editing.

42B \$2999.00



42B

ATR-60 Series Recorder/Reproducers

ATR-60-2T Center Track Time Code Reader

The ATR-60-2T is a 2-track with an additional IEC standard center track to record and reproduce SMPTE/EBU time code. The additional time code track occupies the normally blank space between tracks of the traditional NAB 2-track format. As a result, previously mastered 2-track tapes from your library (even DIN) can be time code striped and reedited.

The coincident-head configuration makes time code virtually invisible on the ATR-60-2T. You don't have to change a single operating or editing technique. Use your razor blade to edit if you wish because the code is where it belongs, directly coincident with the audio. Don't worry about striping enough code before your audio, or worry about code overrun at the end of the audio.

Advantages of coincidence carry over to machine maintenance and service. Head Wrap adjustments, which many techs perform as regular maintenance, are very difficult with offset head designs. Special equipment is needed to perform these procedures so that factory service may prove necessary for a routine adjustment. Tape wrap is crucial in an offset design because it affects the distance between gaps on the audio and time code heads, adding yet another variable to a system burdened with delay lines and offset calculations.

In order to record and reproduce time code in the center track, crosstalk performance must be superior or the time code head must be offset. It's easier to offset the head, but to do so means losing editing flexibility and devising "compensating" schemes to deal with the offset.

ATR-60-2N Mastering Recorder

The NAB Standard ATR-60-2N is a quarter-inch mastering machine, designed with an easy going but hard working personality that makes it a joy in the mastering suite. Unsurpassed frequency response, signal-to-noise ratio, crosstalk, distortion, and wow and flutter performance are byproducts of

TASCAM's 30 years of innovative head and transport design.

Designed to prosper in even the most brutal environment, the ATR-60-2N is steel toughened in a two piece configuration that will fit in tiny remote trucks or where audio was an afterthought in planning the video suite. Its Omega Drive transport will thrive on thousands of passes a day, all the while gently protecting your tape from the cumulative tension of the day's shuttling.

ATR-60-2HS and ATR-60-4HS High Speed Mastering Recorders

These machines bear the "HS" designation, meaning high speed. Operating at 30 ips and using half-inch tape, they are perfect for maximum quality music mastering. The 2HS model is a 2-track machine. The 4HS is a half-inch 4-track, a format favored by those mastering audio for video and film.

The 2HS and 4HS have heads that maximize the inherent advantages of high speed operation and wider tape including vivid audio characterized by impressive high frequency response, linearity, and signal-to-noise performance. Able to print at 320nWb/m in addition to the standard 250nWb/m, the ATR-60-2HS and ATR-60-4HS wring every last dB of signal-to-noise performance from your tracks. The Omega Drive transport delivers and retrieves the half-inch tape with absolute precision and speed. The machined head block and hardy deck plate/chassis combination don't give tape skewing or wow and flutter problems a chance to start. And a scrape flutter filter takes dead aim at even miniscule friction induced noise.

ATR-60-8 High Performance 8 Track

A half-inch machine, the ATR-60-8 offers a transport designed for extensive shuttling and frame accurate, computer controlled parking. Despite being parked and started in exactly the same spot hundreds of times while editing a single scene, the ATR-60-8 will not pass along cumulative tension spikes to your tape as will many straight-line tape path machines.

You won't be wasting a track as a guard band using your ATR. The ATR-60-8 head offers crosstalk performance so good you can confidently print audio on the track adjacent to code. Time Code



ATR-60

Lock and Sync Lock give your synchronizer/controller optimum access to code without affecting audio, and a single multipin connector is your door to the most responsive SMPTE/EBU control in the business.

Frequency Response

- 30 ips: 30Hz-26kHz, ± 2 dB at 0VU
30Hz-28kHz, ± 2 dB at -10VU
- 15 ips: 2T, 2N: 40Hz-22kHz, ± 2 dB at 0VU
30Hz-24kHz, ± 2 dB at -10VU
- 2HS: 20Hz-22kHz, ± 2 dB at 0VU
20Hz-24kHz, ± 2 dB at -10VU
- 4HS: 30Hz-22kHz, ± 2 dB at 0VU
30Hz-24kHz, ± 2 dB at -10VU
- 8: 40Hz-22kHz, ± 2 dB at 0VU
30Hz-24kHz, ± 2 dB at -10VU
- 7 1/2 ips: 2T, 2N: 30Hz-16kHz, ± 2 dB at 0VU
30Hz-20kHz, ± 2 dB at -10VU
- 8: 30Hz-16kHz, ± 2 dB at 0VU
30Hz-20kHz, ± 2 dB at -10VU
- ATR-60-2T\$6999.00
- ATR-60-2N5999.00
- ATR-60-2HS6499.00
- ATR-60-4HS6999.00
- ATR-60-87999.00

MS-16 16-Track Recorder/Reproducer

The MS-16 is a top-line professional multitrack recorder, designed to provide outstanding overall performance in even the most demanding professional applications. The transport chassis has been re-designed to extra heavy-duty standards so that tape motion and alignment will remain stable even through hours and hours of the most rugged use. The MS-16 is also ready for immediate interfacing with SMPTE standard controllers/synchronizers for precision automated location and video/film sync.

The MS-16 employs the economical 1" 16-track tape format, running at 38cm per second. It also offers both balanced +4dBm inputs and outputs as well as unbalanced -10dBV RCA pin jack inputs and outputs for full compatibility with all types of professional and semi-professional equipment. Sync and repro frequency response are identical so there's absolutely no loss of sound quality during track bouncing operations.

Monitor selection facilities have been carefully designed for maximum speed and ease of use in all recording situations. You have a choice of Input, Sync, or Repro output selection, and Insertion (pre-load) switches make it possible to select either input or sync repro monitoring on record-ready tracks. An Input Enable switch permits input monitoring while in the fast wind or stop modes, regardless of the rec function mode, to establish communication between the control room and studio.

A comprehensive range of editing functions are also offered. In the Dump Edit mode the takeup reel is defeated, making it easy to "dump" large edits. In the Manual Edit modes either reel can be easily rotated by hand and the other will follow precisely, maintaining tape tension. And in the Stop Edit mode the reels can be independently rotated by hand. A splicing block is conveniently located right in front of the head assembly—where you need it most.

The MS-16 is fully compatible with SMPTE interlock systems. It features full, precision servo control on the capstan motor, reel motors, and even on the tape tension system. The direct-drive PLL servo capstan motor further offers a choice of three selectable sync modes: Fixed, Variable and External. A channel 16 Sync Lock monitor mode permits continuous time code output to a synchronizer/controller regardless of the deck's Output Select mode. And channels 1 through 15 have a special Lifter Defeat Mute function which automatically engages the muting circuitry when a specified cue point is reached and the tape lifter is activated.

The MS-16 transport and electronics are separate, and both can be mounted in any standard EIA equipment rack. The TASCAM CS-65 console rack neatly mounts both transport and electronics sections in one easy-access unit. For convenient meter location, the meter section is removable from the electronics using the T-0865 amp panel/meter cable kit. The electronics and amplifiers for record, play and bias functions are modularly constructed on one circuit card per channel. Access is fast and easy, minimizing down time for maintenance. For remote control convenience, the record function select and output control unit is removable from the transport block using the CS-63 function remote kit.

Other features offered by the MS-16 include $\pm 15\%$ pitch control, a spooling mode for neater tape packs, VU meters with peak-reading LEDs for each channel, low-frequency compensation control on each channel, and a precision non-magnetic ceramic capstan shaft. Options available for the MS-16 include the AQ-65 10 point remote auto-locator; RC-65 remote transport control unit; CS-64 remote control stand; TZ-65 metal reel clampers; and the DX-8DS dbx units.

MS-16 \$8999.00



MS-16 with Full Options

Specifications

Track Format:	16-track, 16-channel 1" tape
Reel Size:	10 ¹ / ₂ ", NAB
Tape Speed:	38cm/s
Wow and Flutter (peak, weighted):	$\pm 0.08\%$
Frequency Response:	
(0VU):	40Hz-22kHz, $\pm 3\text{dB}$
S/N Ratio:	69dB (weighted)
THD:	0.8% (0VU, 1kHz)
Dimensions:	Transport: 18.4" x 19.3" x 12.4" Electronics: 7.7" x 19.3" x 12.8"
Weight:	Transport: 84 lbs. Electronics: 36.5 lbs.

AVP-1 Automatic Video Programmer

- Battery back-up maintains clock and programmed memory in case of power failure • LED digital display • Power: 120VAC, 60Hz, 7W
- 2 1/2" H x 6" W x 6 1/2" D • 3 lbs.

The AVP-1 is designed to control the playback or recording function of any industrial video cassette deck with remote control capability. By means of a controlled AC receptacle and a remote control cable the AVP-1 will automatically turn power on, place deck into play (or record) for a specified time, then place deck into stop and turn power off at the end of the specified time period. Functions can be repeated every 24 hours.

AVP-1 \$260.00



AVP-1

- Control Cable: (Specify VTR make and model)
- Sony or Panasonic * (3/4, 1/2 or Beta) 10' length 40.00
 - JVC (3/4 or 1/2) 10' length 70.00
 - * Panasonic NV-1310 or AG-2200 10' length 70.00

PVC-5 Programmable Video Controller

- Expandable memory • Battery back-up for clock and memory • Cassette players are easy to replace • Fewer moving parts require less maintenance • Individual machine failure does not cancel entire program cycle • Intermix video tape formats (3/4", 1/2" VHS or Beta)
- Switched AC for on/off control of video tape players • Preview capabilities of all input sources • Easy review of program memory
- Single or dual operation • Power requirements: 115V-60Hz—30W
- 5 1/4" H x 19" W x 14 1/4" D • 12 lbs.

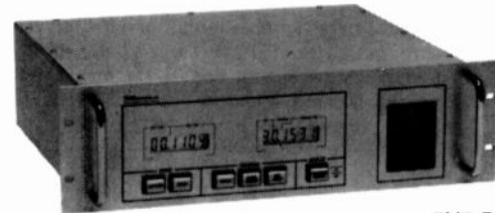
The PVC-5 is compatible with most remote controllable VTRs, and when combined with existing VTRs it provides a cost effective playback system without the large initial expenditure necessary with other similar systems. The PVC-5 will automatically control up to 8 different VTRs following your pre-programmed schedule. The PVC-5 will control and can intermix different industrial tape formats such as 3/4", Beta and VHS. The PVC-5 provides maximum flexibility. An entire day of programming can be entered in a few minutes. Up to 64 separate commands can be programmed into memory for daily operation of power, play, stop or rewind functions—automatically switching video and audio sources at the prescribed time.

The PVC can be wired for two separate independent channel outputs utilizing four input positions per output channel. Programming and control of the two channels can be simultaneous.

An additional memory section can be added to the PVC, increasing its memory an additional 64 positions, to a total of 128.

PVC-5 \$4850.00

Expanded Memory Option (EMO) 668.00



PVC-5

- Control Cables: to interface PVC-5 with VCR (12' Length)
- Sony (VP-5020*) \$75.00
 - (With 20-pin remote connector) 36.00
 - Panasonic (with 34-pin Remote Connector) 36.00
 - Panasonic (NV-1310, AG-2100, AG-2200) 66.00
 - Panasonic (All Wireless Remote Control Models*) 75.00
 - JVC (With 34-pin or 45-pin Remote Connectors) 36.00
 - JVC (BP-5100, BR-7110, CP-5000, CP-5200) 66.00
 - JVC (All Wireless Remote Control Models*) 75.00
 - Other VCRs (custom cables made upon request) 75.00
- Accessories
- Video Cable - 12' Length (BNC Connectors) \$14.00
 - Audio Cable - 12' Length (RCA Connectors) 6.00
 - Power Outlet Strip - 6 Outlets 35.00
 - Programming and Operation Videocassette (specify format) 30.00

*User must furnish wireless handheld controller for interface

DubMaster™ Remote Control

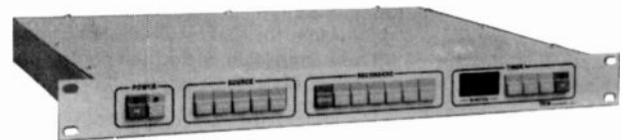
- Built-in serial port for use with the JVC BR-7000UR and Panasonic AG-6810 • Timer feature eliminates the need to manually stop the VCRs when recording is completed • Can be programmed to power down the system • Lockout feature • Master power switch has a safety feature • Power requirements: 115V, 60Hz—5W • 1 3/4" H x 19" W x 14 1/2" D

The DubMaster is an easy and cost effective way to control VCRs in a video duplication system. The DubMaster can control a master playback deck and as many recorders as desired. Any remote controllable VCR can be used with the DubMaster.

The DubMaster allows freedom of design. VCRs of various makes and formats may be mixed. The system can easily be expanded in groups of six or twelve recorders with additional rack control boxes.

The DubMaster has a built-in serial port for use with the JVC BR-7000UR and Panasonic AG-6810 with serial control option. In this case the control cables and rack boxes are not needed.

DubMaster \$1195.00



DubMaster

Accessories

SRS-1

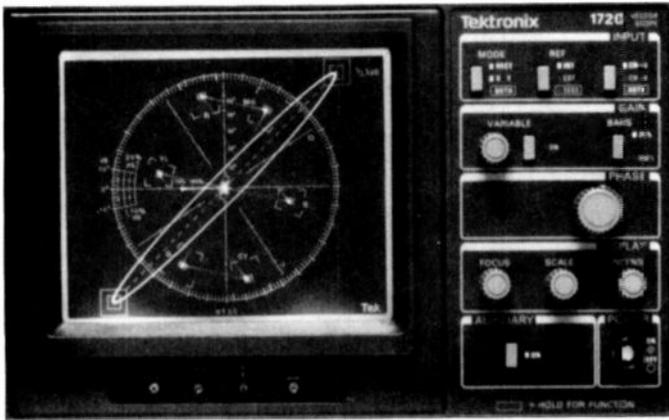
19" rackmountable selector provides the user with the ability to select one of the four possible source machines and route the control signal to any or all of the six groups of copy decks \$495.00

* Rack Box — RB-6 (controls 6 VCRs) \$395.00

* Rack Box — RB-12 (controls 12 VCRs) 495.00

* Control Cable (one for each VCR—including source) 75.00

* Not needed when using JVC BR-7000UR or Panasonic AG-6810 with serial control port.



1720

1720 Vectorscope/ 1730 Waveform Monitor

- Complete line select • Simultaneous channel A and B display • Dual filter display • One-button front panel recall • Differential phase and gain measurement • Stereo audio phase measurement • RGB/YRGB display capability • Vector center dot clamping • Parallax-free internal graticules • Portable DC power and battery available • Remote control capability • Available in NTSC and PAL standards

These versatile instruments are lightweight, half-rack width, and have bright CRTs for comprehensive video signal monitoring. Both instruments exceed normal monitoring capabilities. Their unique features make them even more powerful when operated in tandem.

In addition to being ideal for camera control units and video tape recorders, these instruments can be equipped with cabinet and field upgrades allowing them to operate from a 12VDC source for portable operation. They can be used with the Tektronix BP1 or other 12V supply. Coupling this DC operation with their lightweight (about 9 lbs., including cabinet), low power consumption, and compact size make these instruments well suited for use on a portable production cart.

Internal front panel presets, RGB/YRGB enable, along with front panel recall/setup can be accessed through the Waveform Monitor Remote Connector.

1720 Vectorscope (NTSC) \$2250.00
1730 Waveform Monitor (NTSC) 2250.00

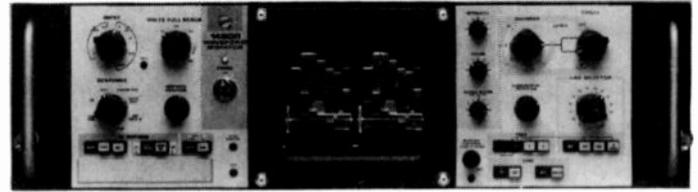
1480R Series Waveform Monitors

The 1480 Series have excellent amplitude measuring accuracy and many unique operating modes that enable you to work more precisely and accurately. The monitoring needs of CCU, VTR, control room, transmission facilities, transmitter, and special systems have been researched thoroughly in order to assure that the 1480s will fit your expressed needs. The 1485C and 1485R PAL/NTSC Dual Standard Monitors represent the essentials of all eight monitors in the 1480 Series. The differences between the monitors in the series are essentially confined to what lines in the vertical interval are selectable, what filters are selectable in the response mode, and in the field selection modes. Dual Standard Monitors recognize the signal standard in use automatically and indicate that standard with front panel indicators.

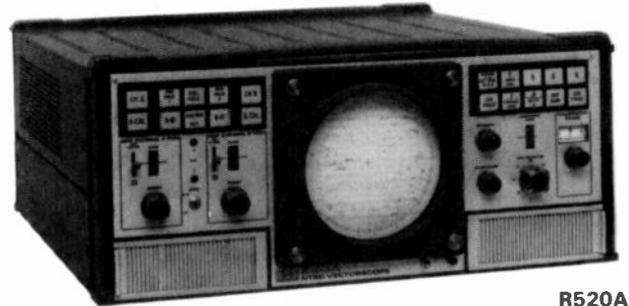
1480R (NTSC) \$6300.00

R520A Vectorscope

The vector display shows the relative phase and amplitude of the chrominance signal on polar coordinates. To help identify these coordinates, the graticule has points corresponding to the proper phase and



1480R



R520A

amplitude of the primary and complementary colors: R (Red), B (Blue), G (Green), Cy (Cyan), YI (Yellow), and Mg (Magenta). Any errors in the color encoding, videotape recording, or transmission processes that change these phase and/or amplitude relationships cause color errors in the television picture. Polar coordinate displays, such as those obtained on the R520A CRT, have proven to be the best method for displaying these errors. The polar display permits measurement of hue in terms of relative phase of the chrominance signal with respect to the color burst.

R520A (NTSC rackmount) \$8525.00

TSG-100 Test Signal Generator

- Simple yet functional test signal complement • Eight-bit digital generation • Conforms to RS-170A timing specifications • 1kHz audio tone • H or V rate scope trigger signal • DC power operation

The TSG-100 NTSC Test Signal Generator is ideally suited for the maintenance and alignment of video equipment in most television environments.

The eight-bit digital test signal generator ensures conformance to RS-170A timing specifications while providing good, long-term signal stability.

TSG-100 test signal includes: • SMPTE color bars • Convergence pattern • Multiburst • Pulse and bar with window and modulated pulse • 5 step staircase • Modulated 5 step • White field • Black burst

Front and rear panel test signal outputs provide convenient access to test signals for both rackmount and service bench applications.

A front panel scope trigger output is provided for service applications. Horizontal or vertical repetition rate is front panel selectable.

The TSG-100 includes a 1kHz audio tone generator for continuity and level checks. Level of the tone is user adjustable over a 0 to +8dBu range. The level 0dBu is equivalent to 0dBm in a 600 ohm environment. Output is on a rear panel XLR connector.

The TSG-100 is housed in a compact, rugged mechanical package and, with DC power operation, is suitable for studio, mobile unit, and field portable applications.

TSG-100 (NTSC) \$1250.00



1740 Series

1740 Waveform/Vector Monitor

The 1740 provides all the basic waveform monitoring and vectorscope functions, in a single, compact package. In addition, the 1740 adds DC power operation (optionally), single line vertical interval display which is internally preset, an R-Y/sweep mode for differential phase measurements, and remote control of waveform/vector mode and most of the front panel sweep and vertical amplifier response functions.

The 1740 is a half rack width instrument intended for use where space and power consumption and/or portability are prime considerations and where waveform and vector displays are not simultaneously required. Typical applications include video signal monitoring in VTR bridges, camera control units, production switcher consoles, and in mobile vans and field productions.

Available in NTSC, PAL, and PAL-M

The 1740 includes instruments for each of three color television systems.

1740 (NTSC) \$3970.00



1750 Series

1750 Waveform/Vector Monitor

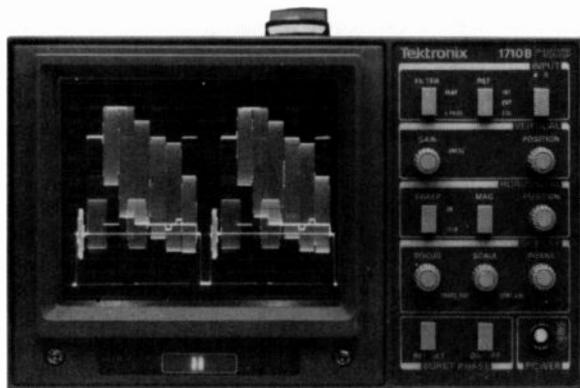
The 1750 Waveform/Vector Monitor is a comprehensive signal monitor that also provides extended measurement capability. The monitor can be retrofit into existing systems that use 1/2 rack width, 5 1/4" waveform or vector monitors.

The 1750 combines all of the conventional monitoring capabilities with the ability to perform SCH phasing tasks that until now have required additional instrumentation. SCH phase and color frame matching can be measured directly by using the SCH mode. This capability makes the 1750 ideally suited to production and editing applications where the maintenance of SCH phase and color frame relationships is critical.

SCH Phase Measurement and Monitoring

The SCH phase display presents a clutter-free display of the burst vector(s) and a vector representing sync phase relative to burst. Not only is this an easily interpreted display for monitoring purposes, but it is ideal for setting up SCH phase adjustments. By combining the "SCH" and "external reference" functions, two signals may be simultaneously compared for burst phase and sync timing differences. Improper color framing is readily apparent in this mode and, therefore, may be corrected before attempting to mix the signals.

1750 (NTSC) \$6050.00



1710B Series

1710B Waveform Monitor

The 1710B Waveform Monitor provides all of the commonly used display modes. In addition, the 1710B adds relative burst phase indication and dual filter display. The monitor is mechanically compatible and retrofits into an existing system that uses half rack width, 5 1/4" waveform monitors.

Because of its extreme light weight, low power consumption, and DC operation (field installable kit) the 1710B is ideal for field production, mobile operations, and any other application where space, power consumption and/or portability are prime considerations.

Easy Operation. This monitor was also designed with the user in mind. Controls have clear nomenclature and are laid out in a logical order.

Burst Phase Indication. The relative burst phase between inputs is displayed on the LED bar graph. The center green LEDs indicate the two signals are phase matched. The yellow ones warn the phase is slipping out of an acceptable range. Finally, the red LEDs flag an unacceptable amount of phasing error. This feature allows one instrument to do the complete job of timing and phasing in a basic television system.

Dual Filter Display. The dual filter display allows the user to view both the complete video signal and the luminance information at the same time using just one instrument. This eliminates the need for switching back and forth between filters and makes the instrument easier to operate. Ideal for camera setup.

Bright CRT Display. The bright CRT display permits use of the 1710B in high ambient light conditions. Brightness remains high in the magnified sweep modes enhancing the 1710B's use in system timing applications. The internal graticule is parallax-free to reduce errors and improve its monitoring capabilities.

1710B (NTSC). \$1745.00
1711B (PAL) 1745.00



TSG-300

TSG-300

Component Television Generator

- Multiple formats and standards:
 - Y, B-Y, R-Y (Y, Pb, Pr; SMPTE/EBU)
 - GBR
 - Betacam®
 - MII
 - 525/60 and 625/50
- 10-bit digital signal generation
- Test signals for component video:
 - Bowtie
 - Coring
 - Valid ramp
 - Shallow ramp
- User configurable controls
- Digital genlock

Multiple Formats and Standards

While the EBU and SMPTE are setting standards for component video, there is already a large base of installed component equipment using many different operating levels. The TSG-300 bridges this gap between formal and de-facto standards, providing signals in SMPTE/EBU standard formats as well as previously existing component formats.

Signal formats supported by the TSG-300, using color bars as an example (Figure 1), are

Y, B-Y, R-Y (Y, Pb, Pr; SMPTE/EBU), RGB, Betacam, and MII. The TSG-300 also supports both 525/60 and 625/50 systems by either internal jumper selection or remote control.

Digital Signal Generation

Precision digital signal generation insures the accuracy and stability of the TSG-300 test signals. 10-bit digital to analog conversion at 13.5MS/s, even in the color difference channels, allows full bandwidth testing of RGB systems. Digital generation of each individual format eliminates transcoding artifacts.

Test Signals for Component Video

The TSG-300 provides unique solutions to component measurement problems with signals such as Bowtie, Coring, Valid Ramp, and Shallow Ramp, as well as a wide range of more conventional signals.

User Configurable Controls

Operation of the TSG-300 is simplified by its user configurable controls. Many of the test signal controls access a variety of similar signals. These signals are accessed by pressing

the switch repeatedly. By simply specifying which signal you want to appear first, the problem of searching for a commonly used signal is eliminated.

Digital Genlock

The TSG-300's digital genlock and stable internal oscillator make it suitable for either slave or stand-alone operation. After the incoming signal is digitized, a processor analyzes timing to control the TSG-300's system clock. The digital genlock works with component video or composite NTSC, PAL, or SECAM sources operating in either 525/60 or 625/50 systems. The TSG-300 automatically switches to its internal oscillator in the absence of a reference input signal. This high stability crystal oscillator, with its constant temperature oven, ensures long term frequency stability.

Remote Control

Remote operation of test signal selection, system timing, and line and field rate selection is available by simple ground closure control through a rear panel connector.

TSG-300 \$8850.00



WFM-300

WFM-300

Component Television Waveform Monitor

- Electronic graticule
- Lightning display
- Parade and waveform overlay display
- Vector display
- Bowtie timing display
- Color gamut limit indication
- Linearity measurements
- Y, P_b, P_r, Y, B-Y, R-Y; RGB; Y, Q, I input options
- 625/50 and 525/60 configurations
- RGB picture monitor output

The versatile WFM-300 Component Television Waveform Monitor provides a comprehensive set of signal monitoring capabilities designed specifically for the component television environment.

Component based television equipment produces signals quite different from the composite television signals, and the WFM-300 provides monitoring capabilities to meet this challenge. An innovative lightning display provides amplitude and timing information for all three channels simultaneously, allowing the operator to set up equipment accurately and efficiently.

The traditional parade display of three signals provides side-by-side comparison of all signals. In addition, any combination of the three signals can be overlaid for accurate comparisons. Both horizontal and vertical magnification can be applied for detailed inspection of the signal being observed.

A vector display of the color difference signals provides the traditional color bar vector display. The Bowtie display uses the special Bowtie timing test signal from the TSG-300 component television test signal generator,

allowing precise timing of three wire component television systems. This utilizes a channel 1 minus channel 2 and 3 mode to provide a side-by-side differential comparison (1-2, 1-3) of all three channels.

The WFM-300 has full frame line select, with alphanumeric readout. Any one or two lines of the entire frame can be selected and displayed, or the same line(s) in both fields can be viewed at one time. An intensified zone in the two-field sweep indicates the location of the line selection. In addition, any successive 15 lines can be overlaid.

The input signal can be color difference or RGB, with optional accommodation for several color difference formats.

All of these signal types are converted to RGB for a dedicated picture monitor output. The valid RGB gamut limit is monitored to ensure the operator is warned if a combination of signals is not valid. The WFM-300 can operate on 525/60 and 625/50 signal standards.

WFM-300 \$4900.00

TSG-170A NTSC

Television Generator

- Simple, effective test signal complement
- RS-170A sync pulse generator with digital genlock
- Separate timing controls for sync and test signals
- Separate SMPTE bars output with programmable ID (option 01)
- Audio tone output (option 01)
- Tape leader countdown

Test Signal Generator

The accuracy and long term stability of the TSG-170A test signals are enhanced by its precision digital to analog converter. Each converter is automatically laser trimmed to 12 bit accuracy. Color bar blanking width is 10.6 μ s to facilitate verification of proper blanking throughout your system.



TSG-170A

RS-170A Sync Generator With Digital Genlock

All outputs are correctly SC-H phased, even if the TSG-170A is locked to an improperly SC-H phased reference input. The digital genlock calculates sync timing and subcarrier phase to properly identify color framing of the input reference signal. The TSG-170A automatically senses composite video or 3.58MHz subcarrier reference inputs and in the absence of a reference input signal automatically switches to its own internal reference.

System Timing Control

Front panel controls are provided for phasing

of all outputs relative to the genlock source. A separate set of timing controls is provided to move the pulse and subcarrier outputs relative to the black burst and test signal outputs. All timing settings are stored in nonvolatile memory to prevent loss in the event of a power failure.

TSG-170A \$4800.00

TSG-170A Option 1 Adds separate SMPTE bars output with 12 character ID, audio tone output and tape leader countdown Add \$1000.00

SPG-170A Sync Generator

- Digitally generated RS-170A black burst
- Digital genlock
- High stability subcarrier
- Flexible pulse outputs
- Pulse timing independent of black
- Remote control timing presets
- Remote control ID presets
- Optional SMPTE bars, ID, and audio tone

All SPG-170A signals are digitally generated to provide excellent SC-H and timing accuracy. The SPG-170A also has a digital genlock to ensure consistent color framing and to eliminate timing drift inherent in other genlock systems. This microprocessor-based system calculates genlock input burst phase and sync timing to control output timing and color framing. All outputs are correctly SC-H phased, even if the SPG-170A is locked to an improperly SC-H phased input. When no input signal is present, it switches to an internal oscillator. This high stability crystal oscillator, enclosed in a constant temperature oven, ensures long term frequency accuracy.

System Flexibility

The flexibility of the SPG-170A's pulse outputs allows you to configure it to your specific system needs. The SPG-170A has eight sync generator outputs: Sync, Subcarrier, Blanking, Black Burst, and four selectable outputs. The selectable outputs can be used for Burst



SPG-170A

Flag, H Drive, V Drive, and Color Frame Pulse, or they can be used to provide an additional set of outputs for the pulses most commonly used in modern television facilities. Horizontal blanking can be set to 10.5, 10.7, or 10.9 μ s and vertical blanking can be set to either 19 or 20 lines.

The SPG-170A sync timing controls allow you to advance or delay subcarrier and pulse outputs relative to the black burst output, eliminating the need for separate delay lines. Microprocessor control enables both genlock and sync timing settings to be stored in non-volatile memory in case of power failure. To prevent inadvertent changes to critical timing settings, the front panel timing controls can be locked out by an internal jumper. Up to eight timing presets are selectable through the remote control to simplify timing of shared equipment.

SMPTE Bars with ID and Audio Tone (Option 1)

By specifying Option 1, basic video and audio

test capabilities are added to the SPG-170A. Option 1 includes SMPTE bars and audio tone generators for setting program levels. Also, a preset ID of up to 12 characters can be added over the SMPTE bar output. This ID is stored in nonvolatile memory from the front panel, and up to four preset IDs can be recalled through the remote control. Additionally, the remote control allows the ID to be replaced by a countdown, providing a tape leader function. The vertically locked 450Hz audio tone provides a unique method for checking audio edit quality. The audio tone can be combined with a variable rate click to distinguish various audio sources.

Total System Solution

The SPG-170A NTSC sync generator is ideal in a master sync system with the ECO-170A synchronous changeover and TSG-170A NTSC television generator.

SPG-170A \$3300.00

SPG-170A Option 1 SMPTE bars with ID and audio tone Add 1000.00

2246/2245 Oscilloscopes

- Bright, crisp display with high writing rate
- Four independent channels
- 100MHz bandwidth with 2ns/Div time base
- On-screen scale factor readouts
- Flexible triggering: auto level and auto HF, LF, Noise Reject, TV line and TV field
- Delayed sweep
- Control status lights
- 2% vertical and horizontal accuracy
- 2mV/Div vertical sensitivity at full bandwidth
- Labeled volts cursors with ground-referenced readings and on-screen read-outs
- Hands-off voltmeter measurements +peak and -peak, peak-to-peak, gates peaks, gated peak-to-peak, DC
- SmartCursors™ track voltmeter measurements
- SmartCursors visually indicate trigger level and ground
- Time measurements with cursors or alternate delayed sweep Δ

2246



2245 100MHz Oscilloscope

Includes: Two 10X, 1.3m probes with accessories (P6109); clear accessories pouch with ziploc fastener (016-0537-00); blue plastic CRT filter (337-2775-00); 2A, 250V fuse (159-0023-00); operator manual (070-6083-00); user reference guide (070-6082-00) \$1775.00

2246 100MHz Oscilloscope with Voltmeter, Δ Time, and SmartCursors \$2400.00
Includes: same as 2245

2245



Options

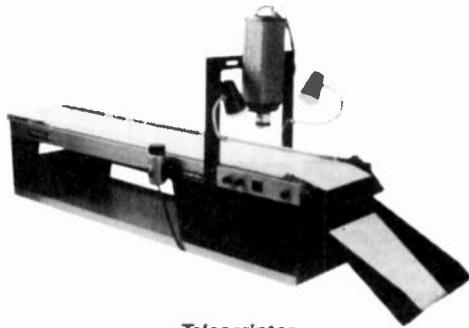
Option 02—Protective front panel cover and accessory pouch \$ 50.00

Option 1C—C-5C option 02 camera \$465.00

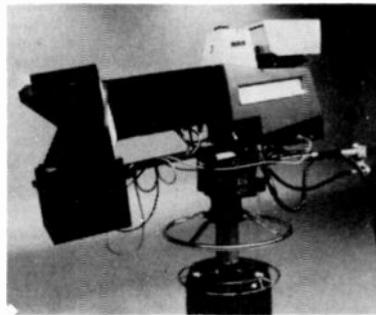
Option 1K—K212 portable instrument card \$330.00

Option 22—Two additional P6109 probes \$116.00

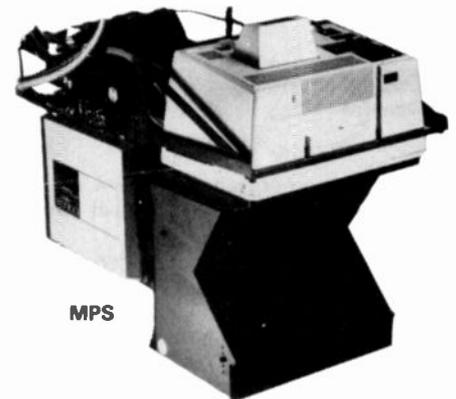
Option 23—Two 1X/10X P6062B, 6' probes \$350.00



Telescriptor



Monitor Prompter



MPS

The Telecue

The compact, portable Telecue transports prompting scripts and graphics with equal facility. To facilitate script prompting continuity and for remote location operation, 8 1/2" x 11" sheets of paper should be taped together.

The Telescriptor

The Telescriptor transports prompting scripts and graphics via a white fiberglass belt with equal facility. Telescriptor prompting only requires that 8 1/2" x 11" sheets of paper be placed singly on the transport's belt. Over and under lapping and immediate editing by exchanging sheets is the norm.

The "Presidential" System

2 Monitor Prompting System (MPS) for Public Speaking

- Telecue with hand control and 25' cable
- Vidicon camera with mounting plate int. 2-1, 12.5mm f/1.8 1" format lens
- 2 17" monitor prompters
- 4 coax cables 50', 25', 10', 5'
- 2 mirror views for public speaking, housing for monitor prompter, panels, adj. bstr. holder and bstr.
- Workstation monitor

Presidential System \$5690.00
 With C-64 (Commodore) Program 4330.00

Optional Equipment

- Video Blanking Control** 2 position or 4 position . . . \$75.00-\$125.00
- Contrast Enhancer** provides enhancement plus Video Rev. (white/black/shades of gray)
- Lightweight Carrying Cases** Foam lined, handles, latches, 2" wide straps. Fiberglass covered plywood . . . \$255.00
- 23" Monitors, 1000L** For placement in key areas for walk-about type speaking or group viewing . . . \$950.00

1 and 2 Monitor Prompting Systems Product Selections

Telecue Transport including Script Feed Assembly

— or —

Telescriptor Transport including Table with Casters

Remote Hand Control and 25' extension cable, and Vidicon Camera with mounting plate int. 2-1, 12.5mm f/1.8 1" format lens, (Included with Telecue or Telescriptor)

— or —

Program for the Commodore (C-64) Computer included ROM cartridge, support disk, 10 pushbutton controller, cables and 12" workstation monitor

1 Monitor Prompting System (MPS)

- 1 Monitor Prompter
- 1 Monitor Lensview Assembly
- 1 Monitor Mount Assembly
- Manuals

1 MPS with Telecue \$4540.00
 1 MPS with Telescriptor 4860.00
 1 MPS with C-64 Program 3430.00
 1 MPS (12" Monitor Prompter-1000 Dots) with C-64 Program . . 2890.00

2 Monitor Prompting System (MPS)

- 2 Monitor Prompters
- 2 Monitor Lensview Assemblies
- 2 Monitor Mount Assemblies
- Manuals

2 MPS with Telecue \$6160.00
 2 MPS with Telescriptor 6480.00
 2 MPS with C-64 Program 5050.00

Telecue with hand control, 25' extension cable and script assembly . . \$2390.00
 Dual Control with hand control features plus 2 foot pedals, controls and 25' extension 290.00
 Telescriptor with hand control and 25" cable 2690.00
 Table with casters (Telescriptor) 90.00
 Vidicon Camera with mounting plate int. 2-1, 12.5mm 1" format lens . . 560.00
 C-64 Program ROM Cartridge, Support Disk, 10 Pushbutton Controller, Cables 1630.00
 IBM Transfer Disk, Cable and C-64's RS232 160.00
 Monitor Prompter, 17" 1000 dots 895.00
 Monitor Prompter, 12", 1000 dots 385.00
 Work Station Monitor, 12", 1000 dots 205.00
 Monitor Lensview (LV) Assembly with Beamsplitter, Amb. Light Mask \$275.00-360.00
 Monitor Mount Assembly with Counterbalancing Plate and Accessories 355.00-475.00
 Compensating Weight Assembly CWT (Pb) Ext. Plate and Hardware . . . 120.00
 Beamsplitters 30/70 or 40/60 with 2nd surface Low Refl. Coatings . . 95.00-145.00
 Wedge Adaptor and Wedge 130.00 & 80.00
 Counterweights (Pb) and Hardware 35.00-85.00
 Pedestal Weights 20.00-30.00
 Contrast Enhancer with Video Rev. (In and Out-of-doors Composite Prompting) 410.00
 Clarifier for Computer Prompting 310.00
 Telepod (Off camera Monitor Prompter support) Head, Adj. Pedestal, Base-Casters, Brackets for LV or direct Monitor Prompter Viewing . . . 520.00
 Mirror View for Public Speaking. Housing, Grained Panels, 3 Tiered Clutch Tubes, Beamsplitter Clamp Assy and B'str. "The Presidential System . . 540.00
 Universal Fluid Heads. For EFG cameras with MPS...The 50 lb. 205BVH 2 Pro handles, leveling adaptor for center post tripod, dolly with "Sticks-lock" wheels \$2190.00



Diversity Wireless Microphone System. FMR-2 receiver with WT-200 beltpack transmitter, WLM-200 lapel microphone and WHM-500 handheld microphone/transmitter

FMR-2 Diversity Wireless Microphone Receiver

- Peak reading volume indicator • Power-on LED • Display that indicates RF field strength • Adjustable mike • Auxiliary headphone output capability • Fixed line level output • Two 5/8 wave antennas are supplied • Operates on 120VAC (240VAC available) or 12VDC • Free-standing receiver can be rackmounted

FMR-50 Wireless Microphone Receiver

The FMR-50 provides a clearer, better sounding signal for longer distances from the receiver • Signal remains crisp for distances of 500' or more • Operates on high band frequencies between 150 and 186MHz

WLM-100/WLM-200 Electret Lapel Microphone

- Electret omnidirectional lapel style • Available in both silver and black • Equipped with supple anti-noise cord • Lemo corrector-foam wind screen and three styles of mounting clips available

WT-200 Belt-Pack Transmitter

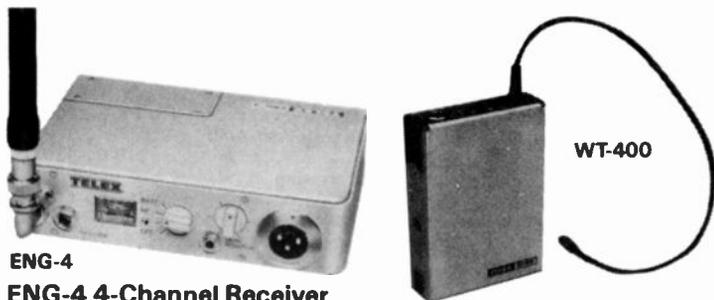
- Roughly the size of a cigarette package • Easily concealed under clothing • Sensitivity switch • Phantom power • Connectorless battery terminals • Battery test circuit • Separate on/off switches for RF and audio

WHM-410 Dynamic Handheld Transmitter

- Cardioid dynamic • Offers a great deal of economy • No switches are provided which prevents a user from inadvertently turning "off" the microphone

WHM-500 Handheld Condenser Microphone/Transmitter

- Separate on/off switches for audio and RF • Two wind screen styles and two 4.5V batteries are provided • Superb rejection of handling noise • Ideal for the vocalist because of a tailored frequency response



ENG-4 4-Channel Receiver

- Fully transportable VHF FM receiver ideally suited for electronic news gathering, film or sound recording • Simple rotary dial allows quick channel changes in the field • Spring-loaded battery compartment pops up so battery "sled" can be taken out and replaced instantly with a spare—reducing battery change downtime to just seconds • Supplied with a small monitor earphone and a 1/4 wave antenna that mounts vertically or at a right angle.

WT-400 2-Channel Transmitter

The WT-400 transmitter is a belt-worn battery powered VHF FM transmitter for any activity requiring a cordless portable microphone.

WIRELESS MICROPHONE SYSTEMS

Professional Audio/Commercial Sound/Music Series Wireless Systems

Systems Pricing — Non-diversity — 150-186MHz

Lapel Mike System
Includes: WT-50 Transmitter, FMR-50 Receiver, WLM-50 Electret Lapel Microphone 64381-XXX \$ 975.00

Dynamic Handheld System
Includes: WHM-410 Transmitter, FMR-50 Receiver 64382-XXX 995.00

Condenser Handheld System
Includes: WHM-500 Transmitter, FMR-50 Receiver 64383-XXX 1055.00

Headworn Mike System
Includes: PH-21 Headworn Microphone, WT-50 Transmitter, FMR-50 Receiver 64373-XXX 980.00

Wireless Guitar System
Includes: WT-50G Transmitter, Instrument Antenna/Cable, FMR-50G Receiver 64384-XXX 865.00

Systems Pricing — Posi-i-Phase™ Diversity

Lapel Microphone System — 150-216MHz

WT-200 Transmitter 64182-XXX \$ 495.00

FMR-2 Diversity Receiver 64213-XXX 1095.00

WLM-200 Electret Lapel Microphone (Black) 63852-001 130.00

System Total \$1720.00

Lapel Microphone System — Economy — 150-186MHz

WT-50 Beltpack Transmitter 64229-XXX \$ 315.00

FMR-2 Diversity Receiver 64213-XXX 1095.00

WLM-50 Electret Lapel Microphone (Gray) 64277-000 110.00

System Total \$1520.00

Dynamic Handheld System — 150-216MHz

WHM-410 Dynamic Microphone/Transmitter (No on/off switches) 64225-XXX \$ 445.00

FMR-2 Diversity Receiver 64213-XXX 1095.00

System Total \$1540.00

Condenser Handheld System — 150-216MHz

WHM-500 Condenser Microphone/Transmitter 64203-XXX \$ 505.00

FMR-2 Diversity Receiver 64213-XXX 1095.00

System Total \$1600.00

Headworn Microphone System — 150-216MHz

WT-200 Transmitter 64182-XXX \$ 495.00

PH-22 Noise Cancelling, Electret Headworn Microphone with windscreen 64327-002 125.00

FMR-2 Diversity Receiver 64213-XXX 1095.00

System Total \$1715.00

Wireless Guitar System — 150-216MHz

WT-50G Beltpack Transmitter including Instrument Antenna/Cable 70361-XXX \$ 315.00

FMR-2G Diversity Guitar Receiver 70525-XXX 1295.00

System Total \$1810.00

Pro Star Entertainer Series — Posi-i-Phase™ Diversity

Handheld System with TE-10 Microphone Head — 150-216MHz

HT-400 2-Channel (TE-10) 70321-012 \$ 885.00

FMR-4 4-Channel Diversity Receiver 70270-012 1485.00

System Total \$2370.00

Handheld System with Shure SM-58 Microphone Head — 150-216MHz

HT-400 2-Channel (Shure SM-58) 70322-012 \$ 990.00

FMR-4 4-Channel Diversity Receiver 70270-012 1485.00

System Total \$2475.00

Handheld System with Shure SM-87 Microphone Head — 150-216MHz

HT-400 2-Channel (Shure SM-87) 70323-012 \$ 1095.00

FMR-4 4-Channel Diversity Receiver 70270-012 1485.00

System Total \$2580.00

Multi-Channel Lapel Microphone System — 150-216MHz

WT-400 2-Channel Transmitter 70279-012 \$ 798.00

FMR-4 4-Channel Diversity Receiver 70270-012 1485.00

WLM-200 Electret Lapel Microphone (Black) 63852-001 130.00

System Total \$2413.00

Lapel Microphone System with 1-Channel Transmitter — 150-216MHz

WT-200 Transmitter 64182-XXX \$ 495.00

FMR-4 4-Channel Diversity Receiver 70270-012 1485.00

WLM-200 Electret Lapel Microphone (Black) 63852-001 130.00

System Total \$2110.00

Condenser Handheld System with 1-Channel Transmitter — 150-216MHz

WHM-500 Condenser Microphone/Transmitter 64203-XXX \$ 505.00

FMR-4 4-Channel Diversity Receiver 70270-012 1485.00

System Total \$1990.00

Broadcast/Video Production Wireless Microphone Systems — ENG Series

Lapel Microphone ENG System — 150-216MHz

WT-400 2-Channel Beltpack Transmitter 70279-012 \$ 798.00

ENG-4 4-Channel Receiver 64490-012 1260.00

WLM-300 Electret Lapel Microphone 70483-000 130.00

System Total \$2188.00

Handheld ENG System — 150-216MHz

HT-400 2-Channel Microphone/Transmitter with Telex TE-10 Head 70321-012 \$ 885.00

ENG-4 4-Channel Receiver 64490-012 1260.00

System Total \$2145.00

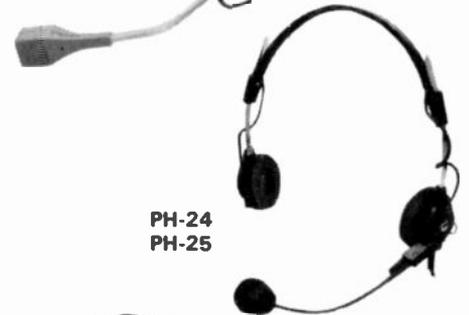
*The last three digits in the transmitter and receiver catalog number will be determined by the frequency that is selected. Full line accessories available.

TELEX COMMUNICATIONS, INC.

Model	Catalog No.	Description	Impedance Ohms	Cord Length	Plug	Price
Studio and Sportscasting Headsets (w/Push-to-Cough Switch)						
PH-91	64390-000	Dynamic Dual (Mike dynamic 150/200 ohms)	300/Side	9'	None	\$210.00
PH-92	64390-001	Dynamic Dual (Mike dynamic 150/200 ohms)	600/Side	9'	None	245.00
PH-93	64390-002	Dynamic Dual (Mike condenser 150/250 ohms)	300/Side	9'	None	250.00
PH-24	64356-000	Lightweight Mono (Mike noise canceling condenser 150/250 ohms)	150	9'	None	220.00
PH-25	70425-000	Lightweight Bln. (Mike condenser 150/250 ohms)	300	9'	A3M/1/4"	245.00
Studio and Vocal Headband/Boom Microphones						
PH-20	64327-000	Electret Mike System	150(mike)	3'	TA4F	\$210.00
PH-21	64327-001	Electret Mike	N/A	3'	TA4F	115.00
PH-22	64327-002	Electret Mike	N/A	3'	LEMO	125.00
PS-10	64239-000	Battery or Phantom Supply for PH-21				115.00
Monitor Headphones — Stereo						
PH-6	64437-003	Dynamic Dual	600/Side	12' coiled	1/4"	\$110.00
PH-35	64359-000	Lightweight	300/Side	6.5'	1/4"	52.00
Monitor Headphones — Mono						
PH-7	64437-000	Dynamic Dual	600	5'	1/4"	\$100.00
PH-11	64438-000	Dynamic Single	600	5'	1/4"	68.00
PH-36	64353-000	Lightweight Dual Side	600	6'	1/4"	52.00
Professional Communications Headsets						
PH-45	64437-001	Dynamic Dual (Mike carbon 20/50 ohms)	600	5'	1/4"	\$125.00
PH-61	64437-002	Dynamic Dual (Mike noise canceling dynamic 150 ohms)	600	5'	1/4"	130.00
PH-75	64438-001	Dynamic Single (Mike noise canceling dynamic 150 ohms)	600	5'	1/4"	115.00
PH-78	64438-002	Dynamic Single (Mike carbon 20/50 ohms)	600	5'	1/4"	110.00
PH-62	70362-000	Dynamic Binaural Dual (Mike noise canceling dynamic 150 ohms)	300/Side	5'	None	120.00
Intercom Headsets (with A4F or A5F Connector)						
Plug compatible with Telex, Clear-Corn, and HME intercom systems						
PH-1	64438-005	Dynamic Single (Mike noise canceling dynamic 150/200 ohms)	150	6' coiled	A4F	\$110.00
PH-2	64437-006	Dynamic Dual (Mike noise canceling dynamic 150/200 ohms)	150	6' coiled	A4F	140.00
PH-3	64437-007	Dynamic Binaural (Mike noise canceling dynamic 150/200 ohms)	150/Side	6' coiled	A5F	140.00
PH-4	70340-000	Dynamic Dual (Mike noise canceling dynamic 150/200 ohms)	150	6'	A4F	150.00
PH-5	70350-000	Dynamic Binaural dual (Mike noise canceling dynamic 150/200 ohms)	300/Side	6'	A5F	150.00
Video Camera Headsets (With Carbon 20/50 Ohm Microphone)						
PH-81	64438-004	Magnetic Single	275	6' coiled	None	\$115.00
PH-83	64438-003	Magnetic Single (w/PTT switch)	275	6' coiled	None	130.00
PH-85	64437-005	Magnetic Dual	275/625	6' coiled	None	185.00
PH-87	64437-004	Magnetic Dual (w/PTT switch)	275/625	6' coiled	None	205.00
Hearing Protection Headset						
HD-3A	63700-011	Dynamic Dual (Mike noise canceling dynamic 150 ohm)	150	6' coiled	A4F	\$140.00
Headset Accessories						
B-3	35355-004	Battery, 1.4V			Used On	\$ 1.50
CC-1	35772-000	Cushion Cover — Sock (1)			All circumaural headsets	3.50
C-3	63444-000	Earcushion (1)			PH Series full cushion	6.00
C-4	64301-000	Earcushions (2)			PH Series Lightweight	3.50
HP-2	63461-000	Headband pad			HD Series	8.00
HP-3	63801-000	Headband pad			PH Series	8.00
WS-5	59737-001	Windscreen			PH-91/PH-92	9.00
WS-7	59835-000	Windscreen			PH-62	4.00
WS-11	59747-001	Windscreen			PH-20/PH-21/PH-22/PH-24/PH-25	4.00
PT-400	63295-000	DPDT Press-to-talk Sw. Kit				30.00



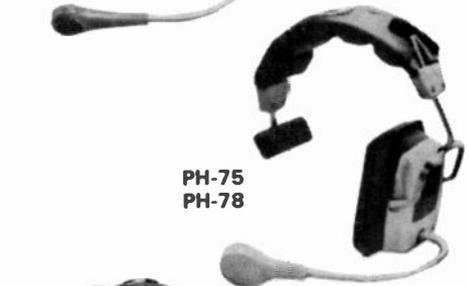
PH-91
PH-92



PH-24
PH-25



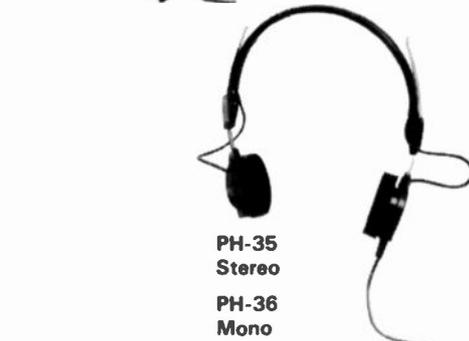
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PH-61



PH-75
PH-78

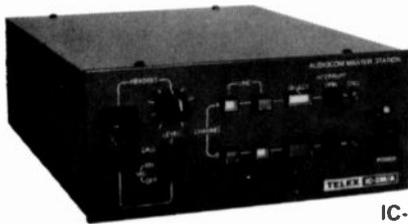


PH-7
PH-6



PH-35
Stereo
PH-36
Mono

TELEX COMMUNICATIONS, INC.

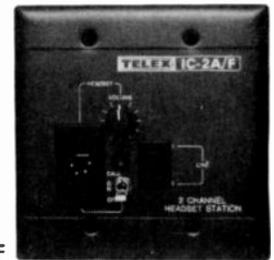


IC-2MA



IC-2A

IC-2B



IC-2AF

IC-2MA Two-Channel Switchboard with Power Supply

The IC-2MA has a built-in power supply sufficient to power up to 50 headset stations, 16 speaker stations or a combination of both. It can also operate with an external power supply via a rear panel two-pin "Jones" plug.

Remote Headset Stations (Portable)

Audiocom remote headset stations are compact units designed for convenient belt-pack portability. Tapped screw holes are provided to fasten the station to a video or film camera if desired. Includes male and female (XLR-3 type) connectors. A male (XLR-4 type) connector with listening volume control and microphone On/Off switch along with other function controls are located on the top panel. This panel is recessed to protect the controls from damage or inadvertent switching.

Remote Headset Stations (Flush Mount)

Remote headset stations for permanent flush mounted installation in standard two gang electrical wall boxes (not supplied). The stainless steel, matte black front plate provides a male (XLR-4 type) headset connector with On/Off switch and a listening volume control. The single-line IC-1F/LS provides built-in light signalling, however the IC-1F without light signalling offers a cost saving advantage when signalling isn't required. The IC-2AF with two-line switch offers versatility, and includes both call light and sidetone features.

SINGLE-LINE SPEAKER STATIONS

IC-S/LS Portable Speaker Station with Call Light

For portability the entire unit is enclosed in a sturdy carrying case with a handle. It has a male (XLR-4M type) connector for microphone, handset or headset on the front panel and both male and female 3-pin connectors on the rear of the unit. The speaker is rated at three watts and loudness is controlled by a volume control located on the front panel. The speaker output is automatically silenced when a microphone is keyed or it is attenuated by 6dB when a headset is plugged in. The IC-S/LS includes call signalling.

IC-SF/LS Flush Mount Speaker Station With Call Light

Same unit as above but designed to be installed in a standard 6" H x 8" W x 3" D electrical pull box.

TWO-LINE SPEAKER STATIONS

IC-2S Portable Speaker Station

This speaker station allows page (receive) only or two-way communication using its built-in push-to-talk microphone. A unit such as this with a three watt speaker enclosed in a case with a carrying handle is the perfect solution to intercom situations that require portability and the freedom to move away from the station at will while retaining audio contact.

IC-2SF Flush Mount Speaker Station

This unit is similar to the IC-2S except that it is designed without the carrying case and handle, and mounts into a standard 6" H x 8" W x 3" D electrical pull box. Terminal strips are provided for the connection of intercom lines and a separate power supply.

INTERFACE UNITS

CCB-1 Telex/Clear-Com Interface

A compact easy-to-use interface unit that, when connected in line between any Telex powered intercom station and a Clear-Com intercom station or vice versa, makes each system both audio compatible and light signalling compatible! Works with Telex or Clear-Com main station switchboards or both at once if necessary. Ends compatibility problems between the Telex balanced line and Clear-Com's unbalanced line without any muss or fuss.

IF-1 Telephone Line Hybrid Coil Interface

This unit interfaces the Audiocom with any other two or four-wire communications systems including telephone circuits. Transformer coupling will also accommodate three-wire lines. Male and female (XLR-3 type) connectors are provided for the intercom line and are located on the rear panel.

Headsets, Microphones & Handsets

PH-1	Single muff headset	\$110.00
PH-2	Dual muff headset	140.00
PH-3	Binaural dual muff headset (for IC-2B)	140.00
PH-4	Lightweight dual muff headset	150.00
PH-5	Binaural lightweight dual muff headset (for IC-2B)	150.00
PH-10	Super high noise attenuation dual muff headset	210.00
HD-3A	Noise attenuation dual muff headset	140.00
HM-100	Noise cancelling hand microphone	60.00
HS-6A	Handset (telephone style, with cradle)	87.50
EMY-2	IFB Earset (requires field modification)	18.00

Master Stations and Power Supplies

IC-2MA	Switchboard main station, 2 channel w/IFB, sidetone	\$665.00
IC-4M	Main station, 4 channel w/IFB, sidetone, SA	790.00
IC-4R	Main station, 4 channel w/sidetone (No IFB or power supply), SA	600.00
IC-4SX	System expander (12 lines/5 channels to IC-4M or IC-4R)	720.00
IC-SR	Rackmount speaker option for IC-4M, IC-4R	140.00
PS-1	Portable power supply, single-line	280.00
PS-1F	Flush mount power supply single line	150.00
PS-2L	Portable power supply, two line	395.00

Remote Headset Stations (Portable)

IC-1	Belt pack station, single line	\$170.00
IC-1B	Circuit board for IC-1 belt pack station	90.00
IC-1/LS	Belt pack station, single line w/call light	205.00
IC-2A	Belt pack station, two line w/call light and sidetone	265.00
IC-2B	Belt pack station, two line binaural, dynamic/carbon headset, sidetone	275.00

Remote Headset Stations (Flush Mount)

IC-1F	Flush mount headset station, single line	\$140.00
IC-1F/LS	Flush mount headset station, single line w/call light	180.00
IC-2AF	Flush mount headset station, two line w/call & sidetone	220.00

Speaker Stations

IC-S/LS	Portable speaker station w/call light	\$340.00
IC-SF/LS	Flush mount speaker station w/call light	250.00
IC-2S	Portable speaker station, two line w/PTT condenser mic, call light	370.00
IC-2SF	Flush mount speaker station, two line w/PTT condenser mic, call light	270.00

Interface Units

IF-1	Interface units for 2, 3, or 4 wires w/Telco holding coil	\$575.00
CCB-1	Telex/Clear-Com interface	95.00

Mini-Rack™ Cases

The Mini-Rack, a line of instant access, shock-mounted cases offer all the protection of Thermodyne's popular Shok-Stop™ cases as well as the convenience of the Rack-Pack™. Mini-Rack has eliminated 5" of case height and 20% of the weight from the standard Rack-Pack design for critical space and weight requirements, yet still offers accessibility and protection.

The Mini-Rack has the standard 19" EIA rack width and 20" rack depth, but the case dimensions have been reduced 5" in width and 5" in height by redesigning the shock-mount system to attach the rack frame directly to the inside of the case. The space between the rack and the inside of the case has been reduced and the Mini-Rack has eliminated the high profile exterior shock mounts of the Rack-Pack, replacing them with low profile shock-mounts.

Like the Shok-Stop and Rack-Pack cases, Mini-Rack is available in a variety of sizes, from 5.37" to 24.625" rack height and 8.75" to 18" case height. Mini-Rack has all the standard Thermodyne features, including: inner rack frame with EIA-RETMA hole pattern in front and rear rails, recessed latches and handles, interlocking ribs for ease of stacking, and watertight gasket construction. All Thermodyne cases are corrosion and fungus resistant. A number of optional items can be specified, including: shock mounts for unusual weight, extra t-bar supports, anodized outer valances, removable casters, and custom colors.

Shok-Stop Cases

Made of high density polyethylene, the Shok-Stop case acts as a shock absorber. When an impact occurs, the case accepts all of the force. The slight shock that reaches the interior is instantly overcome by the foam which can be custom-fitted to the exact dimensions of your equipment.

Carefully engineered channels and corner bumpers on every Shok-Stop case are designed to deliver maximum protection in high-stress conditions. Hardware includes spring-loaded handles which fit tightly during shipping, and recessed hinges and latches that are field-replaceable if necessary. By using non-invasive hardware attachment and pressure relief valves, Shok-Stop cases can be ordered completely water-tight or vapor-tight, depending upon the requirements. All Shok-Stop cases offer Electromagnetic Interference (EMI) shielding and can be panel-mounted.

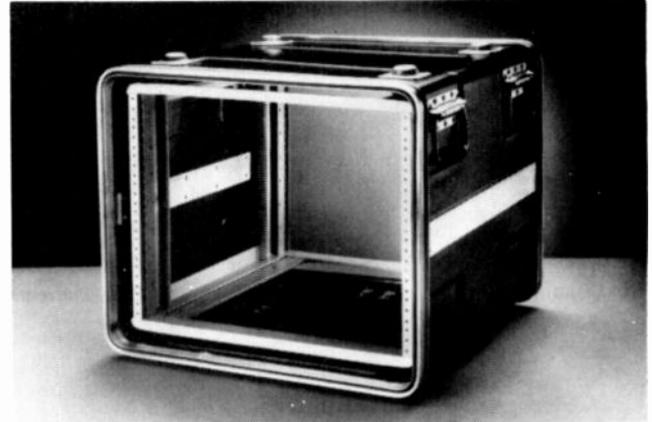
Shok-Stop cases can be ordered empty, with a solid foam core, or Thermodyne can custom cut the foam to the customer's specifications. Shok-Stop is available in a variety of shapes and sizes, from 8.0" to 89.0" in length. The standard color is gun-metal gray, but custom colors are available at no additional charge. Thermodyne stocks the most common standard sizes in inventory for quick response to orders. Like all Thermodyne cases, Shok-Stop cases are corrosion and fungus resistant and are available with a variety of options, including: anodized outer valances, automatic pressure relief valve, removable casters and lift rings.

Rack-Pack Cases

Rack-Pack transportation/operating cases now combine permanent mounting in a standard 19" rack with easy equipment access. These instant-access, shock-mounted cases offer all the protection of Thermodyne's Shok-Stop cases and increased accessibility.

Available in sizes from 5.37" rack height and 13.75" case height to 24.625" rack height and 33.0" case height, Rack-Pack features standard specifications such as: inner rack frame with EIA-RETMA hole pattern in front and rear rails, recessed latches and handles, interlocking ribs for stacking, and watertight gasket construction. Like other Thermodyne cases, Rack-Pack is corrosion and fungus resistant, high-density polyethylene.

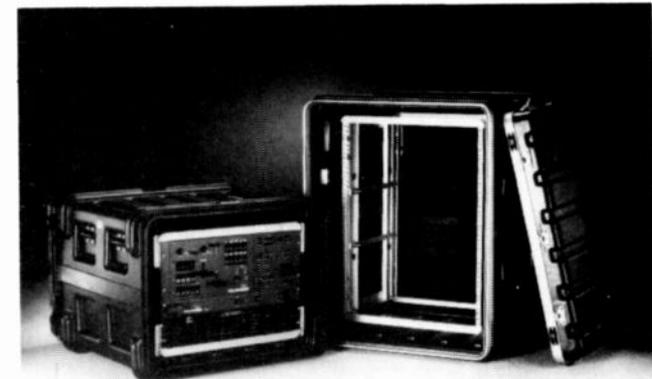
When timing is critical, Rack-Pack allows you to set up and operate equipment in minutes, rather than hours. The equipment can be stacked and pre-wired in place, and you need only remove the front and back covers for immediate access. Every case features recessed ribbing for shock absorption and elastometric shock-mounts for vibration protection. The inner rack is constructed of 6061-T-5 aluminum for durability and light weight and all latches and handles are mounted firmly without intrusive fasteners.



Mini-Rack



Shok-Stop



Rack-Pack

If your equipment requires access by means of slides, they are available by special order. This makes on-site maintenance or repairs easier and quicker. Rack-Pack cases are made to your specifications without expensive alterations: standard 19" rack width, 20" depth, and holes drilled to EIA-RETMA hole patterns, and rack heights to your specification from 5.37" to 24.625". Rack-Pack cases can stack on interlocking ribs to form a modular workstation that is secure in any environment.

Thermodyne has over 150 standard Shok-Stop cases: 11 standard Rack-Pack sizes, 11 standard Mini-Rack sizes, and a growing library of inner foam liner cutting specs. Every Shok-Stop, Rack-Pack and Mini-Rack case meets or exceeds the toughest military specifications including, ATA300-CAT 1, MIL-C-4150, and MIL-T-21200 and is constructed of high-density polyethylene for flexibility and shock absorbency.



4 pt. 2mm grid



6 pt. 2mm grid



8 pt. 2mm grid

Star Effect Filters



Polarizing Filters

Star Effect Filters

Create dazzling seascapes or sparkling chandeliers and candles. Highest quality engraved filters can be used individually or in combination to achieve desired effect. Supplied in direct screw-in, square and rectangular sizes. The designation 1mm, 2mm, 3mm, 4mm grid denotes the space between the engraved lines on the filter that create the Star Effect.

4 pt. in Rotating Mount 1, 2, 3 or 4mm

6 or 8 pt. in Rotating Mount 2, 3 or 4mm

12 pt. in Rotating Mount 2, 3 or 4mm

	2 x 2	3 x 3	4 x 4
	\$43.75	\$ 63.50	\$ 83.50
	83.75	128.75	143.75
	98.00	150.75	168.25

Polarizing Filters

- Penetrate haze without diluting original colors
- Eliminate surface reflections
- Screw-in, rotatable type to achieve desired effect
- Available in series, square and rectangular sizes—series sizes are mounted in anodized aluminum rim clearly engraved with axis and size

Get rich blue skies in your color shots. Simply screw the SR polarizer into your lens mount and rotate it until you see the effect you want. Available screw-in sizes.

Tiffen makes a complete line of standard filters, special effect filters and lens accessories for your TV camera filter wheel or for the front of your lens.

Video Effect Filters

49mm, 52mm, 55mm, 58mm, 62mm, 67mm, 72mm, 77mm

Soft Contrast	1-5
Sofnet Diff. White	1-5
Sofnet Diff. Black	1-5
Sofnet Diff. Red	1-5
Sofnet Diff. Skintone	1-5
Double Fog	1-5
Sepia	2, 3
Low Contrast	1-5
Fog	1, 2, 3
Diffusion	1, 2, 3
Star 4 pt. 2mm	
Star 6 pt. 2mm	
Star 8 pt. 2mm	
Splitfield	+ 1, + 2, + 3
Color Grad®	Blue
Color Grad	Sunrise
Color Grad	ND.6
Multi-Image 49mm, 52mm, 55mm, 58mm	3P
Multi-Image 49mm, 52mm, 55mm, 58mm	3R

Multi-Image 49mm, 52mm, 55mm, 58mm	5P
Multi-Image 49mm, 52mm, 55mm, 58mm	5R
Multi-Image 49mm, 52mm, 55mm, 58mm	6R
Multi-Image 49mm, 52mm, 55mm, 58mm	6L
Multi-Image 49mm, 52mm, 55mm, 58mm	6D
Clear 49mm, 82mm	
ND 0.3	2X
ND 0.6	4X
ND 0.9	6X
ND 0.349mm, 82mm	2X
ND 0.649mm, 82mm	4X
ND 0.949mm, 82mm	6X
FLD 43mm-82mm	
SR Polarizer 40.5mm-82mm	
Close-Up Lens Set, 40.5mm-82mm	
Standard Rubber Lens Shades	
40.5mm-77mm	
Wide Angle Rubber Lens Shade	
49mmWA, 52mmWA, 55mmWA, 58mmWA,	
62mmWA, 67mmWA, 72mmWA, 77mmWA	
Screw-in Metal Lens Shades	
LS49mm, LS52mm, LS55mm, LS58mm, LS62mm,	
LS67mm, LS72mm, LS77mm	
Metal Lens Caps	
LC46mm, LC48mm, LC49mm, LC52mm, LC55mm,	
LC58mm, LC62mm, LC67mm, LC72mm, LC77mm	

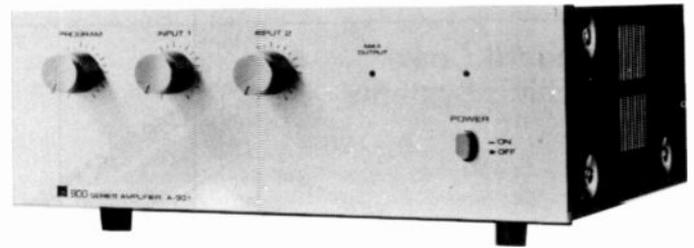


MIXER/POWER AMPLIFIERS

A-901A Three-Channel Mixer Power Amplifier

- 10WRMS output power
- 20-20,000Hz frequency response, ± 1 dB
- Low distortion and noise level and excellent output regulation
- Bass and treble controls for Input #1 and Program Input
- Muting function and protection circuitry
- Separate output terminals for 4/8 ohms, 25/70V
- Full range of plug-in modules
- Portable or rackmounted type

A-901A 10WRMS, 2 Ports (Less Modules) \$195.00



A-901A

A-903A/906A/912A

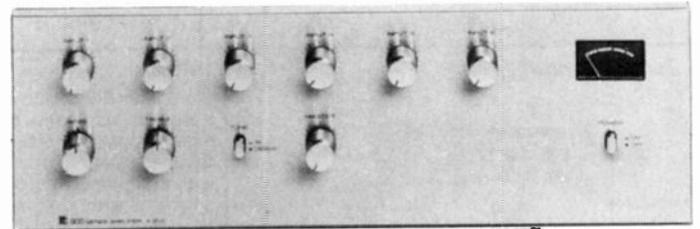
Six-Channel Mixer Power Amplifiers

- 20-20,000Hz frequency response, ± 1 dB
- Low distortion and noise level and excellent output regulation
- Bass, treble and master gain controls
- Bridging and signal processing input and output
- Built-in protection circuitry
- Separate output terminals for 4/8 ohms, 25/70V
- Full range of plug-in modules
- Portable or rackmounted type

A-903A 30WRMS, 6 Ports (Less Modules) \$379.00

A-906A 60WRMS, 6 Ports (Less Modules) 561.00

A-912A 120WRMS, 6 Ports (Less Modules) 700.00



A-912A

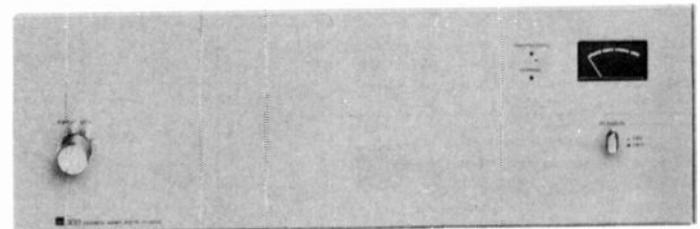
P-906A/912A/924 Power Amplifiers

- 20-20,000Hz frequency response, ± 1 dB
- Low distortion and noise level, excellent output regulation and built-in protection circuitry
- Full range of plug-in modules
- High impedance direct input and an input port (edge connector) that can accept one module
- Separate output terminals for 4/8 ohms, 25/70V
- Input level switch (1,000mV/100mV)
- Portable or rackmounted type

P-906A 60WRMS, 1 Port (Less Modules) \$ 491.00

P-912A 120WRMS, 1 Port (Less Modules) 599.00

P-924 240WRMS, 1 Port (Less Modules) 1075.00



P-924

Accessories

MB-920 Rackmount Brackets (Pair) for A-901A . . . \$21.00

MB-921A Rackmount Brackets (Pair) for A-903A . . . 21.00

MB-931A Rackmount Brackets (Pair) for A-906A, A-912A

P-906A, P-912A 21.00

PF-911 Perforated Blank Panel, 1³/₄" 15.00

YA-910 Volume Control Cover (Basic Units) 1.00



A-512A

A-503A/A-506A/A-512A

Mixer/Power Amplifiers

- Designed to bring reliable power to PA applications of all sorts in industrial plants, offices, schools, churches, etc.—anywhere there is a need for paging, announcements, intercommunications, etc.
- Simplified control layout
- Four microphone inputs
- Record player input
- A radio tuner, tape player, chime, mixer preamplifier, compact disc player or other high level input sources may be connected to the Aux-1, Aux-2 or Aux-3 inputs
- Inputs 3, 4 and 5 can be muted, allowing inputs 1 and 2 and Aux-3 to override them
- Remote volume control

- Link switch provides for the insertion of signal processing equipment
- A tape recorder may be driven from the tape output jack on the amplifier; the output is controlled at the tape recorder
- A booster amplifier may be driven from the booster output jack
- 24VDC operation

A-503A 30W \$366.00

A-506A 60W 470.00

A-512A 120W 538.00

U-51 Microphone input module 53.00

U-52 Line matching transformer 24.00

MB-21b2 Rackmount brackets, black 21.00

PF-511 Perforated panel, 1³/₄", black 15.00



Newsmatte-2



Ultimatte-300

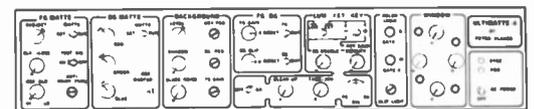
Ultimatte®/Newsmatte™ Video Matting Equipment

All Ultimattes and Newsmattes can composite transparent objects, fine detail such as hair or smoke, out of focus objects, reflections and shadows. They can all matte on blue, green or red; and all permit the foreground subject to touch the backing without causing fringing or break-up in the composite. They all remove blue spill from the foreground subject while reproducing blue foreground colors. They all have a clean up control to remove unwanted shadows or defects in the backing and a black gloss control to deal with black glossy surfaces in the foreground. All have a positive matte output. Ultimatte Corp. also manufactures the High Definition Ultimatte (not included on comparison chart) which is compatible with High Definition Standards.

Features	Ultimatte-5	Ultimatte-4	Newsmatte-2	Newsmatte	Ultimatte-300
Automated Background Level and Background Matte Adjustment	With Manual Override		•	•	•
Background Matte Controls	•	•			
Built In Window Generator	•	•			
Soft Edge Windows	•				
Inverted Windows	•	•			
Reverse Windows	•				
External Window Input (In addition to External Matte Input)	•				
Background Defocusing Control	•				
Separate Matte Density Adjustment for Warm & Cool Colors	•				
Foreground Fade In & Fade Out	•	•			•
Foreground Contrast Adjustments	•	•			
Foreground Colorizer	•				
Background Field Colorizer	•	Internal			
White Logic (Can matte on white)	•	Optional			
Black Logic (Can matte on black)	•	•			
Remote Control	1 Furnished Can add 3 more	Optional	Kit Available		Kit Available
Glare/Noise (Shadow) Control	•	•			Automated
Negative Matte Output	•				
Digital Memory of Control Systems	32 Sets of Values		One Set of Values		One set of Values
Glow Input Circuit	•				
Flare-Suppressed Foreground Direct			•		•
Gate 3 Control to faithfully reproduce Green against Blue or Blue against Green	•				
Matte In Polarity Switch	•	•			
Ability to isolate and Hold Blue Objects	•				
Foreground Input Requirements	RGB or Component	RGB	RGB & Encoded	RGB & Encoded	RGB & Encoded
Background Inputs	RGB, Component or Encoded	Encoded or RGB (option)	Encoded	Encoded	Encoded
Outputs	RGB & Component	RGB	Encoded	Encoded	Encoded
Requires Separate Encoder	•	•			
Requires External Black Burst	•	Only if using Matte Output			
Requires External Sync and Blanking		•		•	
Knob Adjustability	•	•			•
Micro-Processor Controlled					•

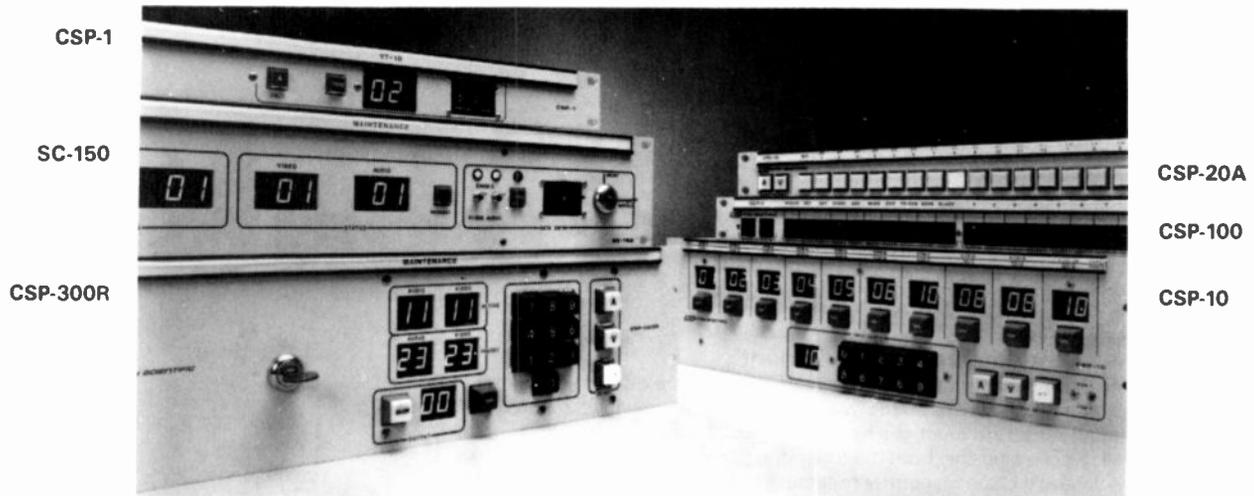


Ultimatte-5



Ultimatte-4 Front Panel

- Ultimatte-5 (Includes one remote) \$26,900.00
- Additional remotes for Ultimatte-5 . . . 4,500.00
- Ultimatte-4 14,500.00
- Ultimatte-4R (Remote with 10 meters of cable) 15,500.00
- Remote Control Kit for Ultimatte-4 . . 1,595.00
- Extra Remote Cable for Ultimatte-4 per meter/12.50
- Ultimatte-300 8,895.00
- Remote Control Panel for Ultimatte-300 375.00
- Newsmatte-2 7,850.00
- Remote Control Kit for Newsmatte-2 . . 245.00
- Newsmatte 4,985.00
- High-Definition Ultimatte 39,850.00



Numeric Control Panels

- Loophrough coax control connection
- Wide variety of panels and mounting styles
- Continuous status readout
- Single-bus, multiple-bus and full-matrix models
- Optional encoding – permits addressing sources by name
- Audio and video select buttons for separate switching and statusing
- Simultaneous audio and video switching from different inputs (CSP-300R only)
- No custom components or proprietary software
- All keycap and write-in strip graphics provided

CPD/PL Desktop Party Line Control Panel

This panel consists of an attractive enclosure mounting a pair of lever switches for input selection plus a Take button. It connects to one of the AVS-1 or AVS-1B party lines by means of a single rear-mounted connector. The CPD/DL is battery powered thus eliminating the need for an AC power cord. The CMOS and "LS" TTL circuitry consume power only when a new input selection is made. Thus, battery life of several years can be expected in normal operation.

CSP-1 and CSP-2 Lever Switch Control and Status Panels

These panels utilize lever switches for data Preset and Take buttons for switch execution. Two-digit numeric readouts indicate crosspoint status on each assigned bus on data from the matrix refresh memory. Breakaway switching is accomplished by an Audio-Only button.

CSP-10 10 or 20 – Bus Control and Status Panel

This panel provides an inexpensive means of controlling up to 20 buses. Ten two-digit numeric indicators provide continuous status information on ten randomly assigned buses while associated Take buttons permit input selection on each bus. New input data is entered by means of a ten-key touchpad which, with associated two-digit readout, sets up input selection data prior to being switched on one or more buses. As with other numeric panels, the addition of coding PROMs and legible keycaps permits addressing and statusing each device by its "familiar" name.

CSP-10C

This panel provides the same features as the CSP-10, but mounts as a front panel on the matrix rack frame and includes a matrix card restraint bar (not pictured). It is most often used in remote van installations

where matrices are typically smaller and rack space is at a premium. Mounting height, including 20 x 20 AV matrix or 30 x 10 AAV matrix, is 10 1/2".

CSP-100 Group/Units Control and Status Panel

This panel, in its non-encoded form, permits addressing up to 100 inputs using two groups of buttons for Tens and Units data entry. With encoding PROMs added each two-button combination addresses a randomly assigned source. This allows the Tens buttons to be assigned group names so that, in combination with the numeric Units buttons, sources can be addressed by their familiar names (VTR-8, TBC-2, etc.). New selections within the same group require only a single keystroke allowing for rapid A/B comparisons such as camera matching. Breakaway buttons provide for separate audio and video switching and statusing. Mounting height is 1 3/4".

CSP-20A/CX-20A Button-Per-Source Panels

The CSP-20A Control and Status Panel with an associated CX-20A Expansion Panel provides button-per-source selection of from 20 to 140 inputs. Each new selection requires only a single keystroke and each button is identified by the source name printed on the label strip.

SC-150 Supervisory Control Panel

The SC-150 Panel provides separate three-digit numeric displays for video and audio statusing. Data entry for up to 160 output buses and 160 sources is by lever switches. Audio and video breakaway switches plus a status-request button are also provided. The keylock switch permits disabling the panel as to switching all buses except one bus (typically a system maintenance or quality control bus) while enabling it to momentarily status any other bus. 3 1/2" rackmount.

CSP-300R Full Matrix Control and Status Panel

This panel provides touchpad data entry and Preset and Active two-digit displays for both audio and video. Input selection data entered from the ten-key touchpad is displayed by either one or both of the preset displays until the Take button is depressed. If different data is entered for audio and video, the two matrices are each switched to their respective selected inputs when the Take button is depressed.

AVS-1B Routing Systems

- 60MHz Video Bandwidth—no obsolescence with conversion to MAC or HDTV video signals
- Sync-tip clamping of video inputs and outputs
- No control buffer cards used—worst-case failure is single 10 x 10 card
- Multi-sourced, discrete components—no proprietary circuits
- Fully reprogrammable with no downtime
- 10-year memory retention of reprogrammed data and matrix status
- Single or redundant power supplies with failure alarms
- Source/destination lockout capability
- Single-motherboard design for fully operational extender card servicing
- Up to eight individually-addressable levels
- 320 inputs/unlimited outputs maximum size per level
- Secondary combining matrices not required regardless of system size
- Automatic control card switchover with alarm—No undetected failure disasters
- Redundant "Plug-In" cooling fans
- Regenerative time code matrices
- Four user ports, RS-232 and RS-422
- Loophrough coax control panel interconnection via four isolated party lines
- Control panel source names assigned by customer—not by manufacturer
- BNC video and compression-type audio connectors—interface panels not required
- SALVO switching from computer terminal

Master Control Switching

The AVS-1B Routing Switcher is also used as the switching matrix for Utah Scientific Master Control Switchers. In this system, sources are selected by router crosspoints then processed as necessary by the master control mainframe. Some of the advantages of this approach to master control switching are:

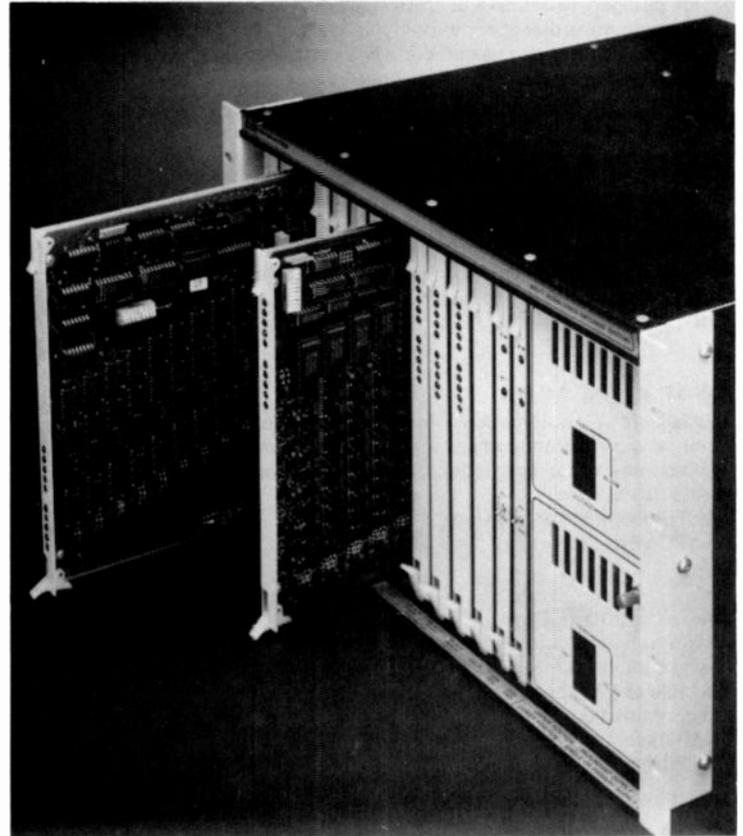
- All sources feeding the router are available to the Master Control Switcher
- System timing is greatly simplified since all sources are normally in proper time at the router inputs and the delay of a separate master control matrix needn't be accommodated
- In automated systems additional matrix buses can easily be controlled for multiple output feeds, off-line recording, etc.
- Overall system cost is significantly reduced

Integration with Machine Control

AVS-1B switching systems can be integrated with either of the two machine control systems offered by Utah Scientific. The PLMC-1 party line system can, in many instances, share the matrix party lines. Where the more sophisticated SMC-1 machine control system, with its high speed DYNABUS™ communications network, is used, interconnection with the AVS-1B party line is accomplished at the DYNABUS User Interface/Diagnostic panel. With either system, machine control assignments can either follow or be independent of A/V switches.

User Control Ports

The PL-160 Control and Memory Card furnished with each system incorporates multiple user ports to allow matrices to be controlled and/or monitored by various external devices. Two ports support RS-232 protocol and are brought out to standard RS-232 connectors on the rear panel. Another port supports RS-422 protocol while a fourth port can be internally strapped for either RS-232 or RS-422 operation.



AVS-1B

System Reprogramming

The relationship between source and destination names and their associated matrix inputs and outputs is subject to change as equipment is replaced and systems are expanded.

To alleviate this problem, Utah Scientific has incorporated reprogrammable, non-volatile memories in all its recent panel designs, with the PL-160 Control and Memory Card and the system party lines acting as the reprogramming medium.

The write-cycle time for the RAM memory used in Utah Scientific panels is typically faster, by a factor of 60,000:1, than the EPROMS used by other switcher manufacturers. This permits the reprogramming data to be interspersed with party line control commands and refreshment words. The result is system reprogramming with no downtime.

While RAM memory retention (by Lithium batteries) is typically ten years, with or without AC power applied, it is still backed up by factory-programmed PROMs that down-load into RAM if a check sum error ever occurs on panel start-up or reset.

A customer-furnished "dumb" terminal is used for reprogramming. This same terminal can be used for entering and executing SALVO switch commands and source and destination lockouts.

Power Supply Systems

Two separate power supply systems may be supplied with Utah Scientific switchers. Where space permits, one or two (for optional redundancy) diode-isolated PS-1B supplies are installed in matrix card cages. In other systems the PS-2 redundant power supply system, powering an entire rack of matrix frames, is furnished. The PS-1B system has both audible and external-contact failure alarms, while the PS-2 system offers an optional scanner/alarm panel that continuously scans 36 circuit points creating both audible and external-contact alarms while identifying the trouble source upon failure detection.

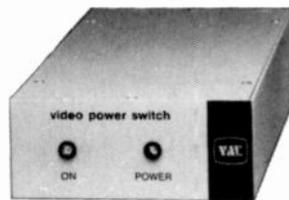


SWITCHES/ALARMS/ DISTRIBUTION AMPLIFIERS

VPS-1P Video Activated Power Switch

When this failsafe unit senses a signal, it provides AC power to any device plugged into it. It is useful in remote applications, inaccessible units, and many other applications. Available as a kit for installations in existing equipment or as a complete self contained unit.

VPS-1P Assembled and tested PC board \$108.00
VPS-1PC With cabinet 170.00



VPS-1P

APS-1P Audio Activated Power Switch

When this failsafe unit senses a signal, it provides AC power to any device plugged into it. It is useful in remote applications, inaccessible units, and many other applications. Available as a kit for installations in existing equipment or as a complete self contained unit.

APS-1P Assembled and tested PC board \$108.00
APS-1PC With cabinet 170.00

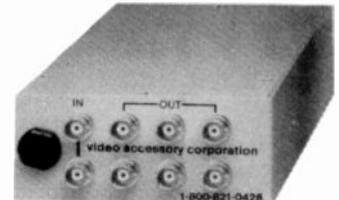
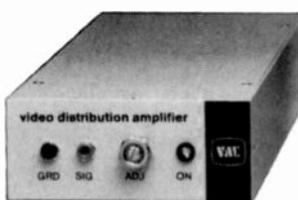


APS-1P

AA-1P Audio Alarm

This failsafe unit automatically monitors an audio signal. It will sound a clearly audible alarm upon any loss of audio for more than 12 seconds. Available as a kit for installations in existing equipment or as a complete self contained unit.

AA-1P Assembled and tested PC board \$108.00
AA-1PC With cabinet 170.00



AA-1P

VA-1P Video Alarm

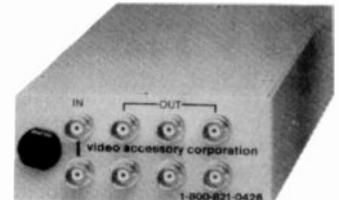
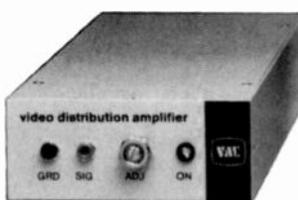
This failsafe unit automatically monitors a video signal. It will sound a clearly audible alarm upon any loss of video for more than one second. Available as a kit for installations in existing equipment or as a complete self contained unit.

VA-1P Assembled and tested PC board \$108.00
VA-1PC With cabinet 170.00

VDA-1/VDA-2P Video Distribution Amplifiers

These distribution amplifiers provide a loopthrough input, 6 outputs, adjustable -3 to +3dB gain, and 20MHz bandwidth for reliably distributing video to a number of devices. The VDA-2PC is a 117VAC unit in a cabinet. Input and outputs are rear panel BNC connectors. Test points, power indicator and gain control are located on the front panel. The VDA-2P is the 117VAC unit without a cabinet. The VAD-1 is a 12VDC unit without a cabinet.

VDA-1 Assembled and tested PC board for 12VDC \$182.00
VDA-2P Assembled and tested PC board for 117VAC 206.00
VDA-2PC With cabinet 300.00

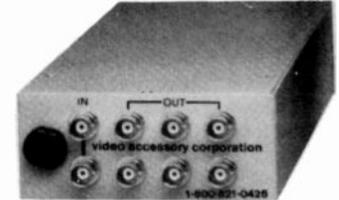
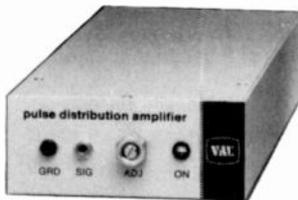


VDA-1

PDA-2P Pulse Distribution Amplifier

A 1 in 6 out pulse distribution amplifier with loopthrough input, and 75 ohm outputs adjustable from -3.5V to -4.5V. These output pulses are regenerated by the amplifier so that dirty input signals are actually cleaned up.

PDA-2P Assembled and tested PC board \$206.00
PDA-2PC With cabinet 300.00

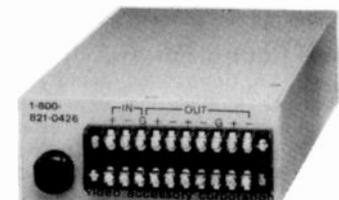
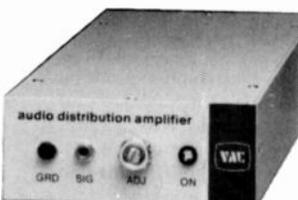


PDA-2P

ADA-2P Audio Stereo Distribution Amplifier

A 1 in 6 out audio distribution amplifier with loopthrough input, 600 ohm isolated balanced or unbalanced outputs, 20Hz to 20kHz bandwidth, and up to +15dB output.

ADA-2P Assembled and tested PC board \$206.00
ADA-2PC With cabinet 300.00



ADA-2P

DA 10-2PC Distribution Amplifier Assembly

Four or five of any combination of our VDA-2P, PDA-2P or ADA-2P distribution amplifiers may be ordered in one full rack width cabinet.

DA 10-2PC With four distribution amplifiers \$1030.00
DA 10-2PC With five distribution amplifiers 1288.00

NOTE: All VAC equipment is rackmountable for \$30.00 per 1 3/4" high rack width.



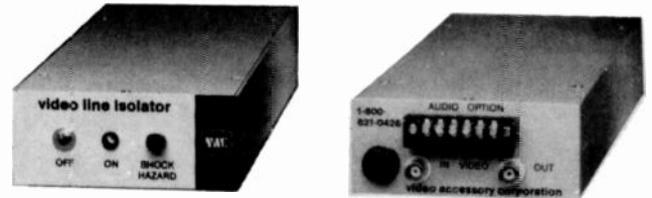
LINE ISOLATORS/GENERATORS/ FAULT INDICATORS

VL-1PC Video Line Isolator

The unique "opto-coupled" video line isolator improves the overall performance of your video system by providing 80dB of isolation between input and output grounds.

Common-mode ground loop problems caused by different AC power ground potentials are eliminated. Video input and output are rear panel insulated BNC connectors. A hazard lamp on the front panel indicates dangerous ground potential voltages. Balanced audio isolation with a rear panel barrier strip is optional.

VL-1PC \$278.00
VL-1APC With audio option \$345.00



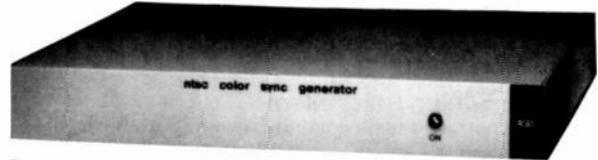
Front Rear

VL-1PC

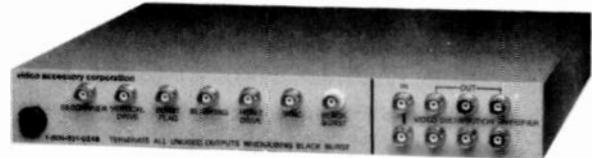
100 NTSC Color Sync Generator

The 100 Color Sync Generator provides subcarrier, sync, blanking, burst flag, horizontal drive, vertical drive, and black burst outputs. This NTSC unit insures that all genlockable cameras, monitors, VCRs, character generators, editing, and duplicating equipment are locked on exactly the same frequency. For increased capability a built-in VDA-2P distribution amplifier is optional (100DA). The VAC color sync generator is a 117VAC unit in a cabinet. Input and outputs are BNC connectors on the rear panel. A power indicator is located on the front panel.

100-2PC Sync generator with black burst . . . \$706.00
100DA-2PC As above with 1 in 6 out VDA. . . . \$870.00



Front



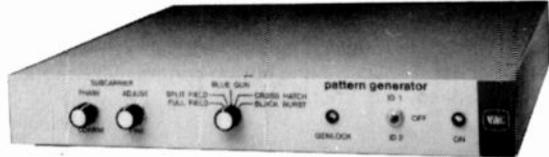
Rear

100-2PC

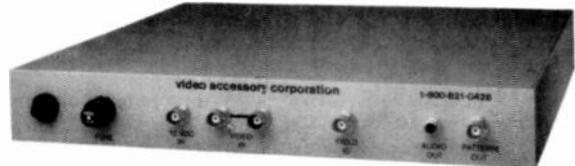
PG-2PC Color Pattern Generator

The PG-2PC provides 5 test patterns: Full Field Color Bars, Split Field Color Bars, Full Field Blue Gun, Cross-Hatch, and Black Burst. Up to 64 customer specified alphanumeric characters can be switched on to any test pattern. It is genlockable and will run on 117VAC or 12VDC. It can also provide a 1000Hz audio test tone and a field 1 ID flag. Its subcarrier phase is adjustable. Options include: up to 11 additional customer specified test patterns, an additional customer specified alphanumeric screen, and an additional multi-burst or black burst output.

PG-2PC \$1130.00



Front



Rear

PG-2PC

VS-2PC Video Squelch

The Video Squelch is an automatic two input, one output video switch. If the quality of the main input signal falls below the user predefined setting on the front panel dial, the output is switched from the main input to the alternate input, a power relay trips, and a defeatable audible alarm sounds.

VS-2PC With mono audio follow video \$1030.00

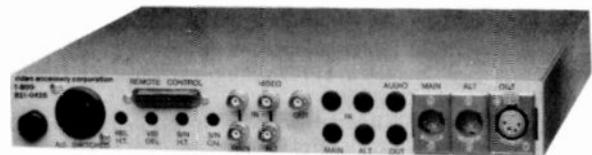
Any or all of the following may be added to the VS-2PC:

SA Stereo audio \$206.00
AT Terminated audio \$103.00
XLR XLR audio connectors (3 or 4-pin) \$52.00
RC Remote control \$206.00

NOTE: All VAC equipment is rackmountable for \$30.00 per 1 3/4" high rack width.

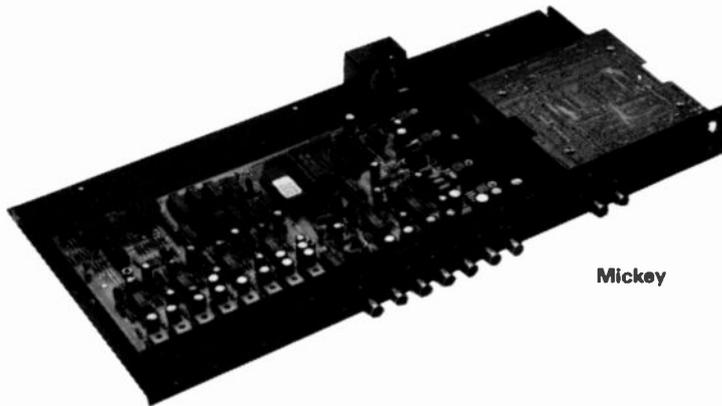


Front

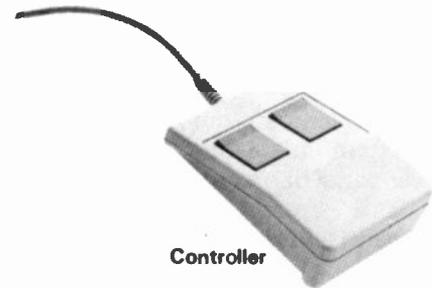


Rear

VS-2PC



Mickey



Controller

Mickey 1 and 2 Editing Controllers

• "Mouse" input control • Frame accurate (using SMPTE time code)
• 50 event internal memory • 2 VTR control • Built-in video mixer with 2 channel audio follow mixer • Multiple split edit capability • Automatic external trigger for additional effects devices • Printer output port (RS-232) • Interfaces to most popular VHS, U-Matic, 1/2" and 1" type "C" VTRs • Upgradeable to Mickey 2

Standard Features of Mickey 2

Mickey 2 includes all of the features mentioned for Mickey 1 plus:
• 3 VTR A/B roll capability • Full auto-drive of internal audio/video mixer

All editing operations on Mickey are achieved by movement of an opto-mechanical "mouse" which will highlight various squares presented on a data display monitor.

The left-hand button of the two button "mouse" activates the function highlighted on the monitor. The right-hand button controls VTR motion (Play, Pause, Variable Speed, Jog, Shuttle, etc.)

Distributed Intelligence

Mickey uses distributed intelligence. That means each VTR has its own dedicated computer (VSIO unit) controlling it. Distributed intelligence is the only method by which consistent frame accuracy of a system can be maintained. Mickey provides protection against obsolescence since expandability is assured by the fact that distributed intelligence is used.

High Speed LAN

The VTRs require no modifications. Mickey's main computer communicates to all VSIO units in the system via a single BNC coax cable. A defective VTR or VSIO unit can be located, isolated and replaced or removed literally within seconds. This high speed Local Area Network (LAN) is a remarkable technological breakthrough.

Mickey's software is just as impeccably designed as its hardware. This mouse driven system is easily the fastest editor to use. Mickey can automatically find a match cut point, extend an edit and clean the edit list with one single stroke, procedures that take any other editing system countless keystrokes.

Specifications

System Configuration: Distributed intelligence using independent Transport Control Processors. (VSIO Units)
Central Processor: Z80A 8-bit microprocessor
Transport Control Processor: Z80A 8-bit microprocessor
Software Programs: Contained in EPROMS (non-volatile)
Communication Format: RS232C/serial printer; Co-ax LAN Loop to Transport Control Processors
Edit List Output: Serial printer

Inputs: Mouse, Audio (2 channel, 2 source, 1 record), REF (black burst or composite sync), CF (color frame ID pulse, required only for certain VTRs), Video (2 source, 1 record)
Maximum Number of Devices Controllable: 2 source, 1 record
Edit Accuracy: Frame accurate, color framed w/SMPTE or Micro-Loc; machine dependent w/control track
Time Code Standards: SMPTE drop/non-drop frame, EBU
Television Standards: NTSC/PAL/SECAM/PAL-M
Input Control Device: Opto-mechanical Mouse
Motion Control: Full proportional speed using Mouse
Video Dissolve: Selectable rate 5 to 120 frames
Audio Mix: 2 channel stereo, same rate as Video
Outputs: Printer-DB9, Audio (2 channel) monitor and program, Video (monitor and program), Display 1V p-p composite

Mickey 1 2 machine cuts only editor with GPSI interface for external devices. Includes 50 event memory, mouse control operating system, printer port, 2 channel video dissolve and 2 channel stereo audio follow video dissolve. 2 VSIO-M distributed intelligence interface modules for serial control VTRs are included. (Specify VTR) . . . \$4,500.00

Mickey 2 3 machine A/B roll editing system with all features of Mickey 1 plus sync roll and A/B roll software, plus one additional VSIO-M distributed intelligence interface for serial control VTRs. (Specify VTR) . . . \$5,500.00

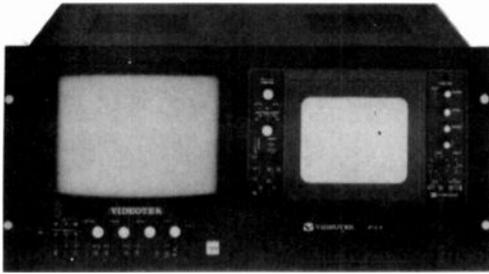
VSIO-PS Option This option must be ordered (one per VTR) for control of parallel VTRs i.e. type 5 U-Matics, JVC CR series. This option includes a SMPTE time code reader.
This option may also be used with serial VTRs i.e. JVC 850s, BVUs to provide time code without the necessity of the optional VTRs internal time code boards . . . \$500.00

PC-Link Option PC board and software for adding any IBM (PC, XT or AT) computer to the Mickey LAN system. This allows edit list storage and retrieval to floppy disk or hard disk and direct keyboard data entry for the Mickey editing systems. This option is mandatory for use with the Mickey LM list management system . . . \$1,850.00

LM Option List management and EDL data basing software package for Mickey editing systems equipped with the PC-Link option . . . \$950.00



PROFESSIONAL RACKMOUNT COLOR MONITORS



SYSTEM 8

8" Broadcast Rackmount AC/DC Color Monitor With Comb Filter and Glare Shield. Includes TSM-60 Waveform Monitor and PVS-6 Switcher

Features Include: Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, medium resolution 350 lines, comb filter, internal/external sync, anti-glare shield, rackmount accessories, selectable ACC defeat, and Service manual

Options: Pulse Cross, Underscan

Dimensions: 8³/₄" H x 19" W x 18¹/₂" D

Weight: 40 lbs.

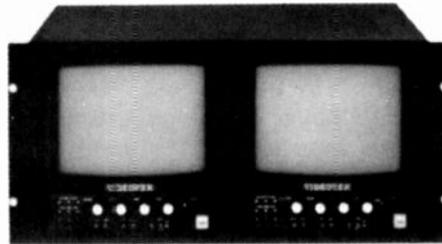
Power Consumption: 40W AC, 33W DC

Power Consumption/Entire System: 95W

System 8 with TSM-60 and PVS-6 Switcher \$3595.00

System 8 with VSM-60 and PVS-6 Switcher \$3595.00

System 8 with TVM-620 Combination Waveform Monitor/ Vectorscope \$5525.00



VM-8PRD

Dual 8" Professional Rackmount AC/DC Color Monitor

Features Include: Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, selectable ACC defeat, rackmount accessories and service manual

Options: Pulse Cross, Underscan

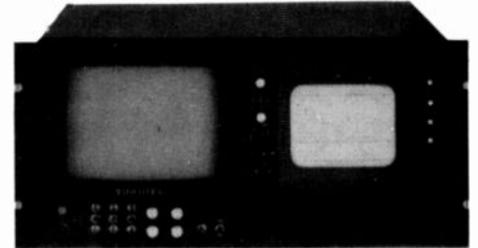
Dimensions: 8¹/₄" H x 19" W x 15³/₄" D

Weight: 57 lbs.

Power Requirements: 120VAC, 60Hz, 12 or 24VDC

Power Consumption: 40W AC, 33W DC (ea. unit)

VM-8PRD \$2365.00



VM-8PRW

8" Professional Rackmount AC/DC Color Monitor with Space Provided for Videotek TSM-60 with Standard Case or VSM-60 with Standard Case, or TVM-620 with Standard Case

Features Include: Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, rackmount accessories, selectable ACC defeat, and service manual

Options: Pulse Cross, Underscan

Dimensions: 8³/₄" H x 19" W x 15³/₄" D

Weight: 32 lbs.

Power Requirements: 120VAC, 60Hz 12 or 24VDC

Power Consumption: 40W AC, 33W DC

VM-8PRW \$1250.00

VM-8PRW-1 Same as VM-8PRW but with space provided for PVS-6 Switcher \$1260.00



VM-8PT

8" Professional Portable AC/DC Color Monitor

Features Include: Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, selectable ACC defeat, and service manual

Options: Pulse Cross, Underscan

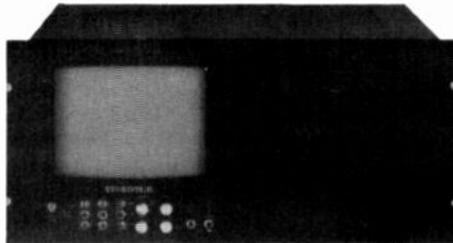
Dimensions: 9¹/₄" H x 8¹/₂" W x 16¹/₄" D

Weight: 25 lbs.

Power Requirements: 120VAC, 60Hz, 12 or 24VDC

Power Consumption: 40W AC, 33W DC

VM-8PT \$1265.00



VM-8PR

8" Professional Rackmount AC/DC Color Monitor

Features Include: Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, selectable ACC defeat, rackmount accessories and service manual

Options: Pulse Cross, Underscan

Dimensions: 8³/₄" H x 19" W x 15³/₄" D

Weight: 30 lbs.

Power Requirements: 120VAC, 60Hz, 12 or 24VDC

Power Consumption: 40W AC, 33W DC

VM-8PR \$1195.00



VM-8PRA

8" Professional Rackmount AC/DC Color Monitor w/Speaker Cabinet

Features Include: Raster size regulation, de-gauss, keyed back porch clamping, A-B inputs, dual audio inputs, RGB gun switches, RGB background and drive controls, tally light, internal/external sync, rackmount accessories, selectable ACC defeat, and service manual

Options: Pulse Cross, Underscan

Dimensions: 8³/₄" H x 19" W x 15³/₄" D

Weight: 32 lbs.

Power Requirements: 120VAC, 60Hz, 12 or 24VDC

Power Consumption: 40W AC, 33W DC

VM-8PRA \$1450.00



Studio-13 Professional Rackmount Color Monitor

- 13" Trinitron® Plus color picture tube • 380 lines resolution • Selectable comb and notch filters • High voltage regulation • Separate H & V delay front panel adjustable • Split mode A-B display (front panel adjustable) • Automatic sync switchover to internal if external sync is lost, external sync indicator • Automatic degauss • Keyed back porch clamping • A-B-C looping video inputs • RGB video inputs • RGB gun switches • RGB background and drive controls • Tally light • Underscan • Presets — Chroma / Phase / Brightness / Contrast • ACC defeat (switchable) • Selectable time constant (H. AFC) • Monochrome select • Setup select • Aperture control • Rackmount slides • BNC connectors • Service manual • Dimensions: 10 1/2" H x 19" W x 19" D • Weight: 52 lbs. • Power requirements: 120VAC, 60Hz ± 10% • Power consumption: 85W (Avg.), 120W (Max.)

Studio-13 \$2495.00

VM-13PRO 13" Professional Rackmount Color Monitor

- Raster size regulation • 260 lines resolution • Automatic degauss • Keyed back porch clamping • A-B-C inputs • RGB gun switches • RGB background and drive controls • Tally light, internal-external sync • Pulse cross • Underscan • Presets • Selectable automatic chroma control (ACC) defeat for detection of chroma loss • Monochrome-color select • Set-up switch • Selectable horizontal time constant (H. AFC) • Aperture control • BNC connectors • Rackmount slides • Dimensions: 10 1/2" H x 19" W x 19" D • Weight: 48 lbs. • Power requirements: 120VAC, 60Hz ± 10% • Power consumption: 55W (Avg.), 80W (Max.)

VM-13PRO \$1695.00

AVM-19s (19") and AVM-13s (13") Color Monitors with Audio

- Slot mask in-line, 90° deflection CRT • Automatic degauss • Keyed back porch clamping • A-B-VTR inputs • Blue gun • Tally light • Internal-external sync selectable • Pulse cross • Underscan • External demodulator input • Internal audio speaker • 8-pin VTR cable (6") • Service manual (Switchable comb-notch filter) • Power isolation transformer • B & W color switch • Sharpness control; AVM-19s only

Connectors: Video, external sync — BNC; Audio — RCA; VTR — 8-pin; External demodulator — 6-pin DIN (Direct interface with Sony TU-1110 tuner)

Dimensions: 12 1/4" H x 14 1/2" W x 15" D (AVM-13s)
17 1/2" H x 19" W x 19" D (AVM-19s)

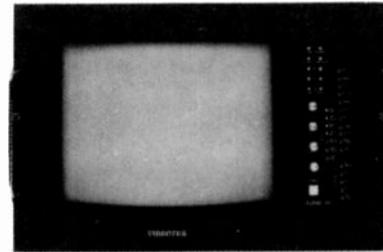
Weight: 32 lbs. (AVM-13s)
60 lbs. (AVM-19s)

AVM-19s \$825.00

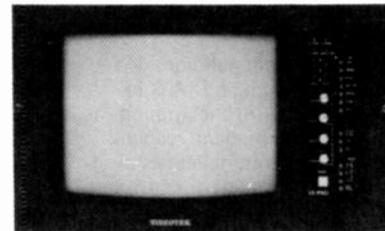
AVM-13s \$650.00

RB-013 Rackmount kit for AVM-13s \$45.00

RB-019 Rackmount slides for AVM-19s \$60.00



Studio-13



VM-13PRO



AVM-19s



AVM-13s



COLOR MONITORS/ RECEIVERS

RM-8A 8" AC/DC Portable Color Receiver/Monitor

Dimensions: 9³/₈" H x 10¹/₄" W x 13³/₄" D
 Weight: 20 lbs.
 Power Requirements: 120VAC 60Hz, 12 or 24VDC
 Power Consumption: 49W AC (max.), 40W (12VDC), 33W (24VDC)

RM-8A\$957.00

VM-8A 8" AC/DC Portable Color Monitor

Dimensions: 9" H x 10¹/₄" W x 13³/₄" D
 Weight: 18 lbs.
 Power Requirements: 120VAC 60Hz, 12 or 24VDC
 Power Consumption: 49W AC (max.), 40W (12VDC), 33W (24VDC)

VM-8A\$855.00

RM-13T 13" Cable Ready Portable Color Receiver/Monitor

Dimensions: 14" H x 15¹/₂" W x 16¹/₂" D
 Weight: 33 lbs.
 Power Requirements: 120VAC 60Hz
 Power Consumption: 55W (avg.), 80W (max.)

RM-13T\$795.00

VM-13T 13" Portable Color Monitor

Dimensions: 14" H x 15¹/₂" W x 16¹/₂" D
 Weight: 33 lbs.
 Power Requirements: 120VAC 60Hz
 Power Consumption: 55W (avg.), 80W (max.)

VM-13T\$725.00

RM-13TR 13" Cable Ready Rackmount Color Receiver/Monitor

Dimensions: 15³/₄" H x 19" W x 16¹/₂" D
 Weight: 38 lbs.
 Power Requirements: 120VAC 60Hz
 Power Consumption: 55W (avg.), 80W (max.)

RM-13TR\$895.00

VM-13TR 13" Rackmount Color Monitor

Dimensions: 15³/₄" H x 19" W x 16¹/₂" D
 Weight: 38 lbs.
 Power Requirements: 120VAC 60Hz
 Power Consumption: 55W (avg.), 80W (max.)

VM-13TR\$820.00

RM-19 19" Cable-Ready Color Receiver/Monitor

Dimensions: 19" H x 26¹/₂" W x 18⁵/₈" D
 Weight: 63 lbs.
 Power Requirements: 120VAC, 60Hz
 Power Consumption: 73W (avg.), 115W (max.)

RM-19\$985.00

RM-19B 19" Color Receiver/Monitor

Dimensions: 17¹/₈" H x 23¹/₄" W x 18¹/₂" D
 Weight: 60 lbs.
 Power Requirements: 120VAC, 60Hz
 Power Consumption: 83W

RM-19B\$795.00

VM-19 19" Color Monitor

Dimensions: 19" H x 26¹/₂" W x 18⁵/₈" D
 Weight: 61 lbs.
 Power Requirements: 120VAC, 60Hz
 Power Consumption: 73W (avg.), 115W (max.)

VM-19\$899.00

RM-25 25" Color Receiver/Monitor

Dimensions: 21¹/₄" H x 30¹/₄" W x 22¹/₄" D
 Weight: 92 lbs.
 Power Requirements: 120VAC 60Hz
 Power Consumption: 93W

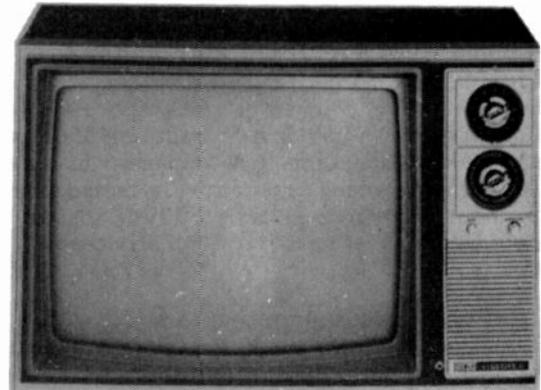
RM-25\$1070.00



RM-8A



RM-13TR



RM-19B

RM-27RC 27" Cable-Ready Color Receiver/Monitor

• Remote controlled • 24³/₈" H x 33" W x 22¹/₂" D

RM-27RC\$1850.00

VM-27RC 27" Color Monitor

• 24³/₈" H x 33" W x 22¹/₂" D

VM-27RC\$1795.00

Options

PC-1 Pulse Cross\$175.00
 US-1 Underscan99.00
 AB-1 A-B Inputs125.00
 DCC-1 DCC-15AW 12V Adaptor for 8" into car lighter27.00
 CS-1 Carrying case for 8"200.00
 8P-1 8-pin VTR cable (8')20.00
 HG-1 Hospital grade AC cord45.00



TEST EQUIPMENT/SYNC GENERATOR TIMING EQUIPMENT

DM-140S 140-Channel Stereo Tuner/Demodulator

- Varacter tuning/frequency synthesized channel selection
- Switchable BTSC (MTS) Stereo/SAP decoder output with LED pilot indicators
- dbx processing of stereo signals
- Built-in stereo amplifier with full range speakers
- Balanced and unbalanced stereo and monaural outputs (Rear panel phono and XLR connectors)
- Internal audio monitoring — 3" speaker
- Random access or up/down channel selection
- Front panel LED channel display
- Unlimited favored channel programming (skips unused channels)
- Tactile feel membrane front panel keyboard with LED feedback
- Front panel antenna/cable select
- Access to gain controls for video, monaural and stereo audio on front panel
- Short-term front panel memory maintained during power loss (1 hour)
- 75 ohm "F" connectors for antenna/cable inputs
- 3 1/2" high, rackmountable

DM-140S \$1995.00

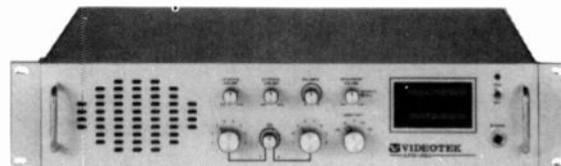


DM-140S

APM-2RS Stereo Rackmount Audio Program Monitor

- Requires only 3 1/2" of vertical rack space
- Stereo inputs — balanced/unbalanced
- Instant verification of stereo phase
- 3-pin male XLR/RCA phono jack input connections
- Internal 3" x 5" speaker
- Two display sensitivity ranges
- Hi/Low input impedance select
- Stereo headphone jack with speaker defeat
- 105VAC—132VAC RMS, 48Hz-66Hz
- Low power consumption makes the APM-2RS ideal for mobile applications

APM-2RS \$493.00



APM-2RS

APM-8RS

8 Input Rackmount Audio Program Monitor with 4 Stereo Inputs

- Requires only 3 1/2" of vertical rack space
- 8 inputs — balanced/unbalanced
- Barrier strip input/output connections
- Internal 3" x 5" speaker
- 10W amplifier
- 5m sensitivity ranges
- 0dBm, 600 ohm line output
- Calibrated tone output
- Hi/Low input impedance select
- +12VDC battery operation
- Connector removable PC board for serviceability

APM-8RS \$895.00

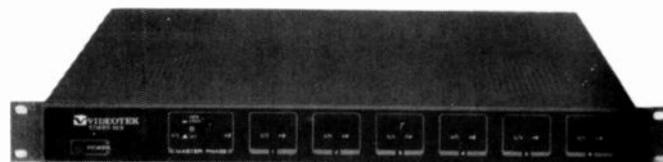


VSG-201

VSG-201 Color Sync Generator

- RS-170A specifications
- Genlock
- Genlock input subcarrier loss/presence indication on front panel
- Genlock input sync loss/presence indication on front panel
- Six isolated blackburst outputs
- SMPTE color bars — dual outputs
- Color field 1 ID pulse output
- Front panel adjustments for H phase and SC phase
- Selectable vertical blanking width (lines 16-21 internal)
- +4dBm 1kHz tone output, balanced or unbalanced outputs into 600 ohms
- 1 3/4" high, rackmountable

VSG-201 \$1995.00



Times Six

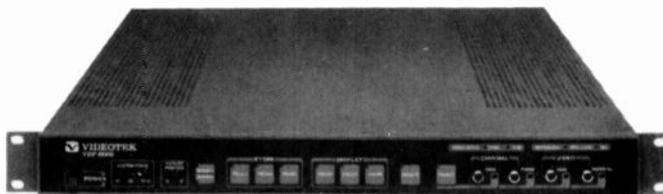
Times Six/Times Six Plus

Black Burst Generators

- 6 individual composite blackburst outputs
- 6 horizontal and subcarrier phase timing adjustments
- Stand alone or genlock operation. (Automatically switches to internal if external reference signal is lost)
- Genlock input loss/presence indication on front panel
- Compensates for up to 1000' of cable
- Automatically compensates for cable length and equipment drift (Times Six Plus)
- 1 3/4" high, rackmountable

Times Six (Manual) \$1795.00

Times Six Plus (Manual/Automatic) 2660.00



VDP-8000

VDP-8000 Frame Store/Synchronizer

- Synchronizes noisy feeds from satellite, microwave, ENG, remote broadcasts and other non-synchronous sources
- Proc amp controls with presets for video gain, pedestal, chroma gain and chroma phase
- Full proc amp controls in Freeze mode
- Freeze enable/disable allows constant processing of the input regardless of signal quality
- Two video outputs
- Selectable vertical blanking width
- Individual adjustments for H phase, SC phase and SC/H phase
- Horizontal and vertical picture position controls
- Selectable normal/bypass operation
- Remote connector
- Audio steering signal to control an audio synchronizer
- Can insert burst in monochrome signals
- Blackburst output for standalone operation
- Genlock
- 1 3/4", rackmountable

The VDP-8000 Frame Store/Synchronizer provides transparent signal processing in addition to stable, jitter-free lockup of high noise video signals. Unique independent Freeze Field capability permits the storage of two different fields or one field without interruption of live video synchronizing. Stored images remain clear and sharp through the use of a three line digital comb filter.

VDP-8000 \$4695.00



PRODUCTION SWITCHER

Prodigy-Production Switcher

A reliable video switching and effects system follows the multi-level effects with a Look Ahead Preview.

An integral stereo audio-follow-video system provides the critical link between your audio console and editing system and can even be used for master control applications. Three standard RS-422 serial ports link Prodigy to most popular editing controllers and other intelligent devices.

Eight Primary Video Inputs, Black and Color Background • Input 1 is the blackburst reference for genlock plus black • Inputs 2-9 are primary video inputs • Input 10 is the internal color background generator

Multi-level Effects System • Background transitions—cut, mix, wipe • Key transitions—cut, mix, wipe • Combined background and key transitions—provides the power of a two-mix/effect switcher

Look Ahead Preview • Displays the exact result of the next transition

Integrated Stereo Audio-Follow-Video System • Two bus system—preset and program cut or fade between audio sources • Editor control of audio transitions • Audio hold—inhibits AFV operation

Fade-To/Through-Black • Integrated with transition system

Blackburst System Timing Reference • System genlocks to blackburst reference signal on input 1

Blanking Processor • Provides high stability video output and masks minor timing errors between primary inputs

Variable Gain Keying System • Allows the keyer to be adjusted to match the rise time of the key source for high quality keying

Key Memory • Automatically remembers the Key Clip and Key Gain settings for each input in both Self Key and Auto External Key modes

Three External Key Inputs • Can integrate a "wide key" character generator, digital effects system and graphics camera

Auto External Key Follow • Automatically selects External Key when primary input for which it is programmed is selected • Selects Self Key for primary inputs which do not have an External Key programmed to follow

Extensive Wipe Pattern Selection and Modifiers • 24 wipe patterns standard • Hard, soft and hard or soft bordered wipe edges • Rate controlled joystick for positioning and pattern modification • Pattern Memory System—allows editing system to select a pattern with all modifiers through standard editor interface

Programmable Effects Transition System • 100 on-line events with battery backup • Recall pre-programmed effects at the touch of a button • Effects transitions smoothly change analog control settings between the values stored in two ET events • Instant Replay allows Prodigy to learn the operator's actions against a real time clock • Programmed sequences for repeatability without setting the effect up in real time

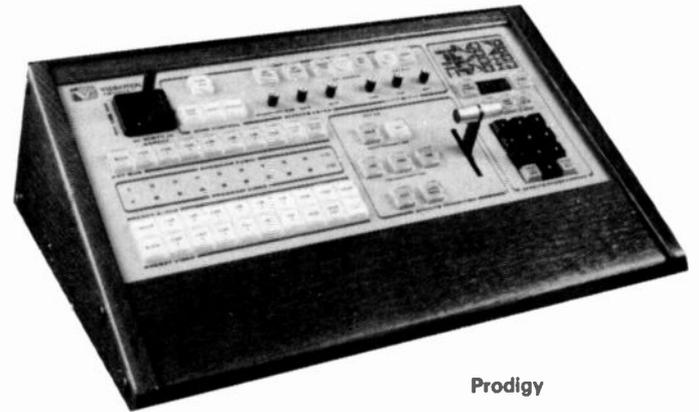
Serial Editor Interface for Video and Audio • RS-422 port interfaces with most available editing systems

General Purpose Interface (GPI) • Integrates Prodigy with other devices through contact closure interface • Prodigy may be controlled from inexpensive "cuts only" editing systems • Can access memory recall • Allows external device with GPI input to be triggered by Prodigy

Specifications

VIDEO

Inputs:	8 loophrough video (inputs 2-9) 1 loophrough blackburst external reference (input 1) 3 external key; 1V p-p, composite or 0.7V p-p non-composite
Crosstalk:	> -54dB DC to 4.43MHz
Frequency Response:	± 0.10dB at 5MHz ± 0.10dB to -1.0dB at 8MHz Smooth roll off at 20MHz



Prodigy

Outputs:	Two program outputs Two look ahead preview outputs
Outputs Impedance:	75 ohms, ± 1% source terminated
Tilt:	< 0.5%
K Factor, 2T Pulse:	≤ 1.0%Kp
Differential Phase:	≤ 1.0° at 1V p-p, 10-90% APL
Differential Gain:	≤ 1.0% at 1V p-p, 10-90% APL
Chrominance/Luminance Inequalities:	Delay ≤ 10nS Gain ≤ 0.1dB
S/N Ratio:	> 65dB signal/RMS noise to 5MHz
Path Length Deviation:	(Between any two inputs) ≤ 1.5° (NTSC or PAL)
Mix/Effects Characteristics:	Luminance linearity: ≤ 1.0% gain; ≤ 10mV DC; Chrominance linearity: ≤ 1.0% Amplitude; ≤ 1.0° Phase
Connectors:	BNC connectors
AUDIO	
Inputs:	Two audio inputs (left and right) per video input (inputs 2-10)
Input Level:	+ 24dBm maximum
Input Impedance:	600 ohms balanced
Outputs:	Two audio outputs (left and right) on program out
Output Level:	+ 24dBm maximum
Output Impedance:	Output source impedance 600 ohms balanced
Crosstalk:	≤ -70dB at 15kHz referenced to + 24dBm
Frequency Response:	30Hz to 15kHz ± 0.2dB (Referenced to 1kHz)
S/N Ratio:	> 70dB (Referenced to + 24dBm)
Harmonic Distortion:	≤ 0.15%, 30Hz to 15kHz (0dBm to + 20dBm out) ≤ 0.5%, 30Hz to 15kHz (+ 20dBm to + 24dBm out)
Common Mode Rejection:	≥ 60dB from 30Hz to 15kHz
Connectors:	Quick disconnect terminal strips
GENERAL	
RS-422 Serial Ports:	Three 9-pin D connectors are provided on the Electronics Frame for: Control Panel port, Editor port; External CPU port
Control Panel Cable:	10 meter (34.2') cable standard 9-pin D connectors wired straight through to pins 1, 2, 3, 7, 8
MECHANICAL	
Dimensions:	Control Panel—8.75" H x 19" W x 4.5" D Electronics Frame—5.25" H x 19" W x 17.5" D
Weight:	Control Panel—12.5 lbs. Electronics Frame—30 lbs.
Prodigy	.....\$9995.00
OPTIONS	
EX-P: Extender cards for servicing Electronics Frame circuit boards	.....\$200.00
CTC-1: Consolette for counter top installation of Prodigy. Solid oak construction	.....100.00



PVS-6A 6X1

Audio Follow Video Passive Switcher

• 100% passive—no power requirements • Low insertion loss • Low video/audio crosstalk • Six video/audio (unbalanced) inputs • One video/audio (unbalanced) output • BNC video connectors • Barrier strip audio connection • 1 3/4" rackmount height • Can mount three units side by side using a Videotek DAT-1 rackmount tray

PVS-6A\$190.00



PVS-6A

PVS-6 6X1

Passive Video Switcher

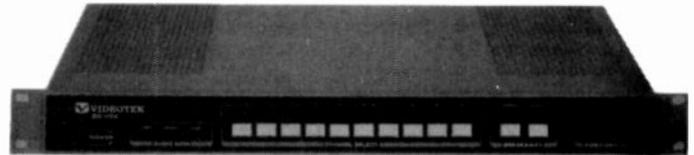
• 100% passive—no power requirements • Low insertion loss • Low video crosstalk • Six video inputs/one video output • 1 3/4" rackmount height • Can mount three units side by side using a Videotek DAT-1 rackmount tray

PVS-6\$140.00

10X1 Routing Switcher Series with RS-422 Interface

• Wide bandwidth for high resolution applications (1.0dB at 40MHz) • DC restored output amplifier • High speed clamping provides excellent hum rejection • Low return loss > 55dB at 5MHz • +24dBm audio headroom • 3 audio channels per input, balanced or unbalanced • Transformer coupled audio outputs, balanced or unbalanced • Two channel audio breakaway. Auxiliary channel can be programmed to follow video or audio breakaway • Microprocessor control with battery backup • Serial data bus for communication within the system and remote control • Data bus interconnection via RJ11C telephone connectors • System expandable horizontally to 40X1 and vertically to 30X10 • 1 3/4" rackmountable

- RS-103A** 10 x 1 vertical interval switcher with three audio channels and audio or video breakaway feature. RS-422 computer control interface\$1850.00
- RS-103AL** Same as RS-103A but without switches. May be controlled by computer or optional RSP-4 remote switching panel1695.00
- RS-103** 10 x 1 vertical interval switcher, video only. RS-422 computer control interface1325.00
- RS-103L** Same as RS-103 but without switches. May be controlled by computer or optional RSP-4 remote switching panel.1195.00



RS-103A

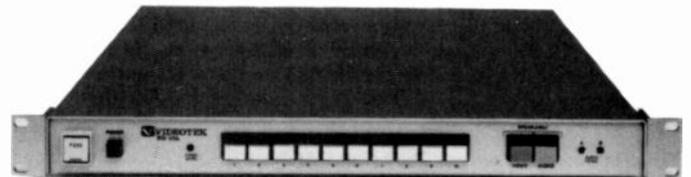
- RSP-4** 10 x 1 remote switching panel for RS-103A, RS-103AL, RS-103, RS-103L. RS-422 computer control interface\$789.00
- RSP-5** 10 x 1 expansion remote switching panel for RSP-4. Permits remote switching from two locations299.00
- ABP-3** Audio breakout panel for RS-103A, RS-103AL. Converts audio I/O 37 pin D connectors to latching terminal blocks. Includes three 18" 37 pin to 37 pin interconnect cables320.00

RS-10A 10X1 Routing Switcher Series

Audio Follow Video with Breakaway Feature

• Ten video inputs, bridging two video outputs • Two audio inputs for each video channel • Video/audio latching breakaway control • Balanced/unbalanced audio inputs or outputs • Overnight channel memory • Vertical interval switching/momentary contact pushbuttons with changeable legends and "LED" audio/video indicators • 1 3/4" rackmount or free standing with rubber feet

- RS-10A** 10 x 1 vertical interval switcher with two audio channels and audio (or) video breakaway feature.\$1285.00
- RS-10ARC** Remote 10 x 1 vertical interval switcher with two audio channels and audio (or) video breakaway feature, includes RCT-1 remote connector kit1885.00
- RS-10ARC-L** Local portion of RS-10ARC only, includes RCT-1 remote connector kit1457.00
- RS-10ARC-LS** Same as RS-10ARC, but with switching capability at the local and remote locations, includes RCT-1 remote connector kit.2100.00
- RS-10ARC-L-SW** Local portion of RS-10ARC-LS only includes RCT-1 remote connector kit1528.00



RS-10A

Options (RS-10ARC, RS-10ARC-LS)

- RSP-1** 10 x 1 remote switching panel (may be added to RS-10ARC or RS-10ARC-LS to provide a second remote switching location)\$675.00
- RCT-1** Remote connector kit36.00
- CR-1** Cable for remote.ft./1.99
- RSCC-1** Contact closure interface250.00

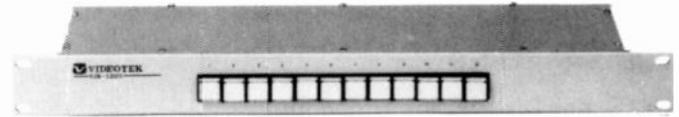


VIS-1201

12x1 Video Only Routing Switcher

- 12 video inputs, bridging/2 isolated video outputs • 24 hour channel memory • Vertical interval switching • Momentary contact illuminated pushbuttons with changeable legends • 1 3/4" rackmount

VIS-1201 \$395.00



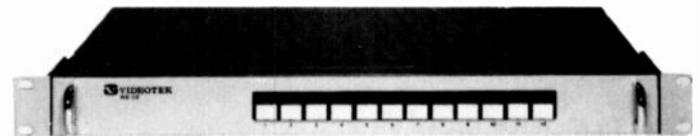
VIS-1201

RS-12 12x1 Routing Switcher Series

Video Only Routing Switcher

- Video inputs, bridging/two video outputs • Overnight channel memory • Vertical interval switching/momentary contact pushbuttons with changeable legends and "LED" video indicators • 1 3/4" rackmount or free standing with rubber feet

RS-12	12x1 Vertical Interval Switcher, Video Only	\$ 995.00
RS-12RC	Remote 12x1 Vertical Interval Switcher, Video Only, includes RCT-2 Remote Connector Kit	1263.00
RS-12RC-LS	Same as RS-12RC, but with Switching Capability at the Local and Remote Locations, includes RCT-2 Remote Connector Kit	1332.00
RS-12RC-L	Local portion of RS-12RC only, includes RCT-2 Remote Connector Kit . . . . .	.959.00



RS-12

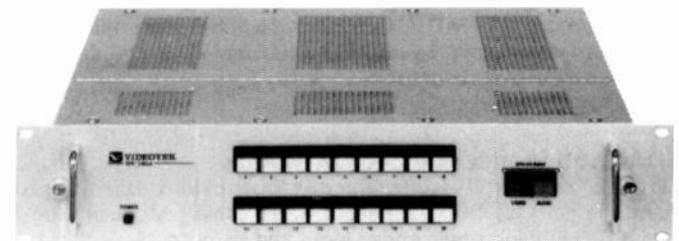
Options (RS-12, RS-12RC, RS-12RC-LS)

RSP-2	12x1 Video Switching Panel with Remote Rackmount Kit (RRK-2)	\$395.00
RRK-2	Remote Rackmount Kit	172.00
BLK-2	Blank Panel . . . . .	.95.00
RCT-2	Additional Remote Connector Kit . . . . .	.39.00
CR-2	Cable for Remote	ft./1.22

RS-183A 18x1 AFV Routing Switcher With Breakaway and Computer Interface

- 18 loop thru video inputs • 18 stereo and data channel audio inputs (balanced/unbalanced) • +24dBm audio headroom • Vertical interval line 10 switching • Edit pulse for user controlled switching times • RS-422 computer control interface • Optional RS-232 computer control interface • Computer control, menu driven for ease of operation • 15 selectable communication baud rates • Single line coax remote bus control • Multi-local addressing for remote selection of different locals • FCC approved EMI filtering

RS-183A	Includes audio I/O and computer connectors	\$3045.00
RS-183ARC	Remote Control RS-183A, includes Audio I/O and Computer Connectors	3820.00
RS-183ARC-L	Additional Local for RS-183ARC, includes Audio I/O and Computer Connectors . . . . .	.2965.00



RS-183A

RS-183ARC-LS	Same as RS-183ARC with switching at both the Remote and Local Locations, includes Audio I/O and Computer Connectors	\$3897.00
RSP-3	18x1 Remote Switching Panel (may be added to RS-183A or RS-133ARC-LS to provide a Second Remote Switching Location) . . . . .	.899.00



DISTRIBUTION AMPLIFIERS

MODULAR SERIES

800 Series Distribution Amplifiers

The 800 Series Distribution Amplifiers are engineered to meet critical video distribution needs in all types of applications. The 800 Series is based on the TR-800 eight bay modular tray and PS-800 power supply. Up to eight distribution amplifier modules may be mounted in the TR-800 tray, in addition to a second PS-800 power supply for backup in case of primary supply failure.

The VDA-816S is a standard video DA with one looping single ended input and six outputs. Up to 300' of Belden 8281 may be equalized via a front card equalizer adjustment.

The VDA-816 is a precision video clamping DA with one looping differential or single ended input and six outputs. An optional EQ-800 card may be added to the VDA-816 to allow front panel adjustment of equalization up to 1000' of Belden 8281.

TR-800 Modular DA Tray

- Eight bay modular two rackmount high tray • Will accept any combination of VDA-816 precision DAs or VDA-816S standard DAs • Also permits the use of a redundant back-up PS-800 supply
- Comes standard with a single PS-800 supply

TR-800\$850.00

PS-800 Redundant Power Supply

- Provides unregulated ± 16 VDC to the TR-800 rack tray • An additional PS-800 can be installed as a back-up supply in case of primary supply failure

PS-800\$199.00

EQ-800 Equalizing Module for VDA-816. Equalizes up to 1000' of Belden 828165.00

EX-800 Extender Card for Servicing DA Modules90.00

VDA-816 Precision Video Clamping DA Module

- Front card output level adjustment • Front card equalizer adjustment when optional EQ-800 equalizer card is employed • Can equalize up to 1000' of Belden 8281 • Switchable clamping or DC restoration • Modular plug-in card • One looping differential or single ended input and six outputs

VDA-816\$375.00

VDA-816S Standard Video DA Module

- Front card output level adjustment • Front card equalizer adjustment can equalize 300' of Belden 8281 cable • Modular plug-in card • One looping single ended input and six outputs

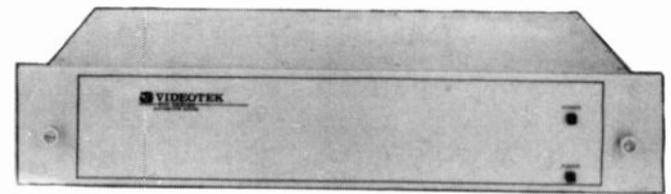
VDA-816S\$250.00

SELF-CONTAINED SERIES

VDA-16 Video Distribution Amplifier

- One looping video input • Six isolated video outputs • Front panel output level adjustment • Cable equalizer front panel adjustment (300' Belden 8281) • Front panel input/output test points
- Front panel LED power indicator • BNC input/output connectors
- Rackmountable

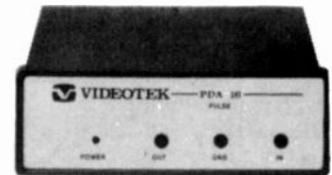
VDA-16\$325.00



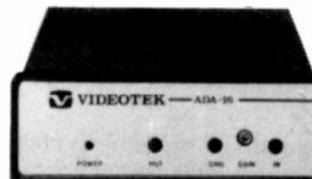
800 Series



VDA-16



PDA-16



ADA-16



SDA-14

VDA-16WB Wide Band Video Distribution Amplifier

- 40MHz video bandwidth • One looping video input • Six isolated video outputs • Front panel output level adjustments • Wide band cable equalization from panel to adjustment • Front panel LED power indicator • BNC input/output connectors • Rackmountable

VDA-16WB\$425.00

ADA-16 Audio Distribution Amplifier

- One balanced/unbalanced audio input • Six balanced audio outputs • Front panel output level adjustment • Front panel input/output test points • Front panel LED power indicator • Barrier strip input/output connectors • Rackmountable

ADA-16\$325.00

PDA-16 Pulse Distribution Amplifier

- One looping pulse input • Six pulse outputs • Front panel input/output test points • Front panel LED power indicator • BNC input/output connectors • Rackmountable

PDA-16\$325.00

SDA-14 Subcarrier Distribution Amplifier

- One looping subcarrier input • Four isolated subcarrier outputs • Regeneration technique removes noise & distortion from input signal • Available for NTSC, PAL, PAL-M • Front panel 0°-360° output phase adjust w/0° preset • Front panel input/output test points • Front panel LED power indicator • BNC input/output connectors • Rackmountable

SDA-14\$450.00

Options

For all self contained distribution amplifiers

DAT-1 Rackmount frame accommodates (3) DA's. . . . \$ 79.00

DAT-2 Blank panel25.00

DAT-3 Half rack tray for DRC-1 to mount:
PVS-6, PVS-6A or self-contained series
distribution amplifier99.00

DRC-1 Double rackmount case200.00



**TSM-60/TSM-50 Waveform Monitors/
VSM-60 Vectorscope**

Common Features

- Mounts in 5 1/4" of vertical rackspace/1/2 standard rack
- Standard NTSC, 525 lines, 30 frame (60Hz field rate) scan
- Standard PAL, 625 lines, 25 frame (50Hz field rate) scan
- Standard PAL-M, 525 lines, 30 frame (60Hz field rate) scan
- Internal illuminated graticule; eliminates parallax errors
- High brightness CRT non-glare contrast filter
- NTSC/PAL/PAL-M standards available

TSM-60 Waveform Monitor

- 10MHz vertical frequency response
- Selectable A/B video looping BNC inputs
- Separately buffered video out 1V p-p into 75 ohms
- Selectable internal/external input sync
- Flat, IRE, chroma or differential gain filters
- Time base: 2 line, 1 line expanded 2 line, expanded 1 line, 2 field or expanded 2 field
- Selects lines 14 thru 21 of field selected
- YRGB/RGB: 9 pin access connector for monitoring color processing amplifier waveforms
- Selectable DC restoration

TSM-60 NTSC \$2065.00

TSM-50 Waveform Monitor

- Vertical frequency response: 6MHz
- Flat, IRE, or chroma filters
- Time base: 2 line, expanded 2 line, 2 field or expanded 2 field

TSM-50 NTSC \$1598.00

VSM-60 Vectorscope

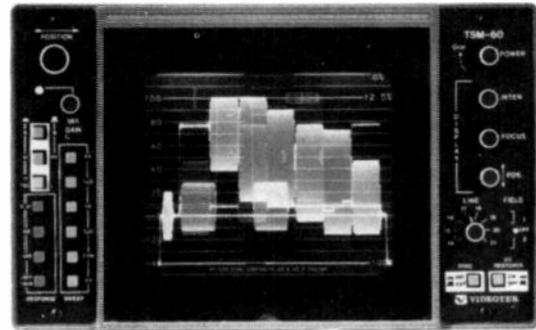
- Selectable A/B video looping BNC inputs, subcarrier A select, external subcarrier looping BNC inputs, external PAL pulse looping BNC inputs (PAL only)
- REF NTSC: selectable A/B and external subcarrier looping inputs
- REF PAL: selectable A or B external subcarrier looping inputs
- Test NTSC: normal/alternate line/test circle pushbutton selectable
- Test PAL: normal/NTSC display/test circle pushbutton selectable

VSM-60 NTSC \$2065.00

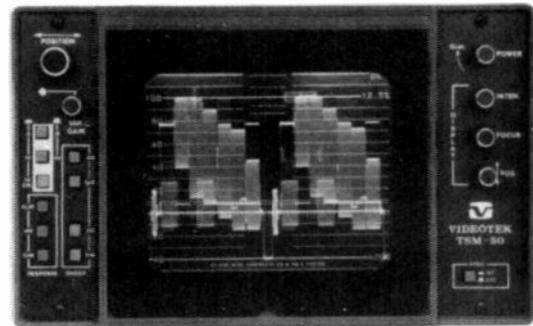
TVM-620 Combination Waveform Monitor/Vectorscope

- Tactile membrane panels
- One, two or three video signals may be observed individually or in any combination of 3 inputs
- Four user-defined memories
- R-Y mode displays the demodulated chrominance with horizontal sweep
- Graticule scale to aid in measuring differential phase
- Display sync can be made relative to any of the 3 video inputs or an external reference
- Automatically selects reference, in order of priority External A-B-C
- Vector displays can be overlaid

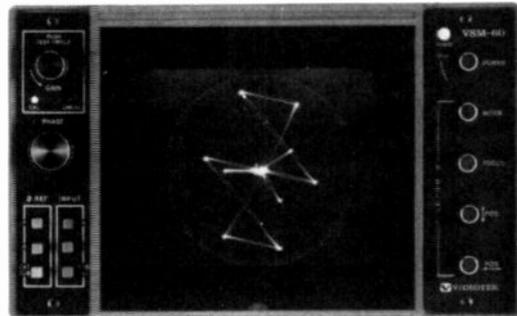
TVM-620 NTSC \$3995.00



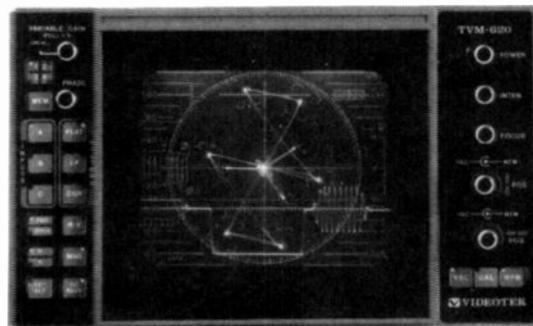
TSM-60



TSM-50



VSM-60



TVM-620

Options

- SSC-1 Single Standard Case \$ 39.00
- PTC-1 Portable Case with Handle and Sunshield . . 135.00
- DRC-1 Double Rackmount Case 200.00
- DAT-3 Half Rack Tray for DRC-1 to mount:
PVS-6, PVS-6A, or Self-Contained Series
Distribution Amplifiers 99.00
- BLK-1 Blank Panel 30.00
- ADC-1 AC/DC Power Supply for TVM-620.
(Must be factory installed during
manufacture.) 200.00
- OPT-A Remote Change Over for TSM-60. 135.00



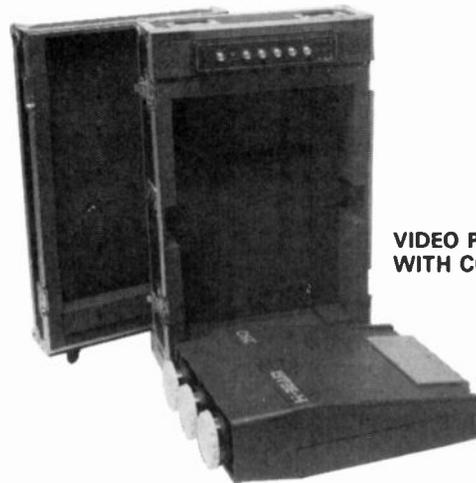
COMBO CAMERA/VTR



RACK CASES



STACKER



VIDEO PROJECTOR WITH CONTROLLER

- Reel-to-reel system cases
- Triple stack 35mm projector cases
- Video tape recorder cases
- Video camera cases
- BB rack style cases
- Monitor (TV) cases
- Shock-mounted BB rack style cases
- Projector and screen cases
- Shock mounted broadcast racks

Wherever you look on a Viking case, you'll see superior strength and workmanship. Wood panels laminated with tough, scratch resistant ABS or stucco aluminum are supported by a double edged aluminum extrusion crimped at intervals for a permanent, non-yielding bond; a construction technique far stronger than conventional gluing, stapling or riveting.

Viking's heavy duty valances contribute to long life and a tight fit. And all but the smallest Viking cases are equipped with heavy duty steel recessed hardware including spring loaded handles, twist locks and corners. All Viking hardware is attached with steel rivets and backed with steel washers; your assurance of greater strength and impact resistance.



CARRYLITE CASES

The Carrylite is 25% less expensive and 30% lighter than our ATA case. Carrylite is rugged...built of dependable heavy gauge ABS for exceptional strength yet still a beautiful and versatile way to carry your valuable equipment. Carrylite is adaptable in size for audio/visual, video, computers, and musical instruments.

PAN AND TILT HEADS

MK3A Cam Head

- $\pm 50^\circ$ tilt
- Capacity: 400 lbs.
- Weight: 44 lbs.
- 7" H x 14" W x 12" D

3717-3\$4400.00
3506-6A Optional female wedge adaptor675.00

MK7 Fluid Cam Head

- $\pm 60^\circ$ tilt
- Capacity: 200 lbs.
- Weight: 35 lbs.
- 9 1/2" H x 11 1/2" W x 11 1/2" D

3084\$4810.00
3084-14 Optional female wedge adaptor675.00

MK5 Cam Head

- $\pm 60^\circ$ tilt
- Capacity: 180 lbs.
- Weight: 24 lbs.
- 7" H x 15" W x 9" D

3716-3\$3550.00
3716-13 Optional female wedge adaptor675.00

Petrel MKII Fluid Link

- 40° tilt in either direction
- Weight: 15 1/4 lbs.
- 7" H x 9" W x 6 1/2" D
- Load capacity: 100 lbs.
- Pan range: full 360° arc

3076-3\$2575.00

MKII Swan Fluid Post

- Weight: 20 lbs.
- Load capacity: 50 lbs.
- Tilt range: 360° depending on size of camera and lens envelope
- Pan range: full 360° arc

3078-3B\$4725.00

Vin-5A Fluid Pan and Tilt Head System

- Single pan bar and clamp assembly
- 100mm ball base
- 3311 single-stage tripod with 3313 lightweight calibrated low-level spreader
- 3334-3 soft/foam filled carrying case
- Fluid pan and tilt head also sold separately
- Capacity: 18 lbs.

Vin-5A\$2250.00

Vision 10 ENG Fluid Pan and Tilt Head

- Full 180° of tilt
- Weight: 6 3/4 lbs.
- Pan range: 360°
- 6" H x 5 3/4" W x 7 1/4" D

3321-3S\$3100.00
3321-3N Same as above but with flat base to accept intermediate adaptor3200.00



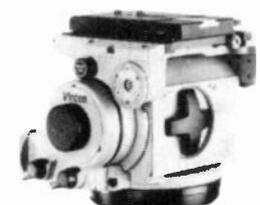
MK3A
Shown with optional female wedge adaptor



Vision 20



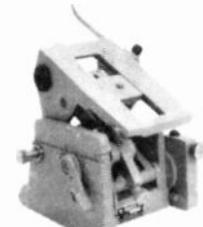
MK7
Shown with optional female wedge adaptor



Vision 30



MK5
Shown with optional female wedge adaptor



Petrel MKII



Vision 10



MKII Swan

Vision 20 ENG/EGP Fluid Pan and Tilt Head

- Full 180° of tilt
- Dual 100/150mm ball base
- 6 3/4" H x 6 1/2" W x 10" D
- Weight: 12 lbs.
- Pan range: 360°

3322-3S\$4465.00
3322-3N Same as above but with flat base to accept intermediate adaptor4585.00

Vision 30 Cormorant EFP Fluid Pan and Tilt Head

- Full 180° of tilt
- Weight: 22 lbs.
- Pan range: 360°
- 8 1/4" H x 7 1/4" W x 9 1/2" D

3259\$6375.00
3259-3B Same as above but with flat base to accept intermediate adaptor6495.00

Vision Single Stage ENG Tripod

- Minimum height: 25"
 - Maximum height: 57 1/2"
 - Load capacity: 45 lbs.
 - Strong anodized tubular alloy, thermoplastic moldings and diecasting construction
 - Weight: 6 1/2 lbs.
 - Spreaders are not included in price
- 3311-3 \$695.00



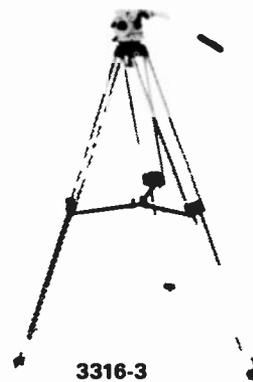
3311-3

Vision Two Stage ENG Tripod

- Minimum height: 16 1/2"
 - Maximum height: 62"
 - Load capacity: 45 lbs.
 - Overall weight: 6 3/4 lbs.
 - Folds down to a compact 27"
 - Spreaders are not included in price
- 3310-3 \$855.00



3310-3



3316-3

Vision Two Stage EFP Tripod

- Minimum height: 19 3/4"
 - Maximum height: 61 3/4"
 - Load capacity: 100 lbs.
 - Overall weight: 12 lbs.
 - Spreaders are not included in price
- 3312-3 \$1065.00

Vision Single Stage ENG Tripod with Integral Mid-Level Spreader

- Complete with integral mid-level spreader, carpet spreader feet and 100mm bowl
 - Minimum height: 25 1/4"
 - Maximum height: 54 1/4"
 - Load capacity: 45 lbs.
 - Overall weight: 6 1/2 lbs.
- 3316-3 \$1050.00



3207-3B

Heavy-Duty Tripod with Stabilizer

- Suitable for loads up to 230 lbs.
 - Low angle mounting on dolly
- 3207-3B \$2075.00
- 3206-3B Short heavy-duty tripod with stabilizer \$2075.00
- 3719-3 Heavy-duty dolly \$1595.00
- 3719-3A Heavy-duty dolly with cable guards for 3206/3207 \$1740.00



3312-3



3056-3E

PortaPed Self-Leveling Portable Pedestal

- Self pumping action
 - Lightweight, portable, easy fold units
 - Weight: 35 lbs.
 - Capacity: 90 lbs.
 - Height range: 24" to 56"
- 3056-3E \$5825.00
- 3071-3 Portaskid folding/castering dolly \$850.00
- 3071-3A Portaskid folding/castering dolly with cable guards \$995.00

TriTrack Dolly

- Combined unit with tiller control
 - 8" wheels with rubber tires and individual brakes
 - Legs can be adjusted to reduce track width
- 3064-3 \$5925.00
- 3178-3 TriTrack Dolly with twin wheels \$6850.00



3064-3

Betacam Mounting Bracket

- True quick release
 - Easy installation
 - Totally rigid
 - Optimum balance on pan and tilt heads by providing alternate 3/8" and 1/4" mounting holes
 - Complete with combination male/female wedge adaptor and screws which fit into existing tapped holes on bottom of camera
- 3160-3B \$365.00

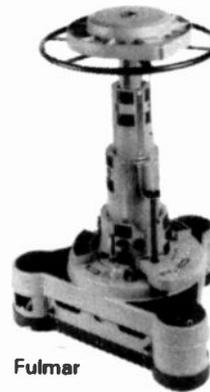


3160-3B

Shown with
PortaPed Option

Fulmar Extended Range Pneumatic Pedestal

- Height range: 21 1/2" to 59"
 - Suitable for loads up to 350 lbs.
 - Width at base: minimum—34", maximum—39"
- 3702 \$24,500.00



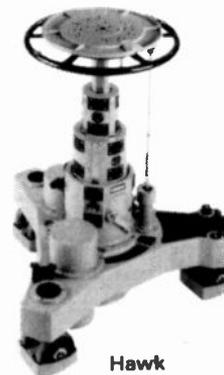
Fulmar



Teal

Hawk Extended Range Pneumatic Pedestal

- Suitable for loads up to 150 lbs.
 - Height range: 24" to 59"
 - Width at base: minimum—36", maximum—38"
- 3267 \$18,750.00



Hawk



Tern

Teal Standard Range Pneumatic Pedestal

- Suitable for loads up to 140 lbs.
 - Height range: 30" to 51"
 - Width at base: minimum—30", maximum—35 1/2"
- 3197 \$10,750.00

Tern Standard Range Pneumatic Pedestal

- Width at base: minimum—29", maximum—36"
 - Height range: 33" to 54"
 - Suitable for loads up to 290 lbs.
- 3741 \$12,000.00

MidiPed 2-Piece Lightweight Pneumatic Pedestal

- Height range: 28 1/2" to 58"
 - Suitable for loads up to 90 lbs.
 - Width at base: minimum—34 1/2", maximum—42"
 - Weight: 56 lbs.
- 3286 \$5,350.00



MidiPed



Short
Dolphin

Merlin Camera Arm

- Exceptional height ranges
 - Fits all pedestals and tripods
 - Positive camera control with precision viewfinder bracket
 - Weight (not including balance weights, viewfinder and camera): 121 lbs.
 - Capacity: 40 lbs.
- 3257 \$25,565.00



Merlin

Short Dolphin Crane Arm

- Can be carried by one person
 - Simplified trim weight
 - Detachable camera support beam provides alternative low angle gooseneck fitting
 - Suitable for loads up to 55 lbs.
 - Will fit TriTrack, tripods or pedestals
- 3167 \$8,050.00

Long Dolphin Crane Arm

- Suitable for loads up to 55 lbs.
 - Camera arm traverse 90° each side of arm axis
 - Will fit TriTrack, tripods or pedestals
- 3067 \$8,050.00

Kestrel OB Camera Crane

- Fold-over camera platform for shorter chassis storage—77 1/4"
 - 360° seat and camera mounting rotation
 - Either manual or powered jib
 - Pivoted wheel assemblies for width reduction to 28 1/2"
- 3743 Crane with manual jib arm \$34,295.00
 3754 Crane with powered jib arm 40,395.00



VIDEO EQUIPMENT CARTS

EFP-17 Folding All-Terrain Field Production Cart

The EFP-17 folding camera cart is the big brother to ENG-1. The EFP-17 is a larger, smoother folding vehicle designed to assemble all of the necessary portable video equipment required for field production. It features a separate shelf to support a monitor for playback or viewing as the action happens. The monitor platform is positioned forward to place the recorder controls at the fingertips of the operator. With optional elevator column and head, taping may be accomplished directly from the cart. Large 12" inflatable pneumatic wheels dampen vibration and allow basic dolly moves over general terrain. The EFP-17 folds to 15 1/2" and only the camera and monitor need be removed for storage. The equipment board is predrilled in 1" increments for quick adjustment.

Specifications

Equipment Platform:	17" x 29"
Monitor Platform:	41" H x 15" x 21"
Camera Platform*:	37" H x 6" x 17"
Folded Size:	42" x 28" x 15"
Load Capacity:	175 lbs.
Wheel Base:	16"
Wheels (inflatable):	12" pneumatic
Casters:	5" swivel with lock
Straps:	1 ea. 8', 2 ea. 5'
Shipping:	Assm. 57 lbs. truck

*Note: Camera platform is predrilled for elevator column

EFP-17 \$400.00

Accessories:

Receptacle and Cord Reel, Elevator Column, Friction Head, or Fluid Head

DG/H4/TM The Challenger Friction Head

Specifications

Load Capacity:	25 lbs.
Minimum Height:	34"
Maximum Height:	70"
Elevation Adjustment:	16"
Geared Center Post:	1 3/8" dia.
Leg Diameters:	1 1/8" - 1 1/4"
Head Tilt Angles:	60° up, 90° down
Spring Loaded Head:	2 springs
Head Pan Rotation:	360°
Weight:	8 lbs.

Material &

Finish: Clear and Black anodized aluminum

Self-Locking Gear Mechanism

DG/H4/TM \$170.00

DG/TM/FM-15 Fluid Head

Specifications

- Camera platform 4" x 4 1/4"
- Accommodates cameras up to 25 lbs.
- Dual handle capability
- Positive tilt lock and pan lock
- Leakproof and dustproof sealing
- Easily visible bubble level gauge



EFP-17
with Column and Head



- Extremely smooth pan and tilt movements
- Weight: 5 lbs.
- Height: 5"
- Fits ball on flat top tripod
- Low profile design
- Rugged construction
- Reliable operation
- Compatible with European standards
- Unique quick release camera mounting screw with slot to allow camera balancing
- Tilt: +90°

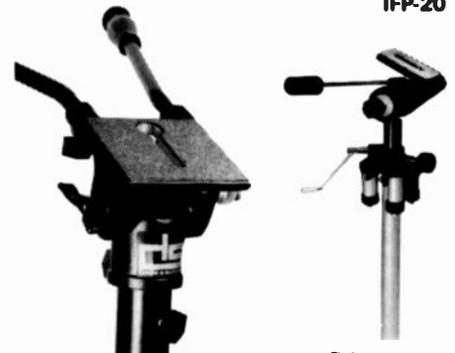
DG/TM/FM-15 (Includes Head and Elevator Assign) \$400.00

IFP-20 (Non-Folding) Industrial Field Production Cart

The IFP-20 is a heavy-duty industrial, non-folding camera cart designed to assemble all of the necessary video equipment required for quality industrial video production. This vehicle will accommodate camera, videocassette recorder with electric editing, monitor, camera control unit, AC adaptors, batteries and/or battery packs. Taping can be accomplished directly from the vehicle with the addition of an optional elevator column and head. The large inflatable pneumatic tires offer smooth transportation over rough terrain.



IFP-20



DG/TM/FM-15

DG/H4/TM

Specifications

Upper Platform*:	40" H x 29" x 19"
Center Platform:	28" H x 29" x 19"
Lower Platform:	10" H x 18" x 24"
Load Capacity:	200 lbs.
Wheel Base:	21"
Wheels (inflatable):	12" pneumatic
Casters:	5" swivel with lock
Straps:	3 ea. 8'
Shipping (3 crt.):	K/D, 75 lbs. UPS

*Note: Upper platform is pre-drilled for elevator column.

IFP-20 \$345.00

Accessories

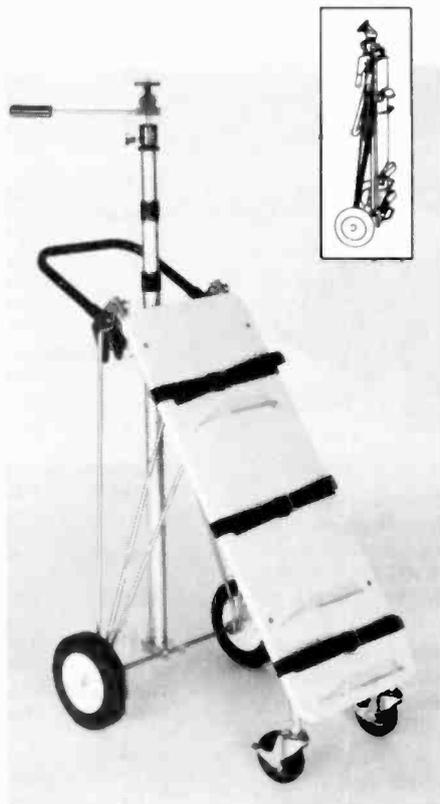
Receptacle and Cord Reel, Elevator Column, Friction Head, or Fluid Head



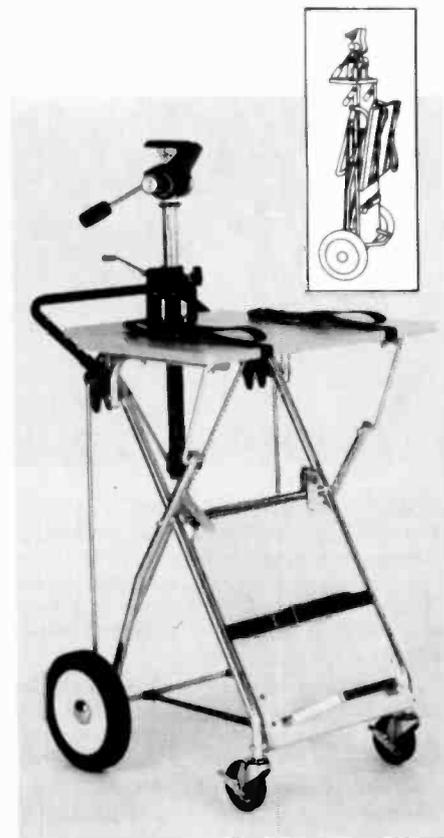
VIDEO EQUIPMENT CARTS



ENG-1
With Column



GR-3



CAM-10

ENG-1 Mobile Camera Cart

The ENG-1 mobile camera cart was developed for the video industry as the ideal vehicle for transporting and employing portable video recording equipment. The unit accommodates most VTR and camera CCU's as well as their AC adaptors and battery packs. Addition of the optional elevator column and friction or cam link head converts the ENG-1 into one of the most versatile production tools available. ENG-1 folds to a slim 12" for transportation and storage. The equipment board is pre-drilled in 1" increments for rapid adjustment.

Specifications

Equipment Platform:	14" x 29"
Camera Platform:	6" x 14" x 35" H
Wheel Base:	16"
Wheels:	12"
Casters:	4" swivel
Load Capacity:	150 lbs.
Straps:	2 ea. 4'
Folded Size:	23" x 42" x 12"
Shipping:	Assm. 45 lbs. UPS

*Note: Camera platform is pre-drilled for optional column.

ENG-1\$280.00

Accessories

Receptacle and Cord Reel, Elevator Column, Friction Head, or Cam Head

GR-3 Video Cart

The GR-3 is the smaller offspring of the ENG-1. This folding cart is designed to store, transport, and operate your portable 1/2" VCR equipment. This lightweight, affordable cart is ruggedly built with 8" semi-pneumatic wheels and 4" front swivel casters. The GR-3 is standard with spring head and telescoping column which will accommodate cameras up to 7 lbs. With the GR-3, there is no need to carry or set-up equipment on location; it's all there on your cart when you are ready to shoot. The cart can be folded with your equipment in place.

Specifications

Equipment Platform:	13" x 33"
Wheel Base:	16"
Wheels:	8"
Casters:	4" swivel
Load Capacity:	100 lbs.
Straps:	3 ea. 5'
Folded Size:	21" x 41" x 10"
Column Height:	43" min., 82" max.
Shipping:	Assm. 39 lbs. UPS

GR-3\$370.00

Accessories

Receptacle and Cord Reel

CAM-10 Videocassette Cart

CAM-10 is designed to accept all 1/2" and 1/4" portable VCR equipment as well as their AC adaptors and battery packs. The upper shelf of the CAM-10 is parallel to the ground and is large enough to accept a full size monitor or a small VCR and monitor combination. The lower shelf can be placed in a horizontal position or can be firmly locked into a slanted position to hold a recorder and/or battery pack. The CAM-10 comes complete with elevator column and anti-dumping spring head and will handle TV cameras up to 15 lbs.

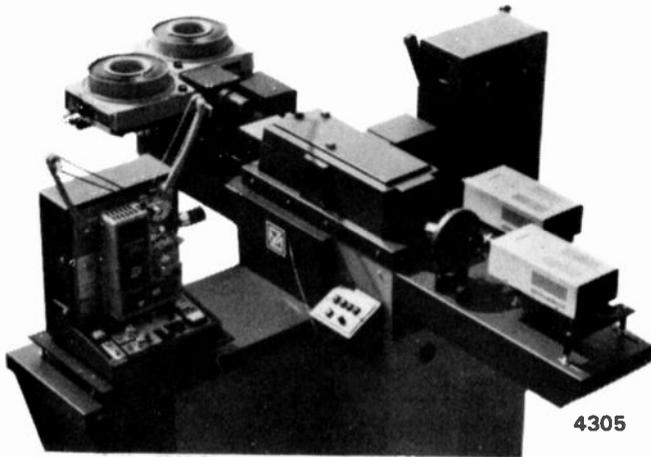
Specifications

Top Platform:	16" x 24" x 36" H
Bottom Platform:	15" x 18" x 6" H
Wheel Base:	16"
Wheels:	10"
Casters:	4"
Load Capacity:	150 lbs.
Straps:	2 ea., 6'; 1 ea., 5'
Column Height:	45" min., 60" max.
Folded Size:	25" x 40" x 12"
Shipping:	Assm. 58 lbs. truck

CAM-10\$500.00

Accessories

Receptacle and Cord Reel



4305

4305 Optical Multiplexer

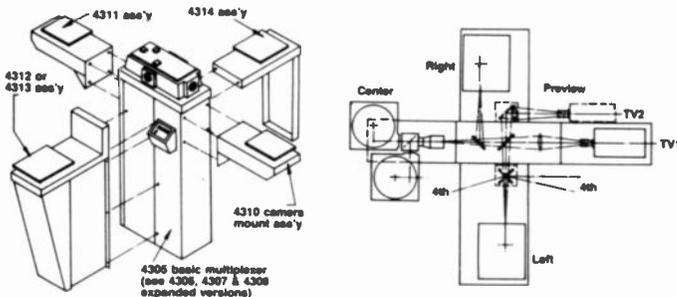
The 4305 consists of a pedestal mounted optical transfer assembly designed to the industry standard 48" optical centerline. The basic unit includes local control, neutral density filter mounts for each input, three duplex AC outlets (6) for equipment, attached 3-wire AC power cable and complete set-up and operating instructions. All options are at added cost.

TV camera and center input projector supports as well as projector side mounts include all necessary adjustable mounting hardware for item to be used. Where remote control is specified, please indicate cable footage required. Projectors include the necessary projection lenses. Remote control is 24VDC operation.

The Preview option, 2nd TV camera output provides a back-up TV camera in the event of prime output camera failure and to minimize "on-air" errors, e.g., wrong slide, improper start or restart of motion picture film, etc., since Preview enables the operator to verify subsequent inputs while "on-air" from the second TV camera which may be a relatively inexpensive monochrome camera.

Since the 4305 is in itself a fully functional and operational system, the unit may be directly applied for use with floor mounted TV cameras and pedestal mounted film projectors.

Where floor mounted TV cameras have a built-in field lens designed to suit the internal camera optical system, the 4305 field lens can simply be removed to permit direct projection through the 4305 optical transfer and onto the TV camera field lens.



Notes:

- For the 4307 and 4308, 4th Input source must be reversible format film, e.g., 2 x 2 slides, 35mm filmstrip, and "live" Tel-Op input.
- For 1" format Vidicon TV cameras, use 50mm "C" mount lens. For 2/3" format Vidicon TV cameras, use 35mm lens.
- At time of order, please specify TV camera and projector models to be used at each input station.
- For TV cameras, which due to their design require special lenses (other than 35mm or 50mm focal lengths), Zei-Mark can supply special field lenses to work with such TV camera at added cost (usually nominal).

Series 4300 Optical Multiplexer and Accessories

4305	Optical multiplexer, 3 inputs and 1 output. Custom model. Expandable to add Preview and 4 th options. Features custom molded top cover, illuminated dome lamps w/matching colored switches at local control console	\$1995.00
4306	Custom optical multiplexer, 3 inputs and 2 outputs. Expanded model 4305. 2 nd output Preview	\$2795.00
4307	Custom optical multiplexer, 4 inputs and 1 output. Expanded model 4305. See notes	\$2995.00
4308	Custom optical multiplexer, 4 inputs and 2 outputs. Expanded model 4305, combination model 4306 and 4307	\$3495.00

TV Camera and Projector Supports

4310	TV camera support and adjustable mount. Fits all models . . .	\$215.00
4310-SP	Same as 4310, but for TV cameras in excess of 30 lbs.	\$250.00
4311	Center input projector support	\$150.00
4312	Custom fully skirted side mount for Left and Right film projectors. Fits all models	\$295.00
4313	Custom side mount for Left and Right film projectors, less skirts. Fits all models	\$250.00

Projector Pedestal

KG	Custom pedestal for film projectors. Supplied to accommodate optical centerline heights ranging from 7 to 11 1/2". Equipped with adjustable mounting plate and AC outlets with attached power cable.	\$350.00
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Multiplexer Remote Controls

RC4305	4305 remote control Select Left, Center or Right input. Console styled 19" rackmount for either flat or vertical mounting. 3 1/2" H. Illuminated to match 4305 dome lamp colors	\$250.00
RC4306	4306 remote control. Same as RC4305 except includes Preview select switches	\$275.00
RC4307	4307 remote control. Same as RC4305 except includes 4 th Input mode select switches.	\$275.00
RC4308	4308 remote control. Same as RC4305 except includes both Preview and 4 th Input switches.	\$300.00

Projector RC Mounting Panels

PRC-3	3 1/2" x 19" rack panel for mounting up to three RC modules listed below	\$90.00
PRC-4	3 1/2" x 19" rack panel for mounting four projector remote controls listed below. Custom designed to suit system requirements	\$300.00

Projector Remote Control Modules

RC-2	Slide projector remote control. Works with Ektagraphic or Ekt. Series III models. Provides lamp on/off, forward and reverse.	\$140.00
RC-2LDX	LD-4250 remote control. Includes change, rate, individual E-2 controls for forward and reverse and "hold" to repeat slides. LEDs indicate "on" projector	\$200.00
RC-8EL	ELMO GS-1200 TC Remote Control. Provides fwd/lamp, rev/lamp and stop	\$200.00
RC-16E	Eiki NT-O Series remote control provides forward, forward w/lamp, reverse, reverse w/lamp and stop	\$200.00
RC-16EL	ELMO model 16FTC remote control. Projector must be factory supplied to provide for remote control functions, forward, lamp, reverse and stop.	\$200.00
RC-16S	Remote control for Telex 2230 16mm TV projector. Provides forward, lamp and stop.	\$200.00
RC-16	Remote control for 16mm projectors not listed above. Can accommodate up to 5 switches (momentary and/or p-p) Specify projector	\$250.00

Automatic Light Control Remote Modules

RC-ND510	Remote control for ND10 auto light control. AGC and manual control	\$100.00
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Remote Control Cables

C1	Multiplexer remote control cable	ft./\$1.00
C2	Projector remote control cable.	ft./\$1.00

ND Filters

FK-6	Filter kit. Set of six (6) 3" x 3" Kodak gelatin ND filters w/values 0.1, 0.2, 0.5, 1.0, 2.0 and 3.0. Up to six may be ordered in any combination. Filter mounts and glass supplied as standard on all 4300 and 2000 series multiplexers	\$110.00
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Miscellaneous

A43	Audio-follow control PC board assy. For use with 4300 series multiplexers. Audio switches according to the multiplexer mode. Accepts up to 3 wires from 3 separate sources to a 3 wire output. Operates automatically from mult. control electronics	\$140.00
SL-1	Slot-Lok quick disconnect. One TV camera adaptor and one baseplate	\$175.00
SL-2	Slot-Lok quick disconnect. One TV camera adaptor and two baseplates. Order when studio camera is used on the film chain	\$235.00
SLA	Slot-Lok TV camera adaptor only	\$125.00
SLB	Slot-Lok baseplate only.	\$70.00

Cyclorama Curtain Track

• Ease of installation † • Rigid alignment of splices • Effortless, walk-along carriers may be pushed or pulled • Pre-formed corner radii • All components aluminum or plated or painted steel • One free set custom track layouts (additional sets available for fee)

Cat. No.	Description	Price
70.110	Single track	per ft./\$8.00
70.115	Single track with double track brackets	per ft./10.90
70.120	Double track	per ft./15.30
70.130	Triple track	per ft./24.50
70.140	Quad track	per ft./33.60

Track Accessories

70.210	10' track	\$23.00
70.215	15' track	34.50
70.220	20' track	46.00
70.310	10' corner radius	50.50
70.330	3' corner radius	30.25
70.350	5' corner radius	36.75
70.370	7' corner radius	43.50
70.404	4" single track bracket*	11.80
70.408	8" suspension bracket	11.80
70.412	12" double track bracket*	15.95
70.420	20" double track bracket*	17.05
70.430	30" double track bracket*	43.70
70.436	36" double track bracket*	49.95
70.501	Curtain carrier	6.85
70.502	Bracket clamp	3.85
70.503	Splicing clamp	8.50
70.504	Carrier stop	2.75

*Includes mounting hardware, complete, with all necessary accessories for normal wall installation.

70.120 Double Track System

The double track system is recommended for the seamless Linoweave and background curtains. The track, corner track sections, track brackets, splicing clamps and all other necessary accessories required to install the double track system are included.

Track Features

• Extruded aluminum I-beam • Minimum 14 gauge aluminum with interior horizontal web for additional stiffness and to prevent carriers riding up on the track • Bottom flange has 10° topside slope • Inside to outside automatically centering carriers on track

Carrier Features

• 1" wheeled, nylon ball-bearing carrier with bumper, 20° included angle between wheels for self centering on track • One carrier per foot of curtain width, plus one

Splicing Clamp Features

• Extruded aluminum clamp slides over track and may be coincident with hanger bracket to facilitate system layout and installation • Clamp rigidly aligns both spliced track ends resulting in smooth joint • Splicing clamp may also be used as bracket clamp to minimize components

Bracket Clamp Features

• Extruded aluminum clamp slides over track firmly attaching track to hanging brackets • Single screw attaches clamp to track — and clamp to bracket providing quick, easy, one-handed, low maintenance installation

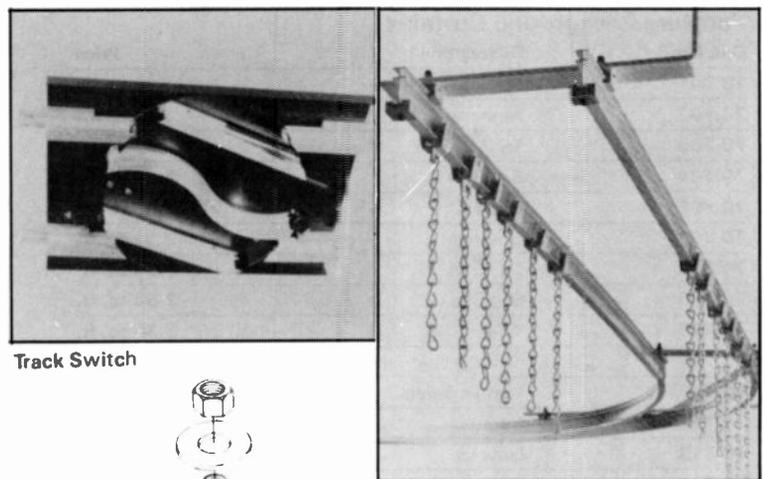
Wall Bracket Features

• Brackets made of 1/4" x 2" heavy duty steel slotted 8" apart, center to center in horizontal leg for mounting bracket clamps • Three 7/16" holes on vertical leg for attaching to wall

Important Note

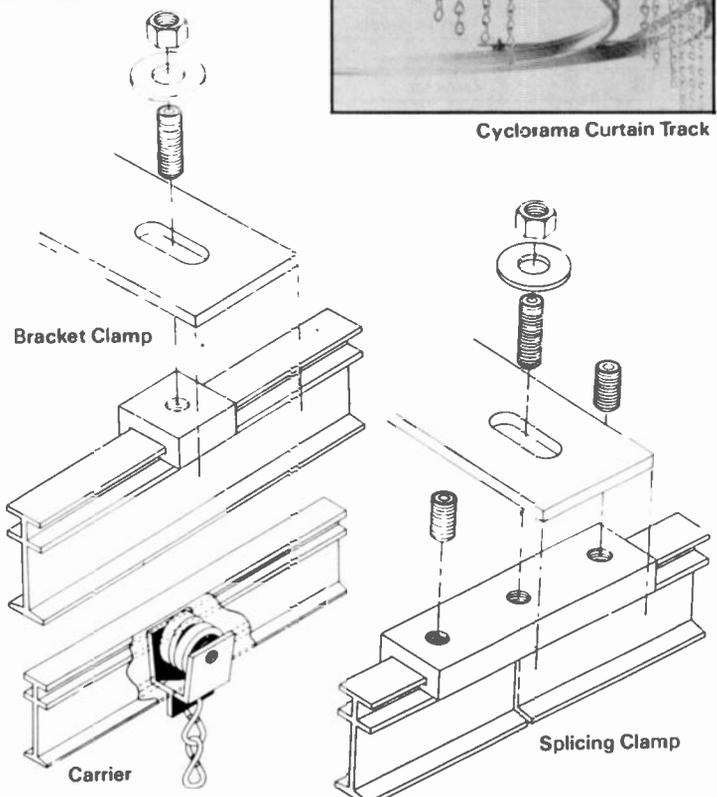
It is recommended that exact inside studio dimensions be sent to Channel One — carefully noting all obstacles. By so doing, we can often eliminate problems — and save money.

†Normal installation: two (2) inexperienced men can install double track system in a 30' x 40' studio in two (2) days.



Track Switch

Cyclorama Curtain Track



Bracket Clamp

Splicing Clamp

Carrier

Cyclorama and Background Curtains

Linoweave Cyclorama Curtains

• Seamless—flameproofed, 100% woven cotton • Fabricated of highest quality workmanship • Top—heavy-duty 3 1/2" wide interfacing with 5/8" brass eyelets on one foot centers and 1 1/2" S-hook • Sides—2" interfacing sewn for stiffness and reinforcement with 5/8" brass eyelets on two foot centers for use with tauting poles • Bottom—4" hem with separate pocket or No. 8 jack chain weight, sewn 1/2" above bottom, preventing chain "wear-through" • Total curtain fabricated to ± 1/2" tolerances

Cat. No.	Description	Price
70.001	White	\$3.40
70.002	Powder Blue	3.40
70.003	CBS Gray	3.40
70.004	Black	3.40

Panalure and Velour Background Curtains

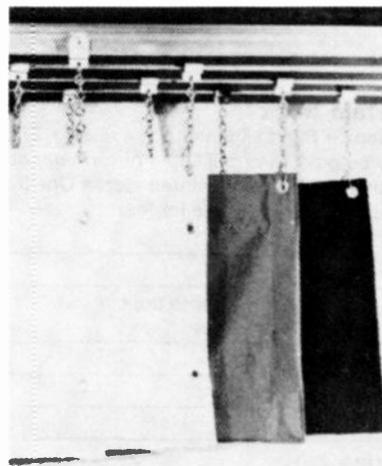
• Purchased in pairs gives stage effect • Pleated effect when hand gathered • Fabricated to the highest quality workmanship • Inherently flame resistant • Fabricated to the same standards as Linoweave curtains with 48", 54", or 72" vertical panel seams.

Panalure Background Curtains

Cat. No.	Description	Price
70.701	Chroma Key Blue	\$2.15 sq. ft.
70.702	Admiral Blue	2.15 sq. ft.
70.703	Teal	2.30 sq. ft.
70.704	Sky Blue	2.30 sq. ft.
70.705	Black	2.30 sq. ft.
70.706	Graphite	2.30 sq. ft.
70.707	Day Gray	2.30 sq. ft.
70.708	Egg Shell	2.30 sq. ft.
70.709	White	2.30 sq. ft.
70.710	Chroma Key Green	2.30 sq. ft.
70.711	Hunter Green	2.30 sq. ft.
70.712	Cactus	2.30 sq. ft.
70.713	Lime Ice	2.30 sq. ft.
70.714	Sage	2.30 sq. ft.
70.715	Red	2.30 sq. ft.
70.716	Burgundy	2.30 sq. ft.
70.717	Pomegranate	2.30 sq. ft.
70.718	Rose Pearl	2.30 sq. ft.
70.719	Dusty Rose	2.30 sq. ft.
70.720	Carnation	2.30 sq. ft.
70.721	Peach	2.30 sq. ft.
70.722	Maple Ice	2.30 sq. ft.
70.723	Harvest	2.30 sq. ft.
70.724	Doubloon	2.30 sq. ft.
70.725	Nutmeg	2.30 sq. ft.
70.726	Melon	2.30 sq. ft.
70.727	Daisy	2.30 sq. ft.
70.728	Canary	2.30 sq. ft.

Velour Background Curtains 16 oz.

Cat. No.	Description	Price
70.801V	Black	\$2.75 sq. ft.
70.804V	Brown	2.75 sq. ft.
70.805V	Rust	2.75 sq. ft.
70.809V	Red	2.75 sq. ft.
70.810V	Glory Red	2.75 sq. ft.



Cyclorama and Background Curtains

Cat. No.	Description	Price
70.802V	Gray	\$2.75 sq. ft.
70.803V	Gold	2.75 sq. ft.
70.806V	Blue	2.75 sq. ft.
70.807V	Marine Blue	2.75 sq. ft.
70.808V	Empire Green	2.75 sq. ft.

Note: Channel One has a full line of flame resistant fabrics. Please write or call with your needs.

Tauting Pole

Keeps cyclorama taut to eliminate texture in background which might result from sagging cloth • Pole made of 2" x 2" x 3/16" aluminum teebar • Base of 1 1/2" square tubing • Guy wire and turnbuckle provide proper tension • Tauting poles are used in pairs and the ability to move them insures proper curtain tension for perfect backgrounds

Tauting Poles and Accessories

Cat. No.	Description	Price
70.907	7' set	\$154.00
70.908	8' set	165.00
70.909	9' set	176.00
70.910	10' set	187.00
70.911	11' set	198.00
70.912	12' set	209.00
70.913	13' set	220.00
70.914	14' set	231.00
70.915	15' set	242.00
70.916	16' set	253.00
70.917	17' set	264.00
70.918	18' set	275.00
70.919	19' set	286.00
70.920	20' set	297.00
70.921	21' set	308.00

Tauting Pole Eyelet Claw

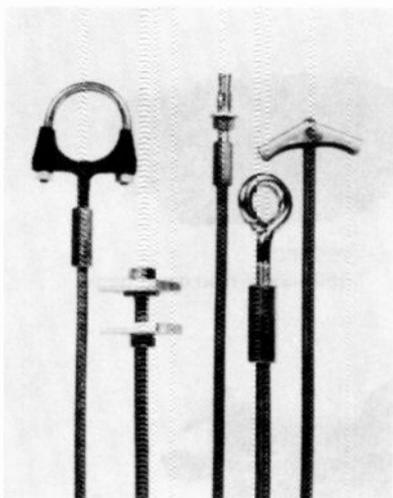
• Joins cyclorama curtain to tauting pole • Claw hooks into curtain eyelet and is adjustable to insure proper horizontal curtain tension • Two foot spacing required

70.930 Eyelet claw \$10.90

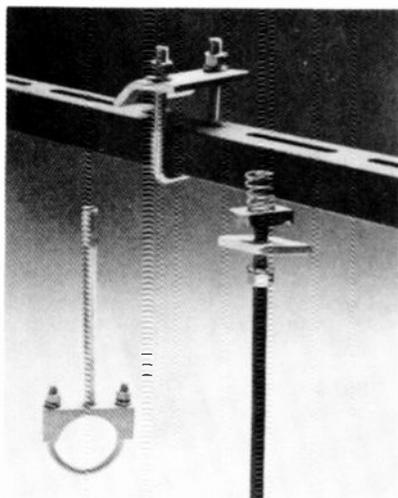
Sand Bag

• Designed to hold fifty (50) pounds of sand and lay across the tauting pole base to hold base and pole in position

70.940 Sandbag, 50 lb. saddle \$50.00



Grid Hardware I



Grid Hardware II

Grid Hardware

Features:

- Sufficient load channel
- All-thread, nuts, bolts, beam clamps, etc., to complete installation of connector strips or pipe grid to I-beams or truss deck based on no greater than 5' centers
- Detailed assembly instructions sent with equipment

Specifications

Grid hardware shall consist of upper suspension mechanism(s), proper length threaded rod and low suspension mechanism(s).

All components of a grid hardware system shall be painted or plated for corrosion protection.

Detailed assembly drawings, installation instructions, and layout prints shall be included with grid hardware when system is engineered by Channel One. If grid hardware is purchased as components, only assembly drawings shall be included.

Catalog Number:

50.4XX	Grid Hardware as engineered by Channel One	POR
50.5XXB	Bracket suspension assembly	POR
50.5XXC	Concrete suspension assembly	POR
50.5XXI	I-Beam suspension assembly	POR
50.5XXL	Load channel suspension assembly	POR
50.5XXP	Pipe suspension assembly	POR
50.5XXT	Truss (bar joist) suspension assembly	POR
50.5XXW	Wood beam suspension assembly	POR

Grid Pipe

Features:

- Channel One provides engineering services for grid and distribution systems
- Pipe grid available in any configuration
- Grid lock provides positive, secure interconnection of cross grid-pipes. Lock has only two component parts and generates a 4,000 lb. grip with a safety factor of 2:1 (8,000 lb. actual grip)

Specifications

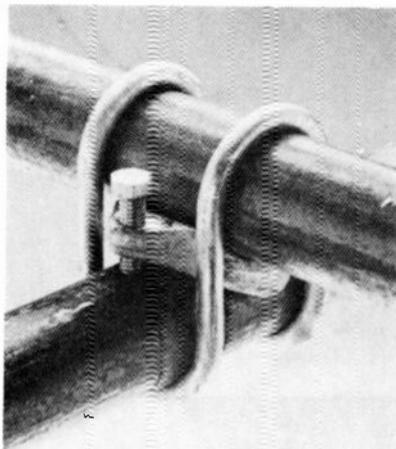
All pipe shall be pre-cut to length, have ends deburred, and be painted with 2 coats of catalyzed metal flake lacquer.

Pipe sections which are co-incident with connector strips shall be factory mounted to strips when purchased and delivered at the same time.

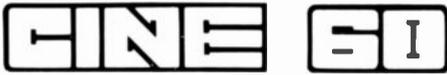
Pipe sections shall be spliced together with a sleeve-over type splice. Threaded couplings available at extra cost.

Catalog Number:

50.400	1 1/2" I.D. steel pipe	\$ 3.30
50.450	Splice for 1 1/2" I.D. pipe	8.75
50.460	Grid lock	13.25



Grid Lock



BATTERY BELTS/PACKS/ BATTERY SYSTEM

30V Battery Belts/Packs

For Cine 60 Sun-Guns, Lowel, Colortran, Frezzi, Anton-Bauer, Mole-Richardson, Cinema Products, De Sisti, Kobold, lanero, and other battery lights. 4AH capacity operates 30V 250W lamp 26 minutes. 7AH capacity operates 250W lamp 42 minutes. 2-pin Amphenol connector and 5-pin XLR on fast charge models, 2-pin Amphenol on Overnite models.

Cat. No.	Volts/Amps	Charge Rate	Fast Charge Rate With		Price
			Fast Charger	Weight	
6304	30V, 4AH	Overnite		11 lbs.	\$ 696.00
8304FC	30V, 4AH	Fast Charge*	1 hr.	11 lbs.	740.00
7004	30V, 7AH	Overnite		15 lbs.	1113.00
7004FC	30V, 7AH	Fast Charge*	2 hrs.	15 lbs.	1168.00

Same as 30V Battery Belts but in a battery pack style.

9104	30V, 4AH	Overnite		10 lbs.	\$ 731.00
9104FC	30V, 4AH	Fast Charge*	1 hr.	10 lbs.	781.00
9704	30V, 7AH	Overnite		14 lbs.	1150.00
9704FC	30V, 7AH	Fast Charge*	2 hrs.	14 lbs.	1179.00

30V/14.4V/13.2V All-Purpose Battery System

Cine 60's versatile power for most portable equipment and Sun-Guns. The Battery provides 14.4V and 30V. With an in-line plug-in voltage converter, it becomes a 13.2V battery. And with a power adaptor, it will power both a Sun-Gun and camera simultaneously. 13.2V mode limited to applications drawing under 48W. Equipped with 2-pin Amphenol and 5-pin XLR connectors. A complete system requires the battery, voltage converter, and power adaptor, plus 1 or more video cables.

Applications for the All-Purpose Battery System are virtually unlimited. It will power all 13.2V cameras, VTRs, Betacams, and other similar systems, all 14.4V cameras, most 12V cameras, VTRs, plus all 14.4V and 30V battery lights and Sun-Guns.

All-Purpose Battery Belts. Require the Voltage Converter for 13.2V operation.

3014	30V, 4AH/14.4V, 8AH	Overnite		11 lbs.	\$ 783.00
3014FC	30V, 4AH/14.4V, 8AH	Fast Charge*	1 hr.	11 lbs.	836.00
3017	30V, 7AH/14.4V, 14AH	Overnite		15 lbs.	1199.00
3017FC	30V, 7AH/14.4V, 14AH	Fast Charge*	2 hrs.	15 lbs.	1254.00

All-Purpose Battery Packs. Require the Voltage Converter for 13.2V operation.

9014	30V, 4AH/14.4V, 8AH	Overnite		10 lbs.	\$ 783.00
9014FC	30V, 4AH/14.4V, 8AH	Fast Charge*	1 hr.	10 lbs.	836.00
9017	30V, 7AH/14.4V, 14AH	Overnite		14 lbs.	1199.00
9017FC	30V, 7AH/14.4V/14AH	Fast Charge*	2 hrs.	14 lbs.	1254.00
1430	30V, 10AH/14.4V, 20AH	Overnite		26 lbs.	1996.00

VRX Voltage Converter. Plugs in between battery and video cable. Converts 14.4V to 13.2V. Allows battery to power all 13.2V cameras, VTRs, Betacams. Maximum 48W. 5-pin male XLR input, 5-pin female XLR output. \$49.00

6400-Y Power Adaptor. Allows battery to run a battery light and camera simultaneously. Plugs in between battery, video cable, and light cable. 5-pin male XLR input, two 5-pin female XLR outputs. With the VRX plugged into one output to power a 13.2V Betacam or camera, and the second output providing 14.4V to operate a 14.4V, 70W battery light, excellent battery utilization is assured. \$54.00

*Requires Fast Charger. Overnite charger built-in.

Kwik-Charge Battery Belts/Packs

Same as Fast Charge Belts and Packs but with built-in dual-rate Kwik-Charger that allows fully charging 4 and 8AH batteries in 4 hrs., and 7 and 14AH batteries in 7 hrs. Then trickle charge circuit safely maintains fully charged battery indefinitely. Can also be fast charged with Cine 60 Universal Fast Chargers Models 9400, 9400-U and Model 94DC30 Mobile Fast Charger.

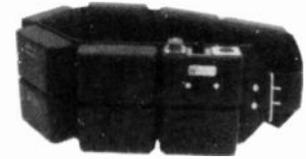
8327KFC	12V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge*	\$ 871.00
7027KFC	12V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge*	1243.00
9127KFC	12V, 8AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge*	913.00
9727KFC	12V, 8AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge*	1254.00

8328KFC	13.2V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge*	\$ 902.00
7028KFC	13.2V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge*	1280.00
9128KFC	13.2V, 8AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge*	940.00
9728KFC	13.2V, 14AH, 7 hr. Kwik-Charge Battery Pack, 2 hr. Fast Charge*	1286.00

8326KFC	14.4V, 8AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge*	\$ 932.00
7026KFC	14.4V, 14AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge*	1318.00

8304KFC	30V, 4AH, 4 hr. Kwik-Charge Battery Belt, 1 hr. Fast Charge*	\$ 872.00
7004KFC	30V, 7AH, 7 hr. Kwik-Charge Battery Belt, 2 hr. Fast Charge*	1300.00
9104KFC	30V, 4AH, 4 hr. Kwik-Charge Battery Pack, 1 hr. Fast Charge*	913.00
9704KFC	30V, 7AH, 7 hr. Kwik-Charge Battery Pack, 2 hr. Fast Charge*	1311.00

*Requires Fast Charger. Kwik-Charger built-in.



7004FC
6304 Shown on cover page.



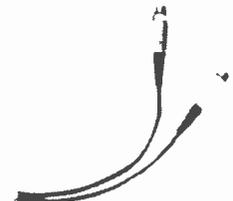
9704FC



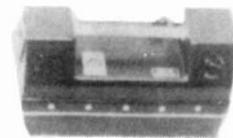
3014FC



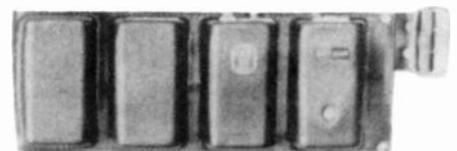
VRX



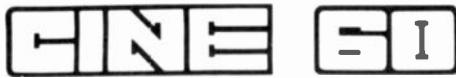
6400-Y



9128KFC



8328KFC



BATTERIES/CHARGERS

Cine 60's 12V 4AH

Replacement Batteries for Sony's BP-90

Built to Cine 60 standards with fish paper-insulated, deep welded NiCad cell modules protected by precision "Lifeguard" cell sensors for cooler, more efficient fast charging. Housed in a rugged molded case, it utilizes Sony's original non-shorting split connector and has an autoreset circuit breaker protecting the battery against external shorts while eliminating fuses.

BP-912S. Charges overnight with all BP-90 chargers.
May be fast charged with Sony's BC-210 or other 2-wire fast chargers. \$230.00

BP-912FC. As above but also may be fast charged with all
Cine 60 Fast/Lifeguard/Quik Chargers. Requires BPA charge adaptor \$255.00

BP-2C Dual BP-90 Battery Charger. Charges 2 BP-90 batteries (any brand) overnight. In molded housing 1 1/2" x 2 7/8" x 4 3/8". Wt. 8 oz. 115V. \$116.00

BP-2C-220. As above but 220V \$116.00

BP-612S. 13.2V 2AH NiCad replacement battery for Sony's BP-60 lead-acid battery. Higher voltage and NiCad reliability assure long life and run time. With autoreset circuit breaker. \$205.00

BP-25C Dual Battery Charger. Charges 2 BP-612s overnight. Size and weight same as BP-2C. 115V \$116.00

BP-25C-220. As above but 220V \$116.00

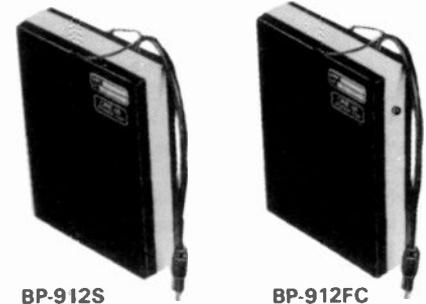
BP-512S. 12V 2.5AH NiCad replacement battery for Sony's BP-20, -20A lead-acid batteries. Equipped with an autoreset circuit breaker. Charge with BP-25C dual overnight charger. . . \$215.00

NP-1. 12V 1.5AH replacement battery for Sony's NP-1. Charge with Sony's NP-1 chargers. . \$66.00

CBP-2J5S. 12V 2.5AH NiCad replacement battery for JVC/Panasonic PBP-1 lead-acid battery. Equipped with an autoreset circuit breaker. Charge with CBP-2J charger. \$215.00

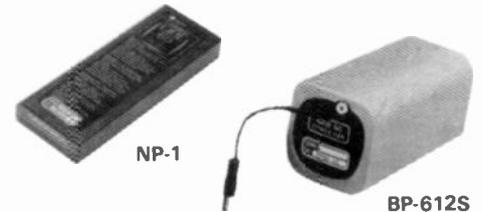
CBP-2J Dual Battery Charger. Charges 2 CBP-2J5S batteries overnight. Size and weight same as BP-2C. 115V \$116.00

CBP-2J-220. As above but for 220V \$116.00



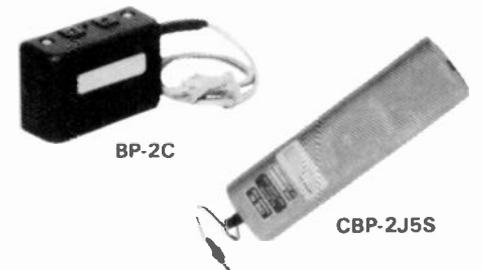
BP-912S

BP-912FC



NP-1

BP-612S



BP-2C

CBP-2J5S

For "Hitch-Hiker"™ and OEM types Anton-Bauer Snap-on® batteries (with BP3XF charge adaptor), Cine 60 BP-912FC battery (with BPA charge adaptor), Cine 60 "OB" batteries directly. All Lifeguard chargers feature a manual start 1A charge rate and an automatic start of a 150mA. Lifeguard rate permitting batteries to be fully charged in 4 hours and then safely maintained in a "ready" condition indefinitely. Sensing circuits and visual indicators provide continual monitoring of battery condition. Equipped with 5-pin XLR connector. Can also be used for other types of 2, 4 and 7AH 12 to 14.4V NiCad batteries which have a 3" wire cell sensing circuit.

LC2-914 Lifeguard Two Position 4 Hour Charger. Two independent positions charge 2 batteries in 4 hours. Equipped with "Hitch-Hiker"™ and OEM Camera Battery connector. Line-isolated and line and load regulated. Lightweight, small size. 2 1/2" x 6 1/4" x 8". Wt. 1 3/4 lbs. 115/220V, 50/60Hz. \$485.00

LC4-914 Lifeguard Four Position Fast Charger. Four independent positions charge 4 batteries in 4 hours. A unique parallel patching circuit permits increasing the charge rate of the "Master's" position to 4A to charge 1 battery in 1 hour. Requires BP3XF charge adaptor for BP-912FC Cine 60 BP-90 battery. Line isolated, line and load regulated. Lightweight, small size. 4 1/2" x 6 5/8" x 7 1/2". Wt. 4 lbs. 115/220V, 50/60Hz \$765.00



LC2-914

LC4-914

Sun-Gun System

For ENG/EFP 12 to 30VDC Soft, Wide-Angle Focusing Light.
Ideal camera mounted. Double wall aluminum construction.

- 6201-A Sun-Gun. With integral 8' cable terminated in 2-pin Amphenol connector, removable handle, and bulb. (Specify which bulb) \$218.00
- 6202 Swing-Away Dichroic Filter. Converts Sun-Gun light to daylight 95.00
- 6203 Swing-Away Diffusion Filter. Softens Sun-Gun light. Lowers output by f/stop 72.00
- 6204 Swing-Away Safety Glass. For extra safety when Diffusion or Dichroic Filters are not used 60.00
- SG-6510 Power Cable Adaptor. Connects to Sun-Gun's cable converting it to 5-pin XLR to run Sun-Gun with 12 or 14.4V battery. 12 or 14.4V bulb required 40.00
- Sun-Gun Mounting Brackets. Two piece, machined sleeve, machined stud. Allows rapid mounting of Sun-Gun on camera 45.00
- A-1/2. For all cameras with accessory shoe 45.00
- B-1/2. For all cameras with 1/4"-20 threaded accessory hold 45.00
- B-1/2-6. For Ikegami ITC-730 Camera 45.00
- B-1/2-5. For JVC KY-1900 Camera 45.00
- C-1/2. For RCA TK-76 Camera 45.00
- D-1/2. Universal. For most cameras. Clamps onto the camera's handle 45.00
- E-1/2. For Ikegami HL-79A-D 45.00
- F-1/2. For RCA TK 76B, TK 76C, TK-86 45.00
- Stud only. (Specify which type). 27.00
- Sleeve only. 27.00

Bulbs For Sun-Gun:		Run Time With Various Capacities Of Batteries							Price
Cat. No./Code	Volts	Watts	4AH	7AH	8AH	10AH	14AH	20AH	
6208/FBT	30V	150W	45 min.	1.2 hrs.		2 hrs.			\$38.00
6209/FBV	30V	250W	26 min.	42 min.		1.2 hrs.			42.00
6210/FBW	30V	350W	19 min.	30 min.		50 min.			46.00
6211/FAV	12V	100W	26 min.	42 min.	52 min.		80 min.	24 hrs.	36.00
6212/FLP	14.4V	70W	49 min.	74 min.	1.5 hrs.		2.46 hrs.	4.1 hrs.	39.00

- 6207B. Heavy-duty carrying case. Customized for Sun-Gun, Battery Belt, and Accessories. Size 11 1/8" x 19" x 7 1/4" \$121.00
- 6207P. As above, but for Battery Pack 121.00
- APC. Heavy-duty carrying case. Customized for Sun-Gun, Battery Belt, and Accessories. Size 22 3/4" x 17 1/2" x 8 3/4" 210.00

All-Purpose Sun-Gun Kits

APSGK-8 All Purpose Sun Gun Kit. Combines the Cine 60 Sun-Gun to provide 14.4 and 30V portable lighting with a versatile Battery Belt system that runs virtually all portable equipment including 12, 13.2, and 14.4V cameras, VTRs, and TV monitors. The belt can be charged in one hour with a Mobile Fast Charger operating from most vehicles or a Universal 115/220V Fast Charger. This unique kit is a complete working system requiring only one or more of the video cables for connecting the Battery Belt to the manufacturer's equipment. \$2195.00

Includes:

- 6201-A Sun-Gun
- 6202 Dichroic Filter; 6203 Diffusion Filter; 6204 Safety Glass
- 6212 14.4V, 70W Bulb; 6209 30V, 250W Bulb
- SG-6510 Power Cable Adaptor
- A-1/2 Sun-Gun Mounting Bracket; B-1/2 Stud only
- 3014FC 30V, 4AH/14.4V, 8AH Fast Charge Battery Belt with built-in 115V Overnight Charger
- 6400-Y Power Adaptor. Allows Battery Belt to run Sun-Gun (with 14.4V bulb installed) and a 14.4V camera simultaneously
- VRX Plug-In Voltage Converter. Connects in-line between 6400-Y Power Adaptor and Video Cable. Allows Battery Belt to run Sun-Gun (with 14.4V bulb installed) and 13.2 or 12V camera simultaneously. Maximum drain 48W
- 94DC30 Mobile Fast Charger. Operates from car battery (with engine running)
- 9400-U Universal Fast Charger. Operates from 115/220V, 50/60 cycles
- APC All-Purpose Sun-Gun Kit Carrying Case

APSGK-14 All-Purpose Sun-Gun Kit. As above but with 30V, 7AH/14.4V 14AH Battery Belt that can be charged in two hours \$2624.00

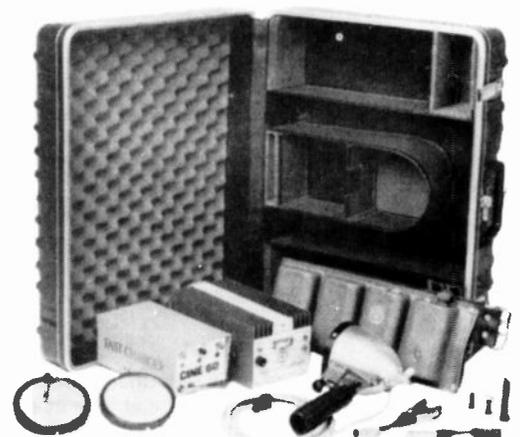


Sun-Gun with Dichroic Filter



Sun-Gun Mounting Brackets

SG-6510 Power Cable Adaptor



APSGK-8 All-Purpose Sun-Gun Kit

DJ-102 DRAMA Mini Jib

- Easy to balance and level
- Lightweight
- No assembly necessary
- Mounts on nearly all "sticks" style tripods and many others
- A versatile production system enhances the dramatic impact of most shots
- Change camera angle and height in seconds with the Mini Jib Lock Down
- 24 lbs.
- Arm rotation 360°
- 36" of crane motion (from any tripod height)
- Counterbalance at a 1.5:1 ratio
- Maximum load 110 lbs.
- Standard accessories include an Anvilite hard case, tool kit and counterbalance weights

For years the moving camera has been used to increase the dramatic impact of shots in both films and broadcast television. But many cannot afford to buy or rent such equipment, or even the extra crew this equipment requires. With the DRAMA Mini Jib, the power of the moving camera is easy to use, lightweight and affordable.

The moving camera is everywhere, TV commercials, feature films, prime time TV, music videos, quality industrial and educational programs, graphics and tabletop product shots. The DRAMA Mini Jib is a precision-built mechanical system which is designed to be relied on as a production "workhorse".

Video professionals will appreciate the DRAMA Mini Jib's easy setup and durable construction.

The DRAMA Mini Jib has a locking system which allows for rapid changes of camera angle and height. In just seconds you can change from one "lock-down" camera position to another.

Once the camera and camera head are counterbalanced, your camera will move in a fluid, controlled manner. As the cameraperson cranes up or down the camera will follow, as they arc the camera will arc, and when they stop the camera will stop. All the time holding the camera level and solid.

DJ-102. \$1400.00

Accessories

15" Floor Stand

Designed to move camera from near the ground up to 48" high in one continuous movement **\$185.00**

Vertical Mount

Designed to allow camera to be mounted directly overhead for medical or in-studio product shooting. **\$145.00**



DJ-102 Mini Jib



DJ-101 9' Full Studio Camera Crane

- Simulated dolly
- 10' crane action
- 360° arc
- Weighs 300 lbs.
- All actions possible at same time if wanted
- Includes shipping cases, tool kit and counterbalances

Turns a one camera shoot into multi camera look because of the variety of angles and positions available.

DJ-101. \$4300.00



M/A-COM VIDEO SYSTEMS, INC.

MICROWAVE SYSTEMS

MA-23VFM

23GHz FM Microwave Video System

- High power output 66mW typical
- Low cost, compact FM microwave system
- Full color compatible video plus audio, data, control
- All solid-state
- Simple installation and alignment
- Weather-resistant RF units
- Built-in 115VAC power supply
- Ready to mount on 2" to 4" O.D. pipe

M/A-COM's MA-23VFM system is a budget priced solid-state FM microwave radio system that provides reliable, short range video communications links in the 21.8 to 22.0GHz and 23.0 to 23.2GHz frequency band. This system is capable of transmitting full color video plus high quality subcarrier program channels with all of the advantages that only FM microwave systems can offer. The MA-23VFM system is ideal for relay of TVRO programs for CSTV systems as well as video conferencing or remote surveillance applications. The standard MA-23VFM system comes completely equipped with one subcarrier program channel for audio, data or telephone use.

The MA-23VFM system is an economical alternative to conventional coaxial cable links, especially where cable installation is impractical such as in congested downtown areas, across landscaped grounds or locations where trenching and aerial lines are not permitted. In these instances, the MA-23VFM system eliminates not only the prohibitive installation costs of cable systems, but also the lengthy delays encountered in obtaining municipal construction permits.

The compact, lightweight MA-23VFM system is engineered to provide reliable performance and simplicity of operation at reasonable cost. Transmitter and receiver subsystems are comprised of weather-resistant RF units equipped with integral high gain antennas designed for outdoor use, and a Control/Interface Unit containing power supply and baseband circuits. Distances of 250' (76m) between the Control/Interface Unit and RF heads are possible with no signal degradation. Units are completely aligned at the factory and do not require any adjustments once installed. Field proven, solid-state technology is employed featuring direct signal conversion Gunn Oscillators that have a long history of trouble-free performance in other M/A-COM products serving the communications industry.

The MA-23VFM is the logical choice for low cost microwave communications links for the following reasons:

- FM superheterodyne design is inherently superior to AM systems in an interference environment—less susceptible to atmospheric conditions (electrical storms), RFI, and EMI
- 7.5MHz bandwidth allows transmission of black and white or full color video
- The MA-23VFM system can be equipped with up to two internal subcarrier channels for audio, data, or telephone line replacement. Plug-in subcarriers are available to allow filed upgrading to maximum subcarrier capacity in minutes

Primary Uses

- Teleconferencing
- CATV
- Surveillance
- Telephone via FDM

FM Advantages

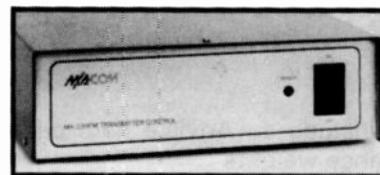
- Higher signal-to-noise ratio—Superior picture and audio and data quality
- Higher fade margin—Longer paths without repeaters
- Less susceptible to interference from electrical storms, RFI, and EMI

Options

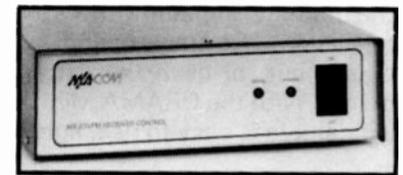
- 500kHz return for audio, data, or camera control
- 230VAC/625 line video operation



MA-23VFM, Pole Mount



Transmitter Remote Interface Unit



Receiver Remote Interface Unit

Specifications

General

Frequency Bands:	21.8 to 22.0GHz and 23.0 to 23.2GHz
Radio Capacity	
MA-23VFM:	8MHz bandwidth, 525/625 line video plus 2 audio subcarrier program channels
Modulation:	FM
Deviation:	± 4MHz
Antenna	
Size:	12" diameter
Gain:	33dBi typical
Beamwidth (3dB):	3.5°
Video	
Signal-to-Noise Ratio (with -35dBm RCL):	55dB min.
Subcarrier Bandwidth:	15kHz
Primary Power	
Source:	120VAC (50 to 60Hz); 230VAC optional
Power Consumption	
Transmitter:	50W
Receiver:	50W

RF units powered via interconnection cable by control/interface units.

Physical

Size (Transmitter or Receiver)	
RF Unit (including antenna):	16" dia. x 10.75" D
Control/Interface Unit:	3" H x 10.5" W x 8.25" D
Weight	
RF Unit:	9 lbs.
Control/Interface Unit:	4.5 lbs.

MA-23VFM (without audio) \$5500.00



If it's Audio, Video, Computerized, or anything that is valuable and must travel safely, Star Case has probably built a case for it during the past decade. Star Case offers 3 completely different lines of fiberglass cases (ATA Star/Super Star/Ultra Star) that conform to and exceed all ATA specifications, plus a lightweight (Carry Star) case line designed for surface transportation. Custom cases can be built to your requirements or you can use one of the 50,000 predesigned models from the Star Case library.



Carry Star Surface Travel Cases

- 1/8" plywood with tough shock resistant fiberglass
- Exterior surface-mount hardware
- Lightweight, yet rugged
- Perfect for local travel
- Choice of 4 colors

ATA Star Flight Cases

- 1/4" plywood with tough shock resistant fiberglass
- Recessed step-down hardware
- Exceeds Air Transport Association Spec 300 Category I and Military Spec 810 D
- Choice of 11 colors

Super Star and Ultra Star Premium Flight Cases

- 1/4" plywood (Super Star) with tough shock resistant fiberglass
- 1/2" plywood (Ultra Star) with tough shock resistant fiberglass
- Extra deep tongue and groove valance
- Recessed step-down hardware
- Exceeds Air Transport Association Spec 300 Category I and Military Spec 810 D
- Choice of 11 colors

Commander Series Video Tape Editors

Comm-ette — A/B Roll (C/T) Control Track Upgradable System complete with:

- Keyboard and electronics
- Three interfaces, serial or parallel
- List management
- 250 event EDL memory
- 2 channel programmable GPI
- 1 user key

Comm-ette (C/T) \$6,990.00

Comm-ette — A/B Roll (T/C) Time Code Upgradable System complete with:

- 3 time code readers
- Time code generator
- 2 channel programmable GPI
- 1 user key

Comm-ette (T/C) \$9,500.00

Optional: Automatic effects switcher control \$2,500.00

Mini-Comm

Configured similar to Comm-ette (T/C) but expandable to 6 ports with:

- 500 event EDL memory
- 2 channel programmable GPI
- 2 user keys
- Slow-motion memory

Mini-Comm. \$14,000

Commander II

Configured similar to Mini-Comm but expandable to 8 ports with:

- 500 event EDL memory
- 8 channel programmable GPI
- 2 user keys
- Slow-motion memory

Commander II \$16,885.00

Multi-Tasking Series Video Tape Editors

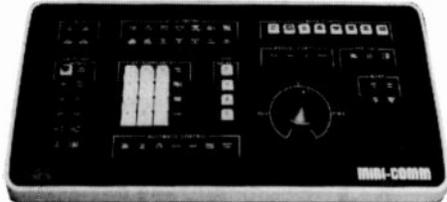
MT-30 A/B Roll (T/C) complete system includes:

- Keyboard and electronics
- 12" monochrome TTL monitor
- 3 1/2" D.D. 750KB disk drive
- Time code generator
- List management
- Alpha management
- Three interfaces, serial or parallel
- 3 time code readers
- Automatic effects switcher control RS422/232
- 1000 event EDL memory
- 3 user keys
- 2 channel programmable GPI
- Slow-motion memory
- Cables

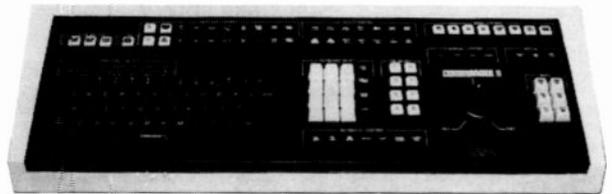
MT-30 \$13,850.00



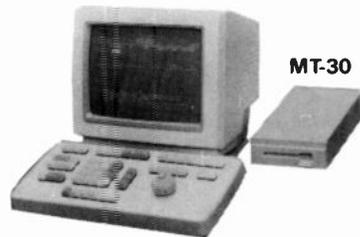
Comm-ette



Mini-Comm



Commander II



MT-30



MT-60



MT-90

MT-60 Configured as MT-30, expandable to 6 ports with:

- 2000 event EDL memory
- 6 user keys
- 2 channel programmable GPI
- Slow-motion memory

MT-60 \$16,350.00

MT-90 Configured as MT-30 expandable to 9 ports with:

- Integrated alpha keyboard
- 3000 event EDL memory
- 9 user keys
- 8 channel programmable GPI
- Slow-motion memory

MT-90 \$18,650.00



SECURITY ACCESSORIES



PAN AND TILT UNITS

Pan and Tilt units are devices for remote positioning of cameras in both the horizontal and vertical planes. Vicon offers a complete line of pan and tilt units for light, medium, heavy-duty and extra-heavy-duty applications, in both indoor and outdoor models. Units are available in either fixed or variable speed versions.



OMNISCAN

Omniscan units are discreet enclosures for camera/lens combinations offered in spherical, and hemispherical designs. They house pan and tilt, scanning, and fixed camera systems. For indoor applications, they are intended to assure a pleasing appearance and minimum camera visibility.

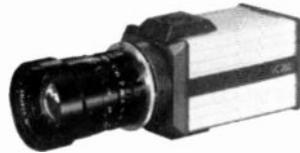


SCANNERS

Scanners rotate in the horizontal plane only. Camera tilt position is manually adjustable. Offered in light and medium duty indoor versions and heavy-duty outdoor versions, these units provide an oscillating sweep surveillance of a selected area.

SWITCHERS (MANUAL AND AUTO)

Manual and automatic video switchers are available with various options. Automatic sequential switchers can be preprogrammed with operator-specified camera sequencing patterns. Dwell time is adjustable, and a dual output feature allows the operator to select one camera position for steady viewing while the other camera positions continue sequencing on another monitor. Both manual and automatic video switchers are offered in desk-top System 10 or System 14, in System 19 and 29 plug-in modules, and in PHASE EIGHT modules.

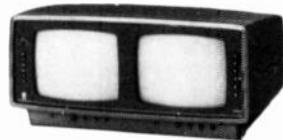


VIDEO CAMERAS

Vicon has a full line of General-Purpose and High-Performance black-and-white and color cameras in both 2/3-inch and 1-inch formats. The General-Purpose line encompasses numerous state-of-the-art features. At the other end of the spectrum, the VC250 High-Performance 2/3-inch cameras are designed for use when operational demands are severe. Three pickup tube options, Vidicon, Newvicon*, and Ultricon*, offer a broad range of sensitivities.

Vicon also offers black-and-white and color solid-state cameras. These ultra-compact cameras have an imaging device that is practically immune to damage, giving these cameras a long life expectancy and making them highly durable.

Lenses are available that coordinate with the Vicon camera line. When combined, they form fully integrated packages where the camera and lens appear as a single attractively styled unit.



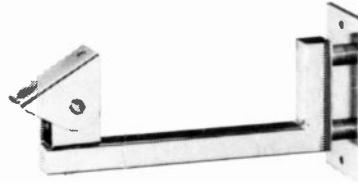
MONITORS

General-Purpose and High-Performance black-and-white and color monitors are available to complement Vicon's systems. Available in a wide range of sizes, these monitors offer excellent picture quality. System 19 and System 29 Intelligent Monitors are distinctively designed to accommodate plug-in control options, making them the most versatile monitors on the market today. Four-inch monitors are available within System 14 desk-top configuration. The VM600 color monitors feature an in-line gun, black matrix picture tube producing exceptional, true-to-life color. The monitors are virtually maintenance free.



HOUSINGS

Vicon offers a wide range of both indoor and outdoor housings, including theftproof, tamperproof, concealed, maximum security, explosionproof, dustproof, watercooled, and pressurized models in a variety of sizes for every application. Optional accessories include heaters, blowers, wipers, washers, defoggers, sunshields, and a variety of other special order items.



MOUNTINGS

Vicon mounting accessories are available in adjustable and fixed support for cameras, indoor and outdoor housings, scanners, pan and tilt units, and video monitors. Horizontal and vertical mounting is possible on most Vicon units. The models come in industrial and decorator series, forming a comprehensive line that satisfies every mounting requirement.

RECORDING DEVICES

Vicon's Time-Lapse Video Cassette Recorder, model number VCR300, has five time-lapse recording modes and various playback options such as freeze-frame/frame-by-frame viewing and slow-motion playback. The VCR-300 is fully compatible with all of Vicon's monitor systems. Remote VCR controls and other controls are offered in PHASE EIGHT modules and Systems 19 and 29 Intelligent Monitors to provide total integration.



CONTROLS (SINGLE & MULTIPLE)

Controls are available for remote positioning devices, motorized lenses, and enclosures. The controls are either multiple station or single station for operating remote units. All controls are designed to combine with other controls in a complete, integrated system. Vicon's single and multiple controls are offered in System 10 and System 14, as well as in PHASE EIGHT modules, which can be installed in a standard 19-inch rack or in desk-top units.



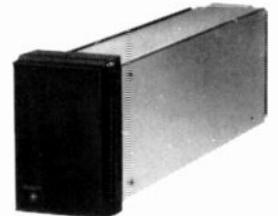
CONTROLS (DIGITAL)

Vicon's digital control systems include long-distance Modupulse and shorter distance Vicoax coaxial-cable control systems. Use of either twisted-pair cable or coaxial cable for transmission of video signals allows significant reduction in standard hardwire cabling costs. Both the Vicoax and the Modupulse control systems come in System 10, System 14, and PHASE EIGHT configurations.



CONTROLS (MICROPROCESSOR BASED)

Vicon's VPS systems are microprocessor-based programmable controls that function via digital transmission over a dual-shielded twisted-pair cable. Full-duplex transmission and continuous receiver polling ensures reliable and flexible control of large CCTV systems over extended distances. The VPS1200 is designed for use with larger CCTV installations, while the VPS324 is ideal for medium-size systems.



VIDEO SIGNAL EQUIP.

Video signal equipment encompasses a wide range of video-related products. This specialized equipment category includes video and distribution amplifiers, motion detectors, time/date generators, screen splitters, ground loop correctors, and camera identifiers. These products are all available in PHASE EIGHT modules with a select few available as Systems 19 and 29 plug-in modules.



FIXED-FOCAL-LENGTH AND ZOOM LENSES

Vicon offers a large variety of telephoto and wide-angle fixed-focal-length lenses and a wide variety of zoom lenses with varying focal lengths and lens speeds. With various features such as autoiris and resistance to radiation, Vicon has a lens for every application. Vicon lenses are compatible with all CCTV cameras. Zoom lenses for both 2/3-inch and 1-inch format cameras are offered in manual, motorized, motorized with Intraspot[®], autoiris, and in various other configurations. Vicon also features bayonet mount lenses in addition to C-mount lenses for use with the VC250 series of High-Performance cameras. These lenses are connected to the matching camera with a single twist, making all electrical connections for the motorized lens functions, eliminating unsightly cables between the two units.

*Registered trademark of Matsushita Electronics Corp.
*Trademark of RCA.

WORLD TELEVISION STANDARDS

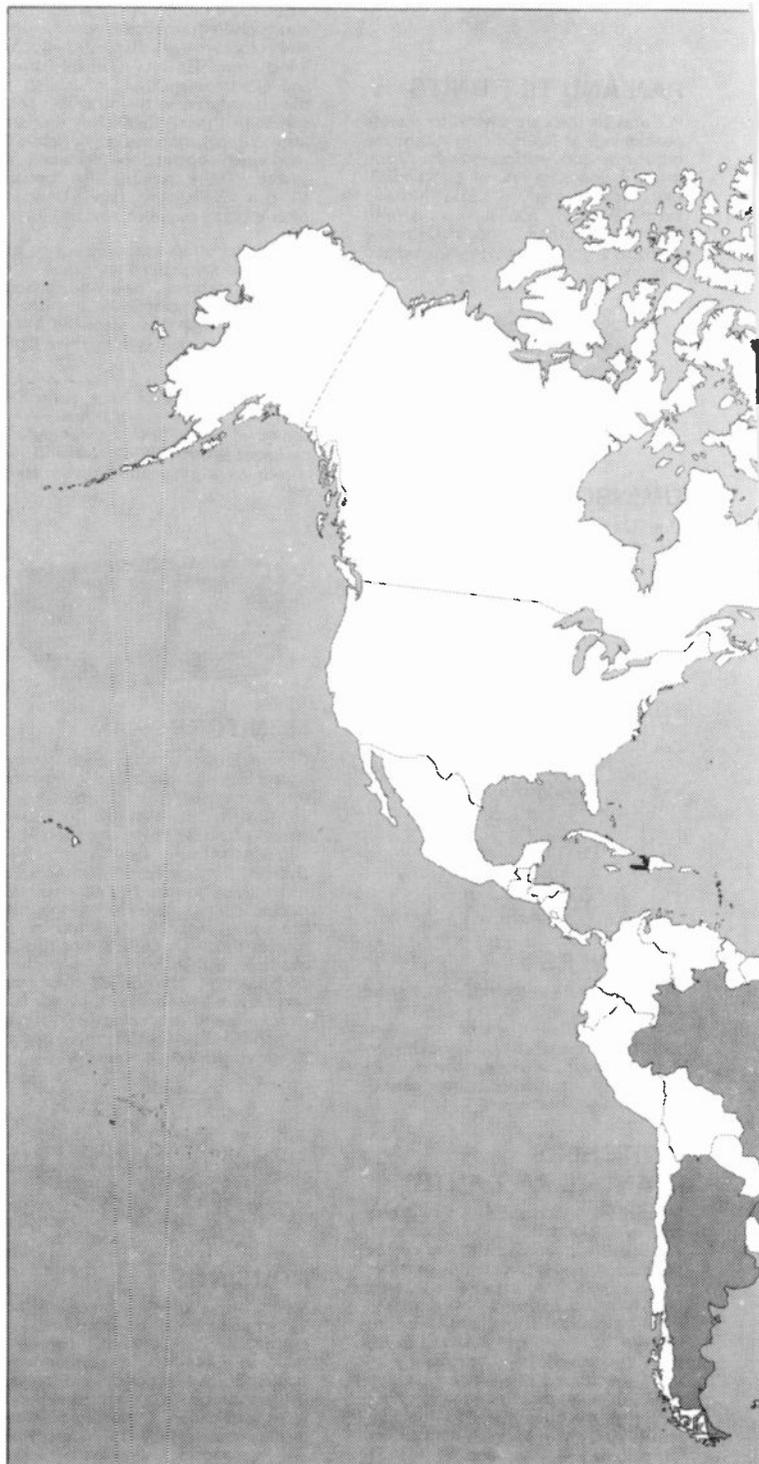
PAL

Afghanistan
 Algeria
 Andorra
 Argentina
 Australia
 Austria
 Bahrein
 Bangladesh
 Barbados
 Belgium
 Bermuda islands
 Brazil
 Brunei
 Canary islands
 China
 Denmark
 Ethiopia
 Finland
 Great Britain
 Hong Kong
 Iceland
 Ireland
 Indonesia
 Italy
 Jordan
 Kenya
 Kuwait
 Liberia
 Malaysia
 Netherlands
 Nigeria
 New Zealand
 Norway
 Oman
 Pakistan
 Qatar
 Sierra Leone
 Singapore
 Spain
 South Africa
 South-West Africa
 Sweden
 Sudan
 Tanzania
 Thailand
 Turkey
 Uganda
 United Arab Emirates
 West Germany
 Yugoslavia
 Zambia

SECAM

Albania
 Bulgaria
 Congo
 Czechoslovakia
 East Germany
 Egypt
 France
 French Guiana
 Gabon

Greece
 Guadeloupe
 Haiti
 Hungary
 Iraq
 Ivory Coast
 Lebanon
 Libya
 Luxembourg
 Morocco
 Martinique



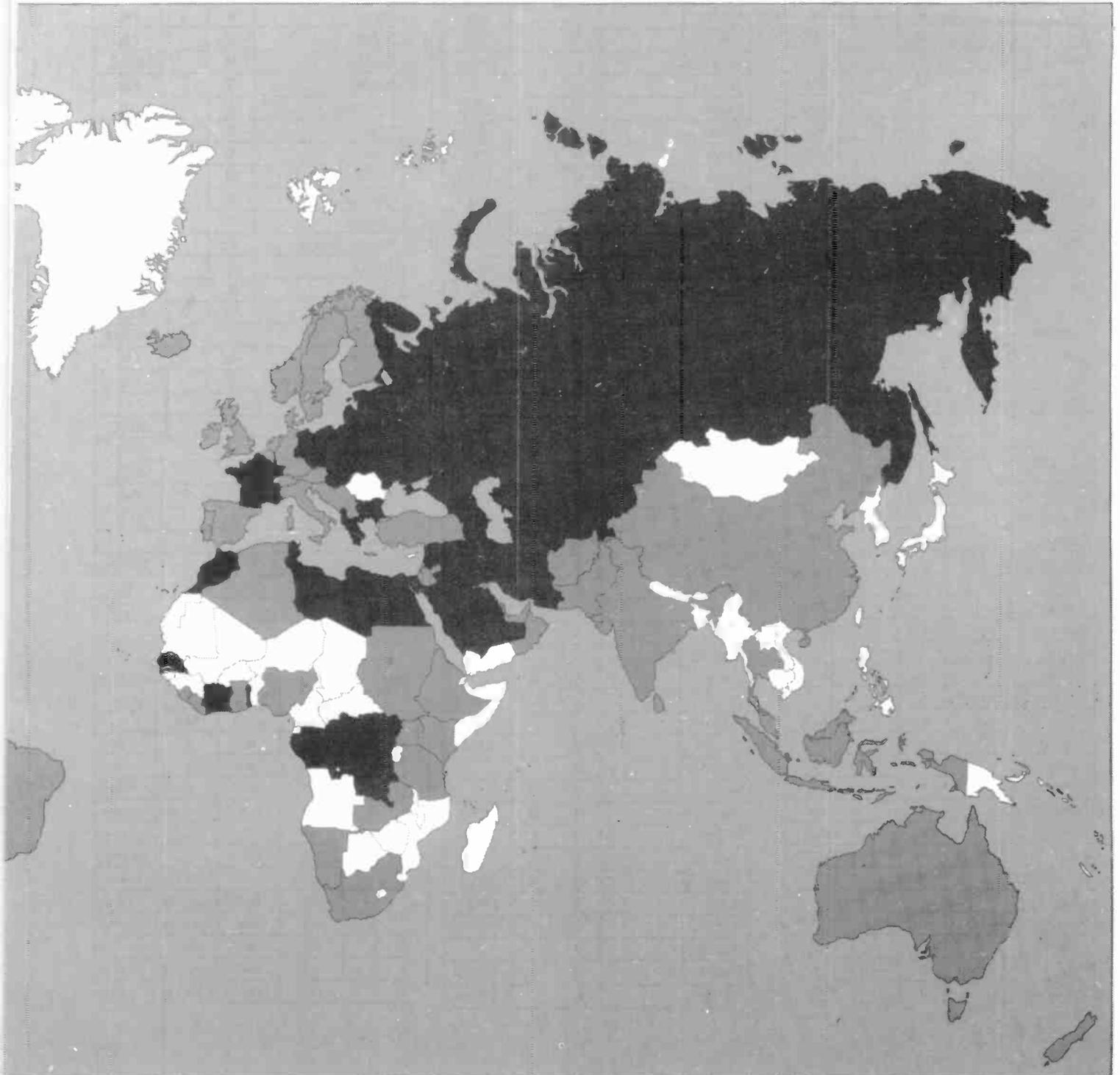
Mauritius
Monaco
New Caledonia
Poland
Réunion
Saudi Arabia
Senegal
Sri-Lanka
Tunisia
U.S.S.R.
Zaire

NTSC

Alaska
Burma
Canada
Chile
Costa Rica
Colombia
Cuba
Curaçao
Dominican Republic

Ecuador
El Salvador
Greenland
Guam
Guatemala
Hawaii
Japan
Mexico
Nicaragua
Panama
Peru
Phillippines

Puerto Rico
South Korea
Surinam
Taiwan
U.S.A.



WORLDWIDE TELEVISION BROADCASTING SYSTEMS

Country	Broadcasting Standard		Color System
	VHF	UHF	
Algeria	B		PAL
Argentina	B		PAL
Australia	N		PAL
Austria	B	G	PAL
Barbados	M		NTSC
Belgium	C	H	PAL
Bermuda	M		NTSC
Bolivia	N		NTSC
Brazil	M	M	PAL
Bulgaria	D		SECAM
Cambodia	M		
Canada	M	M	NTSC
Canary Islands	B		PAL
Chile	M		NTSC
China	D		PAL
Colombia	M		NTSC
Congo	D		SECAM
Costa Rica	M		NTSC
Cuba	M		NTSC
Cyprus	B	G	
Czechoslovakia	D	K	SECAM
Denmark	B	G	PAL
Dominican Rep.	M	M	NTSC
East Germany	B	G	SECAM
Ecuador	M		NTSC
El Salvador	M		NTSC
England	A	I	PAL
Ethiopia	B		
Finland	B	G	PAL
France	E	L	SECAM
Gabon	K		SECAM
Gambia	I		
Ghana	B		PAL
Gibraltar	B		
Greece	B		SECAM
Greenland	M		NTSC
Guadeloupe	K ₁		SECAM
Guam	M		NTSC
Guatemala	M		NTSC
Guyana	M		NTSC
Haiti	M		SECAM
Honduras	M		
Hong Kong		I	PAL
Hungary	D	K	SECAM
Iceland	B		PAL
India	B		
Indonesia	B		PAL

Country	Broadcasting Standard		Color System
	VHF	UHF	
Iran	B		SECAM
Iraq	B		SECAM
Ireland	I		PAL
Israel	B	G	PAL
Italy	B	G	PAL
Ivory Coast	K ₁		SECAM
Jamaica	M		
Japan	M	M	NTSC
Jordan	B		PAL
Kenya	B		PAL
Korea	M	M	NTSC
Kuwait	B		PAL
Lebanon	B		SECAM
Liberia	B		PAL
Libya	B		SECAM
Luxembourg	C	L	SECAM
Malagasy Rep.	K ₁		
Malawi	B		
Malaysia	B		PAL
Malta	B		
Mexico	M		NTSC
Micronesia	M		NTSC
Monaco	E	L	SECAM
Mongolia	D		
Morocco	D		SECAM
Netherlands	B	G	PAL
New Caledonia	K ₁		SECAM
New Zealand	B		PAL
Nicaragua	M		NTSC
Niger	K		SECAM
Nigeria	B		PAL
North Korea	D		
Norway	B	G	PAL
Oman	B		PAL
Pakistan	B		PAL
Panama	M		NTSC
Paraguay	M		
Peru	M		
Philippines	M	M	NTSC
Poland	D	K	SECAM
Portugal	B	G	PAL
Puerto Rico	M	M	NTSC
Qatar	B		PAL
Romania	D		
Rwanda	D		
Saudi Arabia	B		SECAM
Senegal	K ₁		SECAM

Country	Broadcasting Standard		Color System
	VHF	UHF	
Sierra Leone	B		PAL
Singapore	B		PAL
South Africa	I	I	PAL
Spain	B	G	PAL
Sudan	B		PAL
Surinam	M		NTSC
Sweden	B	G	PAL
Switzerland	B	G	PAL
Syria	B		SECAM
Tahiti	K ₁		SECAM
Taiwan	M		NTSC
Tanzania	B		PAL
Thailand	B		PAL
Trinidad/ Tobago	M		NTSC
Tunisia	B		SECAM
Turkey	B		PAL
U.S.A.	M	M	NTSC
U.S.S.R.	D	K	SECAM
Uganda	B		PAL
United Arab Emirates	B		PAL
Upper Volta	D		
Uruguay	N		NTSC
Venezuela	M		NTSC
Virgin Islands	M		NTSC
West Germany	B	G	PAL
Western Samoa	M		NTSC
Yemen	B		
Yugoslavia	C	L	SECAM
Zambia	B		PAL
Zaire	D		SECAM
Zimbabwe	B		

Key to Broadcasting Standards

Broad-casting System	No. of Lines	Channel Band-width	Sound Modulation	F ₃ -F _p
A	405	5MHz	A ₃	- 3 5MHz
B	625	7MHz	F ₃ kHz = 50	+ 5 5MHz
C	625	7MHz	A ₃	- 5 5MHz
D	625	8MHz	F ₃ kHz = 50	+ 6 5MHz
E	819	14MHz	A ₃	+ 11 15MHz
F	819	7MHz	A ₃	- 5 5MHz
G H	625	9MHz	F ₃ kHz = 50	5 5MHz
I	625	8MHz	F ₃ kHz = 50	+ 5MHz
K ₁	625	8MHz	F ₃ kHz = 50	+ 6 5MHz
L	625	8MHz	A ₃	+ 6 5MHz
M	525	6MHz	F ₃ kHz = 25	+ 4 5MHz
N	625	6MHz	F ₃ kHz = 25	+ 4 5MHz

WORLDWIDE ELECTRICAL STANDARDS

The following is a guide to foreign electrical currents and voltages. In general, all references to 110V apply to the range from 100V to 160V; 200V to the range from 220V to 260V; and 110/220V indicates the voltage may vary in the country depending on location.

Country	Current Hz/AC	Voltage Volts	Country	Current Hz/AC	Voltage Volts
Algeria	50	110/220	Jordan	50	220
Angola	50	220	Kenya	50	220
Argentina†	50	220	Korea	60	110/220
Australia†	50	220	Kuwait	50	220
Austria	50	220	Lebanon	50	110/220
Bahamas	60	110/220	Liberia	60	110/220
Bahrain	50	220	Libya	50	110/220
Bangladesh	50	220	Liechtenstein	50	220
Belgium	50	110/220	Luxembourg	50	110/220
Bermuda	60	110/220	Malaysia	50	220
Bolivia	50	110/220	Malta	50	220
Brazil	60	110/220	Mexico	60	110/220
Bulgaria	50	110/220	Manaco	50	110/220
Burma	50	220	Morocco	50/60	110/220
Cambodia	50	110/220	Mozambique	50	220
Cameroon	50	110/220	Nepal	50	220
Canada	60	110/220	Netherlands	50	220
Central African Republic	50	220	New Zealand	50	220
Chile†	50	220	Nicaragua	60	110/220
China	50/60	110/220	Niger	50	220
Colombia	60	110	Nigeria*	50	220
Costa Rica	60	110/220	Norway	50	220
Curacao	50	110/220	Pakistan	50	220
Cyprus*	50	220	Panama	60	110
Czechoslovakia	50	110/220	Paraguay†	50	220
Denmark	50	220	Peru	60	220
Dominican Republic	60	110/220	Philippines	50/60	110/220
Ecuador	60	110/220	Poland	50	220
Egypt	50	110/220	Portugal	50	110/220
El Salvador	60	110	Puerto Rico	60	110/220
Finland	50	220	Rhodesia*	50	220
France	50	110/220	Rumania	50	220
Gabon	50	220	Saudi Arabia	60	110/220
Gambia	50	220	Senegal	50	110/220
Germany†	50	220	Singapore*	50	110/220
Ghana	50	220	South Africa	50	220
Great Britain*	50	220	Spain	50	110/220
Greece	50	110/220	Sri Lanka	50	220
Greenland	50	220	Sudan	50	220
Guatemala	60	110/220	Swedent	50	220
Guinea	50	220	Switzerland	50	110/220
Haiti	60	110/220	Syria	50	110/220
Hawaii	60	120	Tahiti	60	110/220
Honduras	60	110/220	Taiwar	60	110
Hong Kong*	50	220	Trinidad	60	110/220
Hungary	50	220	Tunisia	50	110/220
Iceland	50	220	Turkey	50	110/220
India†	50	220	Uruguay	50	220
Indonesia	50	110/220	U.S.A.	60	110
Iraq	50	220	U.S.S.R.	50	110/220
Ireland	50	220	Venezuela	60	110/220
Israel	50	220	Yugoslavia	50	220
Italy	50	110/220	Zaire	50	220
Jamaica	50	110/220	Zambia	50	220
Japan	50/60	100/200			

NOTES: *Denotes countries in which plugs with 3 square pins are used (in whole or part)
 †Countries using DC current in certain areas

LAMP SUBSTITUTION CHART

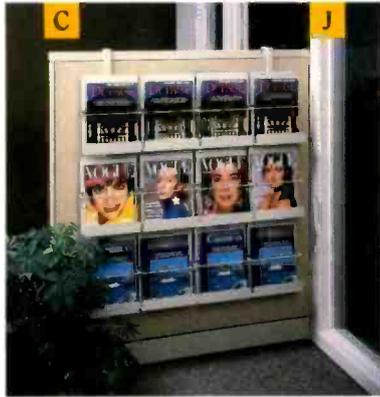
If you need to replace this lamp	This lamp may be substituted	If you need to replace this lamp	This lamp may be substituted	If you need to replace this lamp	This lamp may be substituted	If you need to replace this lamp	This lamp may be substituted	If you need to replace this lamp	This lamp may be substituted
BAH	BBA	CDD	CBJ	CWD	CAL	DFD	CAR	DRW	DPT
BAK	BRS	CDJ	CEB	CWW	CVS	DFG	DFA	DSB	DPW
BCK	CZA	CDK	CBX	CXF	CTL	DFK	DFY	DTC	DRW
BEH	CAR	CDS	CBJ	CXK	CXY	DFN	DCH	DTJ	DSB
BEJ	BEC	CDX	CDS	CXP	CAL/CWD	DFP	DCH	DYV	DYS
BFK	BFL/DGH	CEA	CEB/CDK	CXY	CXK	DFT	DFD	DVY	DYH
BFL	DGH	CEB	CBX	CYC	CTM	DFW	DEK/DAH	DWA	FGS/DXK
BHC	DYS	CEG	CCK	CYK	CRT	DFY	DFK/DEJ	DWW	FAL
BHF	BHD	CEL	CBX	CYS	CTT/CWA	DFZ	DLD	DWY	FAD
BKC	BKG	CEM	CBJ	CZA	CAL	DGB	DFE	DXN	DXW
BKF	BLC	CET	CHG	CZB	CZA	DGF	DGA	DZL	DYT
BKG	BKC	CEW	CDS	CZF	CZX	DGH	DDY	EDB	DMX
BLK	BKR	CFC	CEW	CZX	CXY	DGL	DGS	EGH	DYY
BLR	BKV	CFK	CGP	DAB	CZX/CXY	DGR	DEP/DAY	EJL	EJA
BLX	BLC	CGF	CGP	DAH	EGX	DHF	DAH	EJN	ELD
BMD	BMV	CGT	CGW	DAK	DAT/DAY	DHN	DEK	EJS	EJM
BMG	BLX	CGW	CEW	DAT	CWD	DHS	DGS	EJV	EKE
BMH	BMG	CHD	CCM	DAX	CTT/CWA	DHT	DFD/DFT	EKD	DYS
BMV	BLR/BMD	CHG	CFY	DAY	CWD	DHX	DLS	EKE	EJV
BNF	BLX	CHK	CGE	DBH	CYS	DJA	DCH	EKG	ENW
BRH	DXW/DXN	CHS	CHW	DBM	CTT	DJL	DFG	EKS	EMM
BRS	BAK	CJD	CHW	DBR	CTL	DKM	DLR	ELB	ENZ
BSA	BAK	CJJ	CHY	DCA	DEF	DKR	DLS	ELC	EJL
BSB	BSS	CJT	CJW	DCC	CZX	DLE	DLD	ELH	ENG/ENH
BTL	CZX	CJX	CHY	DCH	DCL	DLG	DLS	ELR	ELS
BTM	BTL	CLG	CLS	DCX	CZS	DLH	DJL	ELT	ELE
BVS	BVK	CLS	CGW/CMV	DDB	CZX	DLN	DEK	ENA	EKP
BZW	CAS	CLX	CCM	DDW	DDB/CZX	DLR	DKM	ENB	EJV/EKE
CAC	CAJ/CAX	CMA	CHG	DDY	DGH	DLS	DKR	ENC	ENW
CAE	CDD	CMB	CLX	DEC	DAS	DMD	DGB	ENG	ELH/ENH
CAJ	CAC	CMK	CHG	DEJ	DAG	DMK	DML	ENH	ELH/ENG
CAL	CWD/CRT	CMS	CNC	DEK	CBA/DAH	DNR	DMX	ENW	EKG
CAR	BEH/DFD	CMT	CMV	DEL	DCY/EGX	DPB	DMS	FAB	DWY
CAS	BZW	CMV	CLS	DEP	DEK	DPJ	DMX	FBD	FBG
CAV	CAS	CNC	CLX	DER	DAK/DAY	DPT	DRW	FCS	FDV
CAX	CAC	CRA	DGA	DER	DAH/DEK	DPW	DSB	FDS	DZE
CBC	CBJ	CRT	CAL	DFA	DFG	DRB	DRC	FDV	FCS
CBJ	CAS	CRX	CRL	DFC	DFN	DRC	DRB		
CBS	CBX	CVX	CVS	DFD	DFT	DRG	DMS		
CCM	CGP	CWA	CZA	DFE	DGB	DRS	DPJ		

NO SUBSTITUTE LAMP IS AVAILABLE FOR THE FOLLOWING:

BAL	BHA	BRS	BXB	CFA	CRL	CYE	DCF	DET	DJT	DNF	DYT	EJV	EML	FCB
BBA	BHB	BRX	BXE	CFY	CRS	CYF	DCL	DEX	DKF	DNK	DYY	EJY	EMM	FCR
BCA	BHD	BSK	BXJ	CGD	CST	CYG	DCN	DFH	DKK	DRL	DZA	EJZ	ENL	FCS
BCS	BHG	BSS	BXT	CGE	CTB	CYN	DCS	DFJ	DKM	DSR	DZB	EKB	ENX	FDT
BDW	BJC	BSW	BYD	CGP	CTL	CYR	DCW	DFN	DKY	DSW	DZE	EKC	ENZ	FEA
BEB	BJJ	BTB	BYJ	CHY	CTM	CZC	DCY	DFR	DLC	DTS	EAL	EKD	EPG	FEB
BEC	BJS	BTB	BYM	CHW	CTR	CZG	DDJ	DGA	DLD	DTW	EBR	EKL	EPN	FFJ
BEP	BJW	BTT	BYR	CJW	CTW	CZJ	DDK	DGB	DLT	DWB	EBW	EKN	EPT	FGA
BES	BKG	BVA	BYT	CNJ	CVJ	CZS	DDL	DGE	DLY	DWF	ECT	EKP	EPV	MARC-300/35K
BEV	BKR	BVB	BZG	CNP	CVS	DAC	DDM	DGJ	DMB	DWZ	EDK	EKZ	EPX	MARC-300/16
BEY	BKV	BVE	CAD	CNS	CWG	DAF	DDN	DGS	DMG	DXC	EFM	ELA	EPZ	MARC-300/16A
BFA	BLC	BVK	CAG	CNX	CWR	DAN	DDP	DGX	DMH	DXL	EFN	ELD	ERV	MARC-350/161
BFB	BMA	BVL	CBA	CPB	CWY	DAR	DDS	DHB	DMJ	DYA	EFP	ELE	ESC	
BFR	BNB	BVR	CBX	CPF	CXD	DAS	DEA	DHH	DML	DYF	EFR	ELJ	ESD	
BFT	BNK	BWC	CCB	CPG	CXG	DBK	DED	DHJ	DMS	DYH	EGX	ELS	ETS	
BFX	BNS	BWJ	CCK	CPR	CXH	DBR	DEF	DHW	DMX	DYP	EHA	EMC	ETT	
BGB	BRD	BWR	CDK	CPW	CYA	DBT	DEJ	DJD	DNC	DYR	EJA	EMG	FAL	
BGK	BRK	BWY	CER	CRC	CYB	DCE	DES	DJR	DNE	DYS	EJM	EMH	FBG	



LITERATURE/MAGAZINE RACKS



C This unique Panel Adapter Kit attaches easily to the vertical uprights of the LRW23, LRW33 or LRW34, allowing you to hang them on any panel. Adjusts the height of the rack from 18 1/2" up to 24" from the top of the panel, in 4" increments. Hanger hooks adjust from 1 1/2" out to 2 1/4" wide for your panel's width.

Individual pockets with built-in wire retainers keep literature separated, neater, and easier to pick.

Unique design with no overlap lets you easily retrieve and replace literature without covering up other copies.



All models ship cost-effective UPS, disassembled.

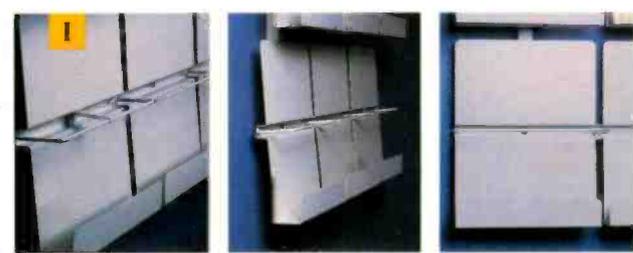
Literature is easily identified since the top 85% of the cover is in full view.

Both floor stand and wall mounted models make maximum use of limited space.

Optional divider clip keeps pamphlets and brochures organized.

6 degree pocket tilt allows literature to stand without curling or tipping & 2" deep pockets hold multiple copies.

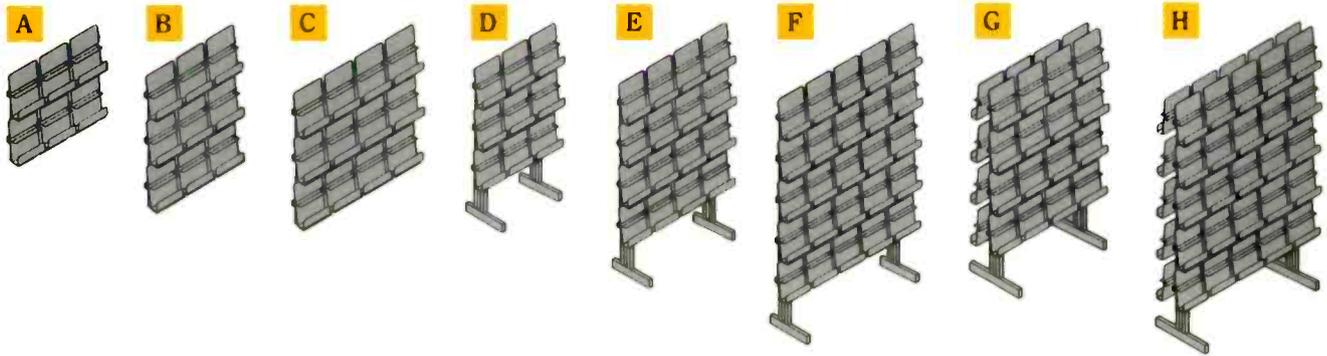
Handsome open pocket design even looks good without literature and makes cleaning a snap.



New Individual Pocket Design Organizes Your Literature And Magazines!

Provide organized storage and display for your magazines, catalogs, brochures and other literature. Choose from 8 different models—from 6 to 50 separate pockets. The optional Divider Clips snap right into the pocket, creating smaller sections for brochures & flyers. An optional panel adapter kit permits hanging literature racks on office divider panels. The caster option makes any floor stand a mobile display center. All steel construction for strength and durability, with Ivory or Midnite Gray finish. Specify color when ordering. Ships UPS, disassembled.

A	LRW23	wallmounted	6 Pockets	22 lbs.	29"W x 24 1/2"H x 4 1/2"D	\$122.00
B	LRW33	wallmounted	9 Pockets	30 lbs.	29"W x 37 1/2"H x 4 1/2"D	\$153.00
C	LRW34	wallmounted	12 Pockets	40 lbs.	38 1/2"W x 37 1/2"H x 4 1/2"D	\$181.00
D	LRF33	single side floor stand	9 Pockets	30 lbs.	29"W x 49 1/2"H x 13"D	\$184.00
E	LRF44	single side floor stand	16 Pockets	62 lbs.	38 1/2"W x 57"H x 13"D	\$257.00
F	LRF55	single side floor stand	25 Pockets	89 lbs.	48 1/2"W x 69 1/2"H x 13"D	\$355.00
G	LRD32	double side floor stand	32 Pockets	98 lbs.	38 1/2"W x 57"H x 17"D	\$441.00
H	LRD50	double side floor stand	50 Pockets	153 lbs.	48 1/2"W x 69 1/2"H x 17"D	\$623.00
I	LR Clip	Divider Clip (pkg. of 6)	1/2"W x 1/2"H x 2 1/2"D			\$ 9.00
J	LRPA	Brackets to hang rack on office divider panels (set of two)				\$ 49.00
	WSCP	Caster conversion kit, 2" ball casters (set of four)	2 1/2 lbs			\$ 17.50



All prices F.O.B. Schiller Park, IL. Prices are subject to change without notice.



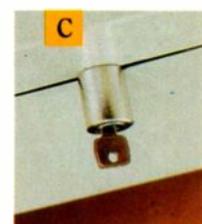
A



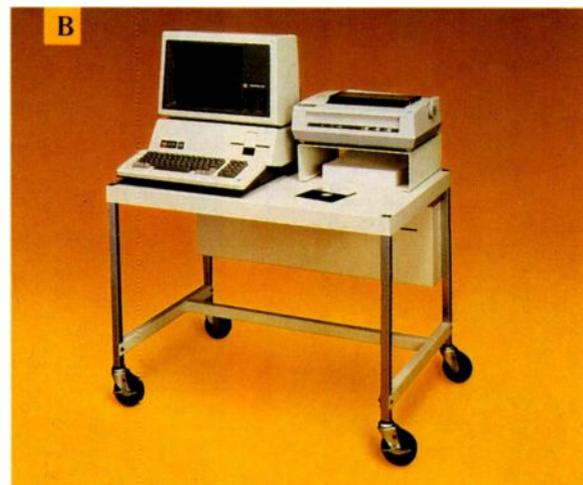
The cord organizer/modesty panel provides safe, organized storage and accessibility for equipment cord sets. An integral part of the EC5, EC7, EC10, EC15, and EC20.



The adjustable shelf and work surface allow comfortable use of the EC10 and EC15 by both children and adults. Slotted top shelf accommodates Lock EC10 to fasten equipment.



C



B

Surge-protected electrical assembly is mounted underneath the work surface of the EC15 and EC7. On-off switch controls four grounded outlets. 10-amp circuit breaker provides protection from overload. 20-foot extension cord.



Just What You've Been Looking For—the Right Tables for Your Microcomputer Applications!

Bretford offers you the most extensive line of microcomputer furniture with unique features for your particular application. Whether you're computing in the classroom, the office, or anywhere in between, Bretford has the table you've been looking for. All feature solid steel construction, die-pressed shelves, durable 4" casters (2 with locking brakes) and Putty Beige baked enamel finish.

A. EC10 Adjustable Microcomputer Table features an adjustable top shelf and work surface for users of all shapes and sizes. Top shelf is slotted for locking equipment in place, can be lowered from 38" height for user eye comfort. Work surface's standard typing height of 27" can be lowered to 23". Roomy 6 sq. ft. of working area allows you to place keyboard and computer on the work surface, and still have room for your work. Chrome legs resist scratching. Ships UPS disassembled. Dimensions: work surface 36"W x 24"D, work surface to floor 27" max., top shelf to floor 38" max., top shelf 36"W x 12"D.

EC15 Surge-Protected Adjustable Microcomputer Table has a four outlet electrical assembly to connect computer components. All four grounded outlets have interference suppression and are surge protected to withstand sudden power "surges". A single on/off switch controls the electrical assembly, protected by a 10 amp circuit breaker. Identical features, design and dimensions as the EC10. Ships UPS, disassembled.

B. EC5 Adjustable Microcomputer Table (shown with optional mini printer stand) is perfect for microcomputers with built-in monitors. It offers the same roomy work surface, adjustability and design features as the EC10. Ships UPS disassembled. Dimensions: work surface—36"W x 24"D, work surface to floor—27" max.

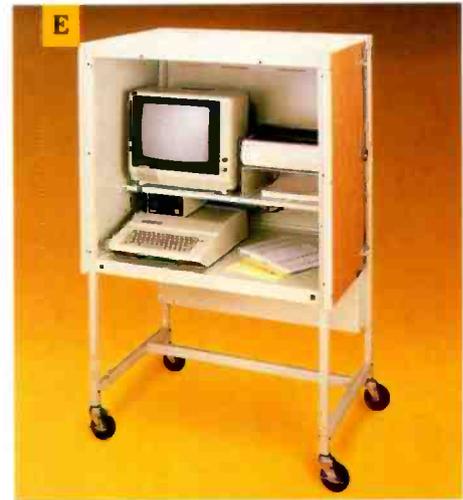
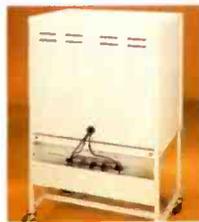
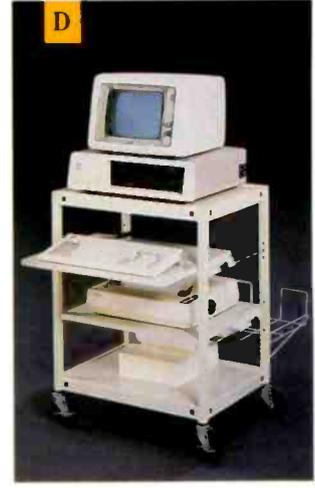
EC7 Surge-Protected Adjustable Microcomputer Table offers the same design, features and dimensions as the EC5 plus a four outlet electrical assembly with surge protection (as on the EC15). Ships UPS disassembled.

WSPS1 Mini Printer Stand (as shown on the EC5 and EC20) raises printers with 9½" paper capacities above the work surface. Slotted to accept bottom feed printers. Ships UPS, assembled. Dimensions: 14½"W x 4½"H x 13"D.

WSPS2 Mini Printer Stand (not shown) raises printers with 15" paper capacities above the work surface. Same features as WSPS1. Dimensions: 21"W x 4½"H x 13"D.

C. Lock EC10 for EC10 and EC15 secures equipment to the top shelf by utilizing the appropriate shelf slots. Ships UPS.

A	EC10	36"W x 38"H x 24"D	67 lbs.	\$271.00
	EC15	surge-protected	69½ lbs.	\$304.00
B	EC5	36"W x 27"H x 24"D	59 lbs.	\$240.00
	EC7	surge-protected	59½ lbs.	\$273.00
C	Lock EC10	for EC10 & EC15	½ lb.	\$ 27.00
	WSPS1	Mini Printer Stand	7½ lbs.	\$ 23.00
	WSPS2	Mini Printer Stand	11 lbs.	\$ 32.50



Rear view of EC20 with cord organizer, electrical assembly, and vented back panel

Mar-resistant oak laminate cabinet doors close and lock to keep entire system secure

Contact clips hold opened doors against cabinet

ECL Optional Interior Light attaches inside the cabinet to illuminate work area. Features separate on/off switch and replaceable fluorescent bulb. Ships UPS.

Microcomputer Furniture As Unique As Your Requirements

A. EC1 Microcomputer Stand An economical standard with 27" typing height. Solid steel construction finished in Putty Beige. 1" tubular legs held solidly in place by the work surface and welded U-shaped frame. 4" casters (2 with locking brakes). Ships UPS, disassembled. Dimensions: 24"W x 27"H x 18"D.

B. EC3 Bilevel Microcomputer Stand offers a top shelf for eyelevel monitor viewing. Top shelf is supported by a welded T-frame that won't interfere with work surface accessibility. Oversized H-frame base support combine with curved rear legs for greater stability and support. Four 5" slots on the top shelf permit secure mounting of valuable equipment. 4" casters (2 with locking brakes). Ships UPS, disassembled. Dimensions: overall 24"W x 38"H x 22"D, work surface 24"W x 18"D, top shelf 24 3/8"W x 12"D, floor surface to top shelf 10 1/4", work surface to floor 27", top shelf to floor 38".

C. EC2 Bilevel Microcomputer Stand features a pull-out keyboard shelf that adjusts to three typing heights. Sliding shelf gives your legs the proper clearance and puts your keyboard within easy reach. Keyboard is protected when not in use. Shelf slides easily on adjustable chrome-plated steel rods, and is kept in position with locking knobs. Putty Beige finish. 4" casters (2 with locking brakes). Ships UPS, disassembled. Dimensions: overall 24"W x 33"H x 18"D, keyboard drawer to floor 25", 26", 27", top shelf to floor 33".

D. EC4 "All-In-One" Computer Center offers a sliding keyboard shelf with proper leg clearance and a sliding printer shelf. Monitor rests safely on top shelf and the bottom shelf holds computer paper. Printer shelf has slot to allow for bottom feed printers. Keyboard protected when not in use or when transported. Putty Beige finish. 4" casters (2 with locking brakes). Ships UPS, disassembled. Dimensions: overall 24"W x 33"H x 18"D, keyboard shelf to floor 25", 26", 27", printer shelf to floor 14", 16", 18", bottom shelf to floor 6", top shelf to floor 33".

EC4PCB Optional Paper Basket for EC4 "All-In-One" Computer Center. Ships UPS. Dimensions: 24"W x 7"H x 13"D.

E. EC20 Security Center lets you use and store your valuable equipment in the same lockable cabinet. Provides valuable work and storage space with an adjustable interior shelf and a roomy work surface for a keyboard, computer, and materials. Ventilated back panel keeps the air circulating. Steel construction, finished in Putty Beige. Mar-resistant Oak laminate wood doors swing back against cabinet, and are held in place with unique contact clips. Dependable 2-point locking system with a set of 2 keys. Includes a cord organizer/modesty panel with a 3-outlet electrical assembly with a 20-foot grounded cord and built-in cord winder. Heavy-duty 4" casters (2 with locking brakes). Ships disassembled. Dimensions: overall 36"W x 58"H x 25"D, cabinet interior 36"W x 32"H x 24"D, work surface 36"W x 24"D, work surface to floor 27", maximum height for top shelf 38", top shelf 36"W x 15"D.

A	EC1	Microcomputer Stand	28 lbs.	\$ 89.00
B	EC3	Bilevel Microcomputer Stand	32 1/2 lbs.	\$120.00
C	EC2	Bilevel Microcomputer Stand	28 lbs.	\$130.00
D	EC4	All-In-One Microcomputer Stand	50 lbs.	\$182.00
	EC4PCB	Paper Catch Basket	4 lbs.	26.00
E	EC20	Microcomputer Security Center	146 lbs.	\$472.00
F	ECL	Accessory Light for EC20	3 lbs.	\$ 36.50

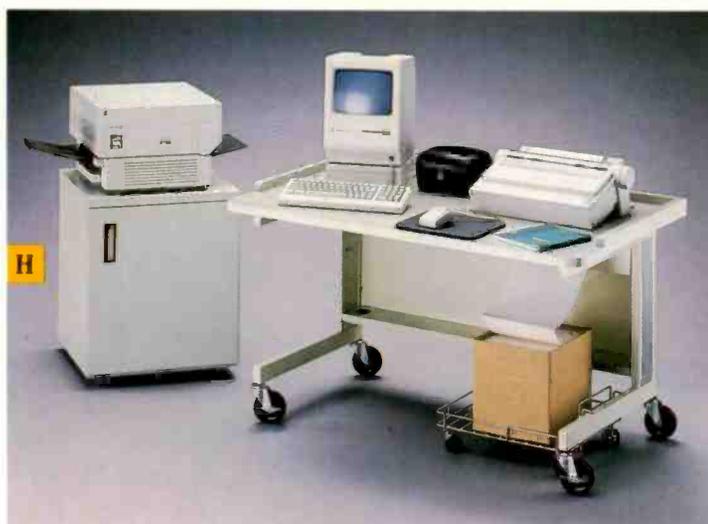
UNIVERSAL WORKSTATION



Adjustability provides the perfect typing height, no matter how short or tall your computer-users are. And mobility lets you share your computer between classrooms or offices.



OH/Computer Projection is an application tailor-made for the UCS500—the right height, the right accessories, the right station.



Desktop Publishing is here and the UCS500, along with an FC2020 Laser Printer Stand, gives you plenty of space for hardware, software, storage, and creativity.



Surge-protected electrical assembly



Side extension for either or both sides



Supplies drawer



Adjustable monitor shelf



Paper dolly



Paper catch basket

The Workstation That Keeps You In Mind, No Matter How Complex Your Application

As microcomputers become more powerful, you'll recognize the broad potential of your PC as a helpful tool. With unique applications such as Desktop Publishing and OH/Computer Projection, you'll also realize the versatility and user-support provided by the UCS500 Universal Computer Workstation. Adjustable in height from 22½" to 33½", the same station is suitable as a sit-down learning station for a small child, or as a stand-up station for the instructor giving classroom lectures with the help of a computer. Select the optional accessories you want for your special needs, and don't worry about whether to add casters or stationary glides—the basic unit comes with both! All accessories ship UPS, disassembled.

Available in Putty/Oak, Black/Walnut, or IBM® Gray color combinations. Specify color when ordering basic unit and accessories.

A. UCS500 Universal Work Station lets you adjust the height for user comfort from 22½" to 33½". Paper slots in the work surface make it easy to control the flow of continuous forms into bottom or rear-fed printers. A 1" retainer lip along the back and sides of the work surface keeps equipment and materials safely on top, and the cord organizer keeps cables neatly out of the way. Comes with both 4" casters (2 locking) and glides. Ships disassembled.

B. UCSPS Surge-Protected Power Strip with 6 grounded outlets, on/off switch, and 15 ft. extension cord, UL approved.

C. UCSSE Side Extension adds 15" x 30" extra work space to either side of the table.

D. UCSSD Supplies Drawer attaches under the work surface.

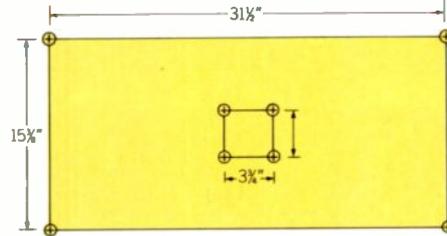
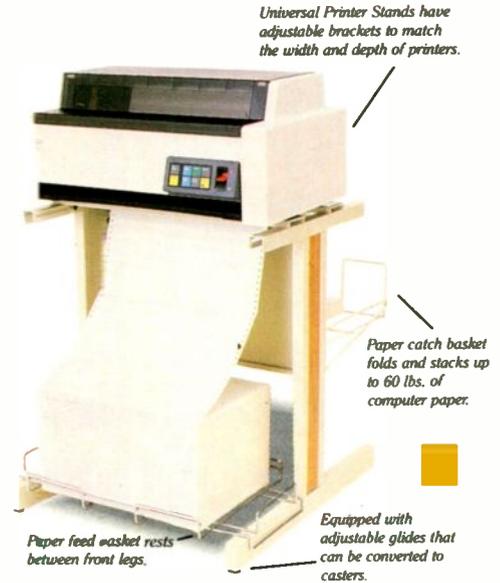
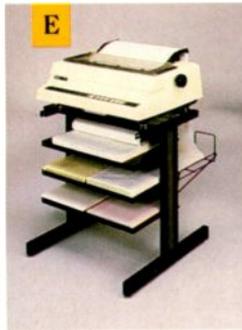
E. UCSAMS Adjustable Monitor Shelf lets you set your monitor at different angles and heights. Tilts front or back.

F. UCSPD Computer Paper Dolly moves on 2" casters, holds a full box of paper and can be attached to the UCS500 and moved in concert with the stand.

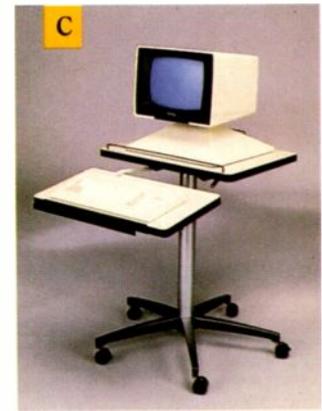
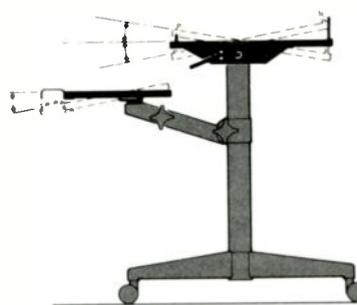
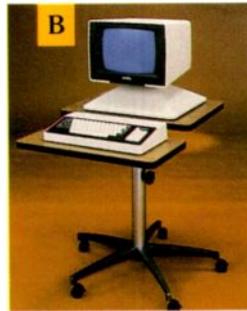
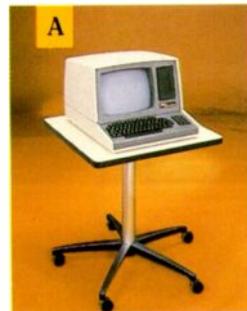
G. UCSPCB Paper Catching Basket catches and folds printed documents. Attaches to the front or back of the modesty panel.

H. FC2020 Laser Printer Stand features heavy gauge electrically welded construction, full-width interior shelf, hidden ball bearing casters and reinforced recessed door. Available in Ivory or Black finish. Ships UPS, fully assembled.

A	UCS500	Universal Work Station	48"W x 22½"-33½"H x 30"D	98 lbs.	\$363.00
B	UCSPS	Surge-Protected Power Strip		4 lbs.	\$ 77.00
C	UCSSE	Side Extension	15"W x 30"D	18 lbs.	\$ 64.00
D	UCSSD	Supplies Drawer	15"W x 2"H x 15"D	5 lbs.	\$ 54.00
E	UCSAMS	Adjustable Monitor Shelf	23"W x 13"H x 11"D	18 lbs.	\$ 86.00
F	UCSPD	Computer Paper Dolly	15½"W x 4"H x 11½"D	6 lbs.	\$ 54.00
G	UCSPCB	Paper Catching Basket	18¾"W x 7"H x 13"D	3 lbs.	\$ 31.50
H	FC2020	Laser Printer Stand	20"W x 24½"H x 20"D	50 lbs.	\$174.00



Measure the distance between your printer's feet. If the dimensions are within the dark area of this illustration, your printer will fit. Maximum width: 31 1/2", maximum depth: 15 1/2".



The Perfect Tables for Shared Computers

Mobile Terminal Tables place your computer at just the right typing height. Provide stability and mobility with a chrome pedestal and 5-legged base with twin wheel casters (2 locking). Ship UPS, disassembled. Choose Putty Beige, Teak, Oak or Walnut finish laminate.

A. MTT1 Terminal Table for CRT terminals with built-in keyboards. Dimensions: 24"W x 26 1/2"H x 24"D.

B. MTT2 Bi-Level Terminal Table for CRT's with separate keyboard. Keyboard shelf has 3 1/2" adjustable height. Dimensions: overall 24"W x 29"H x 30"D, display table 24"W x 18"D, keyboard table 24"W x 12"D.

C. MTT3 Adjustable Mobile Terminal Table features separate tilting work surfaces. Built-in wrist rest for a "soft touch." Keyboard table tilts up to 10° forward to make keying less fatiguing, adjusts from 23" to 29". Terminal table tilts up to 10° forward and backward to change viewing angle. Dimensions: Same as MTT2.

Guaranteed To Fit Your Printer!

No matter what printer you own, each of these unique Universal Printer Stands with patented*, adjustable brackets let you match its exact width and depth. Constructed of solid steel, the UNI's include adjustable cups for setting feet of printer and a painted wire paper catch basket. All UNI's come complete with glides; a WSCP caster conversion kit is available. All ship UPS, disassembled. Finished in either Black with Walnut accents or Putty Beige with Oak accents. Specify color when ordering. Patent #412543.

D. UNI1 Universal Printer Stand Dimensions: 22"W x 25 1/2"H x 27 1/2"D (24"D without basket).

E. UNI2 Printer Stand features 3 shelves below the printer for storing and running small quantities of computer forms. Dimensions: Same as UNI1, distance between shelves 4".

UNPF Paper Feed Tray fits UNI1, UNI2 and keeps paper off the floor.

F. UNI3 Stand-Up Printer Stand permits fumble free loading for up to 3 cartons of paper. Dimensions: 22"W x 44"H x 27 1/2"D (24"D without basket), distance between shelves 12".

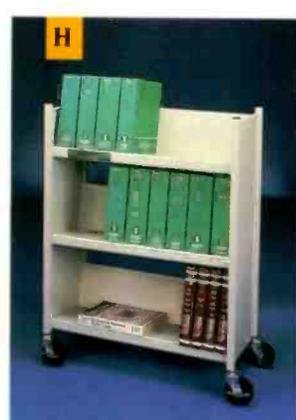
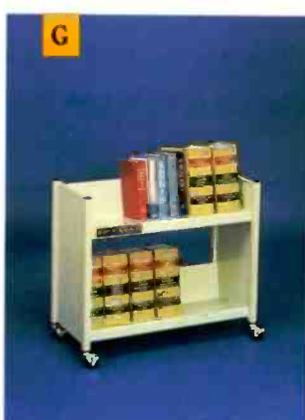
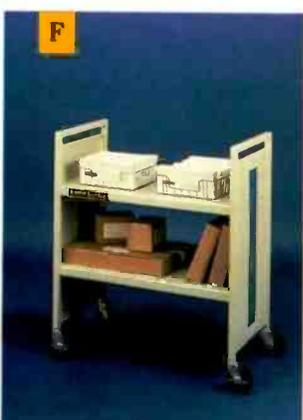
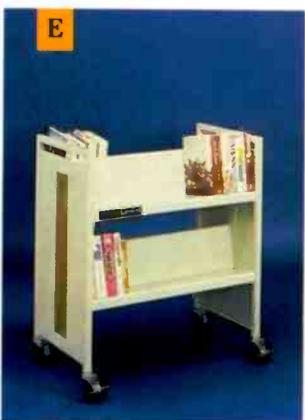
G. UNI4 Front Access Printer Stand Lets you feed and catch paper without bending over the back of the printer. Fits closer to the wall than stands with rear baskets. Dimensions: 22"W x 38"H x 24"D.

H. UNI5 Double Printer Stand saves space and permits use of 2 printers at the same time. Printers have separate paper feed and retrieval. Dimensions: 22"W x 41 3/4"H x 24"D, distance between printers 15".

PF-5 Paper Feed Tray for UNI5 Holds paper for both printers.

A	MTT1	Single-Surface	35 lbs.	\$162.00
B	MTT2	Bi-Level	42 lbs.	\$207.00
C	MTT3	Adjustable Bi-Level	45 lbs.	\$292.00
D	UNI1	Universal Printer Stand	30 lbs.	\$162.00
E	UNI2	with 3 shelves	42 lbs.	\$203.00
	UNPF	Paper Feed Tray for UNI1 & 2	4 lbs.	\$ 32.00
F	UNI3	Stand-Up Printer Stand	52 lbs.	\$228.00
G	UNI4	Front-Access Printer Stand	42 lbs.	\$207.00
H	UNI5	Double Printer Stand	40 lbs.	\$224.00
	PF5	Paper Feed Tray for UNI5	4 lbs.	\$ 47.00
	WSCP	Caster Option Pak	2 1/2 lbs.	\$ 17.50

MOBILE UTILITY TRUCKS



Accent stripes come in these four colors. Use these unique stripes to color code your trucks for the department, floor or division where they are used.



Whether you're moving books or looking for a sensible method of transporting media materials . . .

Bretford's Mobile Utility Trucks offer the organization, accessibility and quiet mobility to do the job right. Slant shelves are perfect for books, binders, encyclopedias, reference volumes, videotapes and media kits. Flat shelves accommodate everything from computer tapes and accessories to mail baskets and small cartons. Heavy gauge steel construction; "QuietGlide" caster system and smooth round edges; 4" casters (2 with locking brakes) R227 equipped with 2" ball casters. Ships assembled.

All Mobile Utility Carts (except L330 & R227) come in Putty Beige decorated with an accent stripe in Walnut, Blue, Red or Yellow. Specify accent stripe color when ordering.

A. V336 Mobile Utility Truck has six slant shelves. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", shelves 36"W x 6¾"D.

B. F336 Mobile Utility Truck has three flat shelves. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", shelves 36"W x 16"D.

C. VF336 Mobile Utility Truck has four slant shelves on top and one flat shelf on the bottom. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", slant shelves 36"W x 6¾"D, flat shelf 36"W x 16"D.

D. FV336 Mobile Utility Truck has one flat shelf on top with four slant shelves underneath. Perfect as a mobile media work center. Dimensions: top to middle shelf 11½", middle to bottom shelf 11½", flat shelf 36"W x 16"D, slant shelves 36"W x 6¾"D.

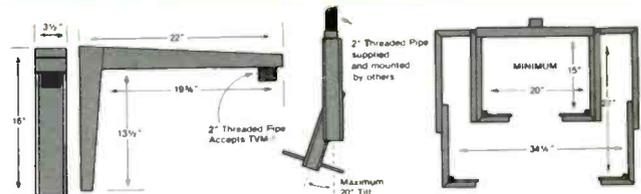
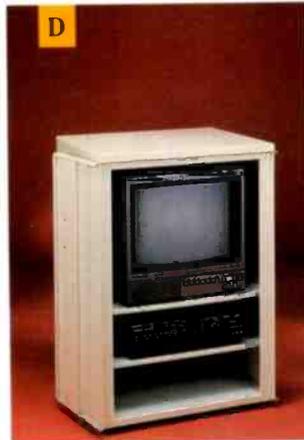
E. V230 Mobile Utility Truck has four slant shelves. Dimensions: top to bottom shelf 11½", shelves 30"W x 6¾"D.

F. F230 Mobile Utility Truck has two flat shelves. Dimensions: top to bottom shelf 11½", shelves 30"W x 16"D.

G. R227 Mobile Utility Truck has two slant shelves. Ships UPS, assembled. Dimensions: top to bottom shelf 13½", shelves 27"W x 9½"D.

H. L330 Mobile Utility Truck has six slant shelves. Dimensions: top to middle shelf 12", middle to bottom shelf 12", shelves 30"W x 9½"D

A	V336	37"W x 42"H x 18"D	70 lbs.	\$231.00
B	F336	37"W x 42"H x 18"D	58 lbs.	\$197.00
C	VF336	37"W x 42"H x 18"D	65 lbs.	\$231.00
D	FV336	37"W x 42"H x 18"D	66 lbs.	\$231.00
E	V230	31"W x 37"H x 18"D	44 lbs.	\$195.00
F	F230	31"W x 37"H x 18"D	40 lbs.	\$185.00
G	R227	28"W x 24½"H x 18"D	26 lbs.	\$124.00
H	L330	37"W x 42"H x 18"D	45 lbs.	\$163.00
RC	Rigid Caster replacing 4" Caster			\$ 15.00



Safely Store and Display Your Valuable Video Equipment in Lockable Security Centers

Your expensive equipment can be locked out-of-sight, yet it's always ready for use—simply unlock and open the doors—you're ready for the presentation. And your equipment is easily accessible for operation and repairs. Each center has useful features like a VCR shelf, locking doors with 2 keys, and a ventilated back panel. Heavy-duty casters let you share your system between classrooms or offices.

A. VCR-1000 All-Wood Video Cabinet has a rich Walnut finish with quality workmanship. A stylish way to support your video system. Features a tempered glass pullup window that locks to safeguard the TV/Monitor; sliding shelf for VCR; 3" plate-mounted casters and 170° European-style hinges so cabinet doors open fully. Recommended for use with TV/Monitor up to 26" diagonal screens. Ships assembled, (F.O.B. Corinth, MS). Dimensions: monitor cabinet—27"W x 26 1/4"H x 24"D, monitor shelf to VCR shelf—10 3/4", VCR shelf to bottom shelf—13".

B. VTRC50E Midsize Video Security Center has twin doors that lock cabinet from top to bottom. 3 adjustable shelves. Steel construction finished in Black, with Walnut mar-resistant laminate doors. Doors mounted on full length piano hinges to fold back against cabinet. Includes a 2-outlet electrical assembly with 20-foot grounded extension cord. Recommended for use with TV/Monitors with up to 19" diagonal screens. Ships disassembled. Cabinet Interior: 26"W x 48"H x 22D.

C. VTRC70E Video Security Center offers a larger cabinet with 3 adjustable shelves. 4 locking cabinet doors divide cabinet in half—monitor may be viewed from the top section while VCR and other equipment remains locked in the bottom cabinet. Includes 2-outlet electrical assembly with 20-foot grounded extension cord. Recommended for use with TV/Monitors with up to 26" diagonal screens. Ships disassembled. Cabinet Interior: 31"W x 60"H x 22"D.

VTRC40E Video Security Center (not shown) has 2 adjustable shelves. Recommended for use with up to 19" diagonal screens. Complete with 2-outlet electrical assembly with 20-foot grounded extension cord. Ships disassembled. Cabinet Interior: 31"W x 30"H x 22"D.

D. VTRC420E Personal-Size Video Security Center features two adjustable interior shelves in 2 3/4" increments, 2" hidden casters, 2-outlet electrical assembly and 20-foot grounded extension cord. Ivory finish. Cabinet Interior: 28"W x 39"H x 23"D. Recommended for use with up to 19" diagonal screens. Ships assembled.

Universal TV Wall/Ceiling Mounting Systems . . . One Bracket Holds Any Size Monitor!

E. TVM1 Universal Video Mounting Bracket Lets you install monitors on the ceiling. Accepts 17" to 26" diagonal screen TVs. Formed steel construction. Black baked enamel finish with Walnut vinyl-clad steel accents. Allows a tilt factor up to 20 degrees. Ships UPS, disassembled.

F. TVM2 Wall Bracket Adaptor allows TVM1 to mount on wall. Ships UPS, disassembled.

A	VCR1000	31"W x 60"H x 27"D	282 lbs.	\$1675.00
B	VTRC50E	28"W x 55"H x 23"D	171 lbs.	\$709.00
C	VTRC70E	33"W x 72"H x 24"D	208 lbs.	\$1000.00
	VTRC40E	33"W x 38"H x 24"D	140 lbs.	\$591.00
D	VTRC420E	28"W x 42"H x 24"D	107 lbs.	\$424.00
E	TVM1	Ceiling Bracket	27 lbs.	\$181.00
F	TVM2	Wall Bracket Adapter	10 lbs.	\$ 57.00

MOBILE EQUIPMENT TABLES



Especially Designed For Your AV/Video Equipment

Feature steel construction, die-pressed shelves with smooth rounded edges, "Quiet-Glide" caster inserts, 4" casters (2 locking), "Square-Lock" design for easy assembly, and Midnite Gray finish. Slant Bar allows you to slightly tilt TV forward, eliminating glare from overhead lights. All ship UPS, disassembled.

The BB Wide-Body Mobile Equipment Tables have an oversized base shelf providing extra stability. Recommended for use with TV/monitors with up to 26" diagonal screens such that the TV/monitor will not overhang the shelf.

A. BB54 Series, 54"H with 3 shelves. Dimensions: top and middle shelves 32"W x 22"D, bottom shelf 32"W x 27"D, distance between top and middle shelves 12", middle to bottom shelf 32½".

B. BB44 Series, 44"H with 3 shelves. Dimensions: top and middle shelves 32"W x 22"D, bottom shelf 32"W x 27"D, distance between top and middle shelves 12", middle to bottom shelf 23".

The MP Mobile Equipment Tables come in different heights with either 2, 3, or 5 shelves. Recommended for use with TV/monitors with up to 19" diagonal screens such that the TV/monitor will not overhang the shelf.

C. MP54DX Series, 54"H with 5 shelves makes an ideal mobile videotape editing or duplicating rack. Distance between shelves 10".

D. MP54 Series, 54"H with 3 shelves. Dimensions: top to middle shelf 23"; middle to bottom shelf—20".

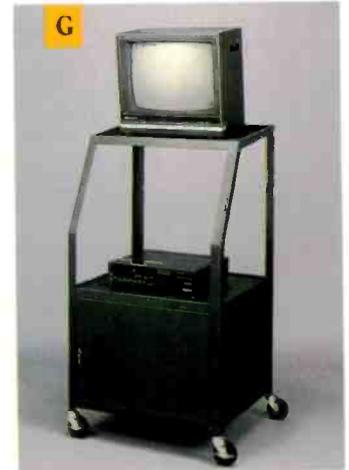
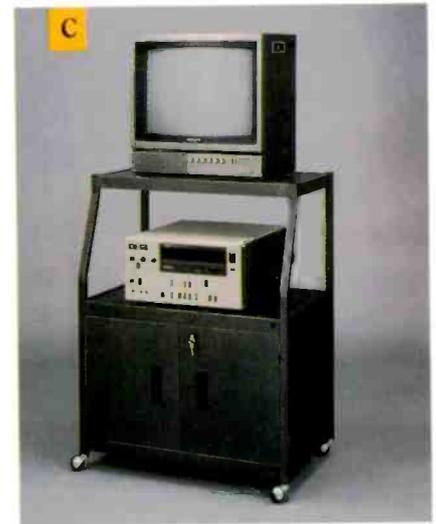
E. MP48 Series are 48"H tables with 3 shelves. Dimensions: top to middle shelf 17", middle to bottom shelf 20".

F. MP30 Series, 30"H with 2 shelves. Distance between shelves 14".

G. Mini Pak Mobile Equipment Tables come with 20"W x 18"D shelves, 2 shelves per table, 26"H, 34"H and 42"H. Top to bottom shelf: MP26-17", MP34-13", MP42-21".

H

A	BB54	Basic Table, 32"W x 54"H x 27"D	60 lbs.	\$173.00
	BB54E	w/E-Unit	62 lbs.	201.00
	BBS54	w/Slant Bar	65 lbs.	186.00
	BBS54E	w/E-Unit & Slant Bar	67 lbs.	214.00
B	BB44	Basic Table, 32"W x 44"H x 27"D	58 lbs.	\$167.00
	BB44E	w/E-Unit	60 lbs.	195.00
	BBS44	w/Slant Bar	63 lbs.	180.00
	BBS44E	w/E-Unit & Slant Bar	65 lbs.	208.00
C	MP54DX	Basic Table, 30"W x 54"H x 20"D	76½ lbs.	\$198.00
	MP54DXE	w/E-Unit	78½ lbs.	226.00
	MPS54DX	w/Slant Bar	81 lbs.	208.00
	MPS54DXE	w/E-Unit & Slant Bar	83 lbs.	236.00
D	MP54	Basic Table, 30"W x 54"H x 20"D	52 lbs.	\$155.00
	MP54E	w/E-Unit	54 lbs.	183.00
	MPS54	w/Slant Bar	56½ lbs.	165.00
	MPS54E	w/E-Unit & Slant Bar	58½ lbs.	193.00
E	MP48	Basic Table, 30"W x 48"H x 20"D	52 lbs.	\$149.00
	MP48E	w/E-Unit	54 lbs.	177.00
	MPS48	w/Slant Bar	55 lbs.	159.00
	MPS48E	w/E-Unit & Slant Bar	57 lbs.	187.00
F	MP30	Basic Table, 30"W x 30"H x 20"D	35 lbs.	\$133.00
	MP30E	w/E-Unit	37 lbs.	161.00
G	MP26	Basic Table, 20"W x 26"H x 18"D	26 lbs.	\$ 97.00
	MP26E	w/E-Unit	28 lbs.	125.00
	MP34	Basic Table, 20"W x 34"H x 18"D	28 lbs.	103.00
	MP34E	w/E-Unit	30 lbs.	131.00
	MP42	Basic Table, 20"W x 42"H x 18"D	30 lbs.	107.00
	MP42E	w/E-Unit	32 lbs.	135.00
SB	Safety Belt	1 lb.	\$ 24.50	
MPS	Slant Bar for MP Tables	4½ lbs.	9.50	
BBS	Slant Bar for BB Tables	6 lbs.	13.00	



Show Your Video, And Lock Your Valuable Accessories

Bretford's TV/VCR Cabinets and Stands are designed for small and large group viewing. They feature steel construction for strength and durability, contemporary Midnite Gray enamel finish and "Quiet-Glide" caster system for 2" ball casters or 4" hard rubber casters, (2 locking) depending on the model. Cabinet models come with 2 keys. *Each cabinet or stand will support TV/monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf. BBC54E is the only cabinet stand recommended for 26" diagonal monitors such that the TV/Monitor will not overhang the shelf.* All ship UPS disassembled, (except BBC54E and VTRC54E).

"E" Models feature a standard electrical assembly with two grounded outlets, 20 ft. grounded extension cord and a built-in cord winder.

A. VTR20 TV/VCR Stand has a recessed top shelf, wider bottom shelf for stability. 2" ball casters. Dimensions: top shelf 30"W x 16"D, distance between shelves 13".

B. VTRC30E TV/VCR Cabinet Stand adds locking storage cabinet to VTR20 frame. Dimensions: top shelf 30"W x 16"D, cabinet interior 28"W x 10"H x 18"D.

C. MPVC40E TV/VCR Cabinet Stand is 40"H, with 2" ball casters. Cabinet has moveable shelf. Dimensions: top shelf 30"W x 16"D, distance between shelves 13", cabinet interior 28"W x 17"H x 18"D.

D. MPVC54EDX TV/VCR Cabinet Stand is 54"H, has slant bar on top shelf to reduce glare and a middle shelf for additional equipment. Complete with 4" casters (2 locking). Dimensions: distance between shelves 12½", cabinet interior 28"W x 17"H x 18"D. (Does Not Ship UPS)

E. MPVC54E TV/VCR Cabinet Stand 54"H, with slant bar and 4" casters (2 locking). Dimensions: distance between shelves 26", cabinet interior 28"W x 17"H x 18"D.

F. BBC54E Wide Body TV/VCR Cabinet Stand 54"H features a wider base for stability. Supports TV/Monitor with up to 26" diagonal screens. 4" casters (2 locking). Dimensions: top Shelf 32"W x 22"D, distance between shelves 17", cabinet interior 32"W x 16¼"H x 27"D.

G. VTRC54E TV/VCR Cabinet Stand 54"H, with slanted top shelf. 4" casters (2 locking). Ships assembled. Distance between shelves 24". Dimensions: top shelf 28"W x 17"D, cabinet interior 28"W x 17"H x 21"D.

A	VTR20 VTR20E	30"W x 32"H x 20"D w/E-Unit	34 lbs. 36½ lbs.	\$106.00 134.00
B	VTRC30E	30"W x 32"H x 20"D	66½ lbs.	\$313.00
C	MPVC40E	30"W x 40"H x 20"D	85 lbs.	\$338.00
D	MPVC54EDX	30"W x 54"H x 20"D	101½ lbs.	\$364.00
E	MPVC54E	30"W x 54"H x 20"D	87 lbs.	\$337.00
F	BBC54E	32"W x 54"H x 27"D	92½ lbs.	\$364.00
G	VTRC54E	28"W x 54"H x 24"D	82½ lbs.	\$337.00

MOBILE EQUIPMENT TABLES



"E" Models feature an electrical assembly with two grounded outlets, a 20 ft. grounded extension cord and a built-in cord winder.

Rubber mat for top shelf helps keep equipment in its place

Die-pressed shelves with smooth, rounded edges provide greater strength and user safety

Arc-welded caster sockets and "Quiet-Clide" caster inserts offer greater strength and mobility for loads up to 460 pounds

Top shelves on all Traditional Mobile Equipment Tables have stiffeners welded on the under-side for extra strength and support



Quality 4" casters



Rolled shelf edges



Rubber mats



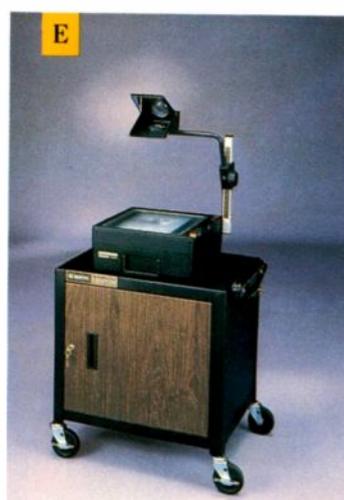
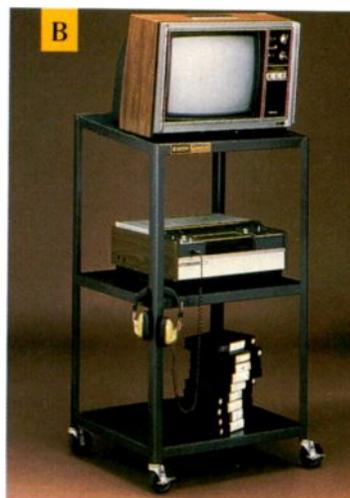
SOK1 Safe Operating Kit includes safety sticker and safe operating instruction card



E-Unit is UL approved and helps organize cord sets



SB Safety Belt attaches to any mobile cart—works just like a seat belt!



From Projectors To Video Systems, These Tables Work

Recommended for use with TV/Monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf.

A. 42 Traditional Mobile Equipment Table 42"H with three shelves. Slate Gray. Distance between shelves: top to middle shelf 14½", middle to bottom shelf 17½".

34 Traditional Mobile Equipment Table 34"H with 3 shelves. Slate Gray. Distance between shelves: top to middle shelf 6½", middle to bottom shelf 17½".

26 Traditional Mobile Equipment Table 26"H with 2 shelves. Slate Gray. Distance between shelves 17½". Ships UPS.

16 Traditional Mobile Equipment Table 16"H with 2 shelves. Slate Gray. Distance between shelves 7½". Ships UPS.

The T54 Traditional TV/VCR Table 54"H with 3 shelves. Double-welded top shelf. Slate Gray. Distance between shelves: top to middle shelf 23", middle to bottom shelf 20".

B. TS54 Traditional TV/VCR Table, 54"H with glare-free top slant shelf, double-welded for extra security. Slate Gray.

C. T48 Traditional TV/VCR Table 48"H with 3 shelves. Double-welded top shelf. Slate Gray. Distance between shelves: top to middle shelf 17", middle to bottom shelf 20".

TS48 Traditional TV/VCR Table, 48"H with glare-free top slant shelf, double-welded for extra security. Slate Gray.

T42 Traditional TV/VCR Table with 3 shelves. Slate Gray. Distance between shelves: top to middle shelf 14", middle to bottom shelf 17".

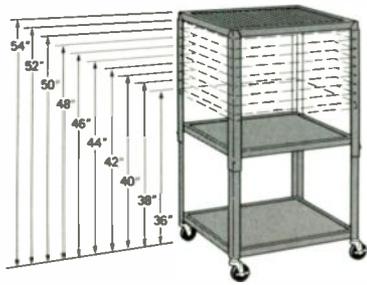
C42 Audio Visual Cabinet, 42"H. Midnite Gray. Distance between shelves 14". Cabinet Interior 23"W x 17"H x 17"D.

D. C34 Audio Visual Cabinet, 34"H. Midnite Gray. Distance between shelves: top to middle shelf 6½". Cabinet Interior: 23"W x 17"H x 17"D.

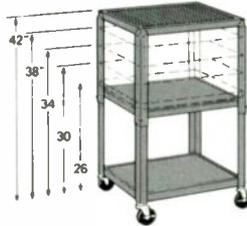
E. C26 Audio Visual Cabinet, 26"H. Black with Walnut door. Cabinet interior: 23"W x 17"H x 17"D.

VTRC29 Audio Visual Cabinet, 29"H Black with Walnut doors. Cabinet interior: 35"W x 21"H x 17"D.

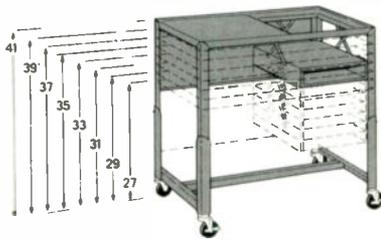
A	42	24"W x 42"H x 18"D	39 lbs.	\$135.00
	42E	w/E-Unit	41½ lbs.	163.00
	34	24"W x 34"H x 18"D	38 lbs.	\$130.00
	34E	w/E-Unit	40½ lbs.	158.00
B	26	24"W x 26"H x 18"D	31 lbs.	\$117.00
	26E	w/E-Unit	33½ lbs.	145.00
	16	24"W x 16"H x 18"D	25 lbs.	\$113.00
	16E	w/E-Unit	27½ lbs.	141.00
C	T54	28"W x 54"H x 24"D	59 lbs.	\$181.00
	T54E	w/E-Unit	61½ lbs.	209.00
	TS54	Slant Top Shelf	59 lbs.	189.00
	TS54E	w/E-Unit	61½ lbs.	217.00
D	T48	28"W x 48"H x 24"D	57 lbs.	\$172.00
	T48E	w/E-Unit	59½ lbs.	200.00
	TS48	Slant Top Shelf	55 lbs.	181.00
	TS48E	w/E-Unit	57½ lbs.	209.00
	T42	28"W x 42"H x 24"D	54 lbs.	\$168.00
	T42E	w/E-Unit	56½ lbs.	196.00
	C42	24"W x 42"H x 18"D	56 lbs.	\$213.00
	C42E	w/E-Unit	58½ lbs.	241.00
E	C34	24"W x 34"H x 18"D	53 lbs.	\$210.00
	C34E	w/E-Unit	55½ lbs.	238.00
F	C26	24"W x 26"H x 18"D	46 lbs.	\$205.00
	C26E	w/E-Unit	48½ lbs.	233.00
G	VTRC29	36"W x 29"H x 18"D	66 lbs.	\$281.00
	VTRC29E	w/E-Unit	68½ lbs.	309.00
F	SB	Safety Belt	1 lb.	\$ 33.50
G	SOK1	Safe Operating Kit	½ lb.	FREE



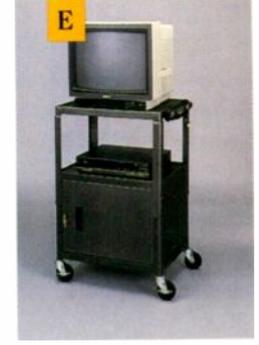
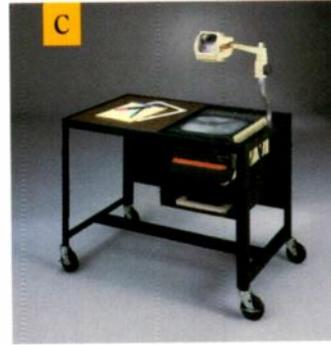
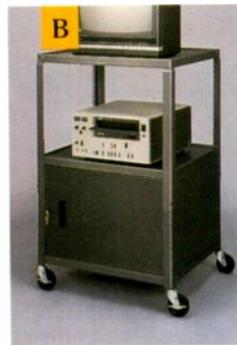
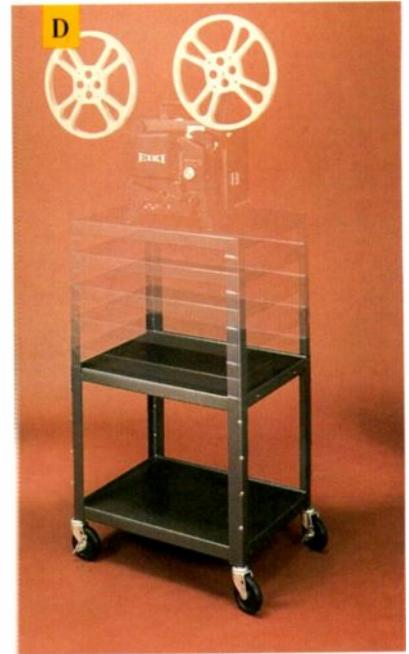
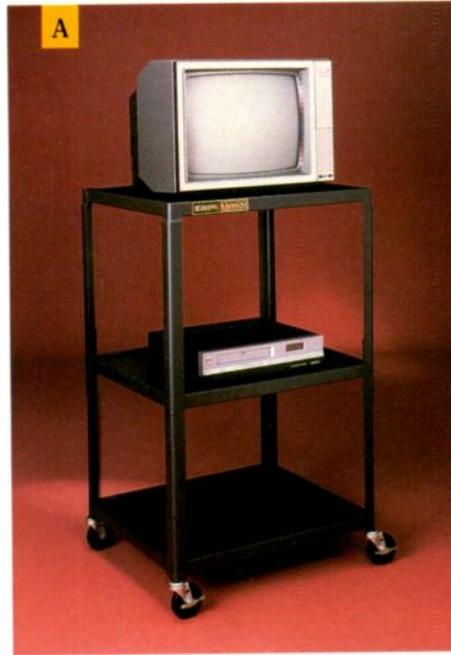
TVA3654 & TVCA3654



A2642 & A2642



AOH2741



You Get 5, 8 Or 10 Tables In One!

Versatility and ruggedness are built into Bretford's Adjustable Cabinets and Tables. Each has multiple height adjustments and is designed with all steel construction and die pressed shelves. Other features include the "Quiet-Glide" caster system, arc welded caster sockets for maximum stability and heavy-duty 4" casters (2 locking) for smooth transport of loads up to 460 pounds. Each unit comes with one ribbed rubber mat. *Each table or cabinet is recommended for use with TV/Monitors with up to 19" diagonal screens such that the TV/Monitor will not overhang the shelf.* Cabinet model comes with 2 keys. All ship assembled.

"E" Models feature a standard electrical assembly with two grounded outlets, 20 ft. grounded extension cord and a built-in cord winder.

A. TVA3654 Adjustable TV Table adjusts from 36" to 54" at 2" increments 10 height adjustments in all. Double-welded top shelf. Dimensions: 17 1/2"H from bottom to middle shelf. Slate Gray.

B. The TVCA3654 Adjustable TV Cabinet same as TVA3654 with a security cabinet. Cabinet Interior: 25"W x 17 1/2"H x 21"D. Midnite Gray.

C. AOH2741 Adjustable Overhead Projector Table works well for stand-up or sit-down applications. Work surface adjusts from 27"H to 41"H in 2" increments, and OH platform adjusts from 6" to 10" in 1" increments. Projector Opening: 15 1/2"W x 20 1/2"D. Black with walnut vinyl writing surface.

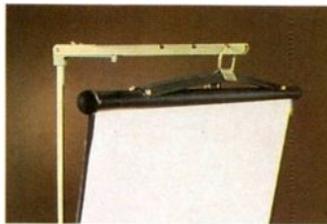
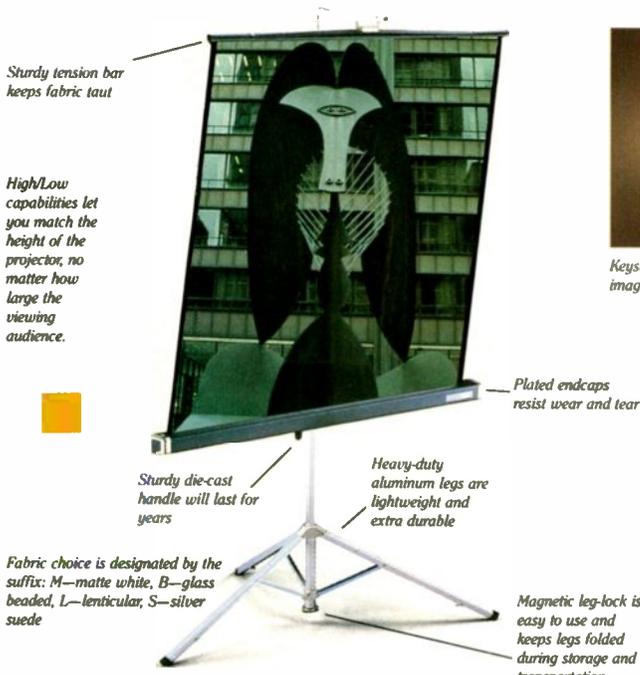
D. A2642 Universal Projection Table adjusts to 5 heights: 26", 30", 34", 38" and 42" high by simply removing and resetting four bolts. Slate Gray.

E. CA2642 Adjustable Cabinet same as A2642, with locking cabinet. Cabinet Interior: 23"W x 15 1/2"H x 17"D. Midnite Gray.

TVS Slant Bar Accessory allows you to slightly tilt TV forward, eliminating glare from overhead lights. For use with TVA3654 and TVCA3654.

A	TVA3654	28"W x 36-54"H x 24"D	50 lbs.	\$186.00
	TVA3654E	w/E-Unit	52 lbs.	214.00
B	TVCA3654	28"W x 36-54"H x 24"D	66 lbs.	\$315.00
	TVCA3654E	w/E-Unit	68 lbs.	343.00
C	AOH2741	37"W x 27-41"H x 22 1/2"D	59 lbs.	\$222.00
	AOH2741E	w/E-Unit	61 lbs.	250.00
D	A2642	24"W x 26-42"H x 18"D	42 lbs.	\$119.00
	A2642E	w/E-Unit	44 1/2 lbs.	147.00
E	CA2642	24"W x 26-42"H x 18"D	55 lbs.	\$213.00
	CA2642E	w/E-Unit	57 1/2 lbs.	241.00
	TVS	Slant Bar	4 lbs.	\$ 11.50

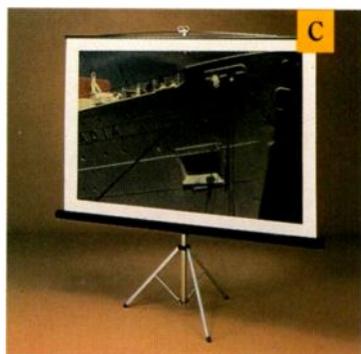
PROJECTION SCREENS



Keystone eliminator corrects distorted images, such as overhead projection



Carrying cases for portable tripods are made of heavy vinyl with velcro closure. Center hole for tripod handle assures easy carrying.



Present Your Best Image On These Quality Screens

A Series 300 Spectator

Bretford's best portable tripod screen made from the finest materials. Ships UPS.

3050 M or B	50" x 50"	22 lbs.	\$176.00
3050 L			185.00
3060 M or B	60" x 60"	26 lbs.	193.00
3060 L			201.00
3070 M or B	70" x 70"	30 lbs.	213.00
3070 L			222.00

B Series 375 Commodore

Bretford's most economical tripod screen. Steel legs, magnetic leg lock, steel handles, high-low capability, tension bar. Ships UPS.

3750 M or B	50" x 50"	19 lbs.	\$119.00
3750 L			127.00
3760 M or B	60" x 60"	22 lbs.	146.00
3760 L			154.00
3770 M or B	70" x 70"	25 lbs.	164.00
3770 L			172.00

C Series 450 Super Vista

Deluxe screen for large audience applications. Extruded aluminum legs, positive leg lock, steel "D" shaped case with die-cast end caps and handle. Positive plunger lock provides accurate and secure height adjustments.

4577 M or B	84" x 84"	38 lbs.	\$310.00
4588 M or B	96" x 96"	42 lbs.	386.00

D Carrying Cases

4105	for 50" Tripod Screens	2 lbs.	\$23.00
4106	for 60" Tripod Screens	2 lbs.	27.50
4107	for 70" Tripod Screens	2 lbs.	30.50

Video Projection Screens . . . Ready When You Are

When not in use, these screens are rolled up and protected in the case. Unlike traditional rigid video projection screens, Bretford screens do not require valuable floor space, so they're ideal for your flexible communications center. Matte White Fabric (M suffix) is traditionally the best all around viewing surface for projection with good clear definition at close viewing angles. Nominal gain at 0° axis is 1.0. Silver Suede Fabric (S suffix) is a new viewing surface designed especially for video projection. Highly reflective silver surface actually highlights and brightens the projected image. Nominal gain at 0° axis is 3.2.

E Portable Tripod Video Screens

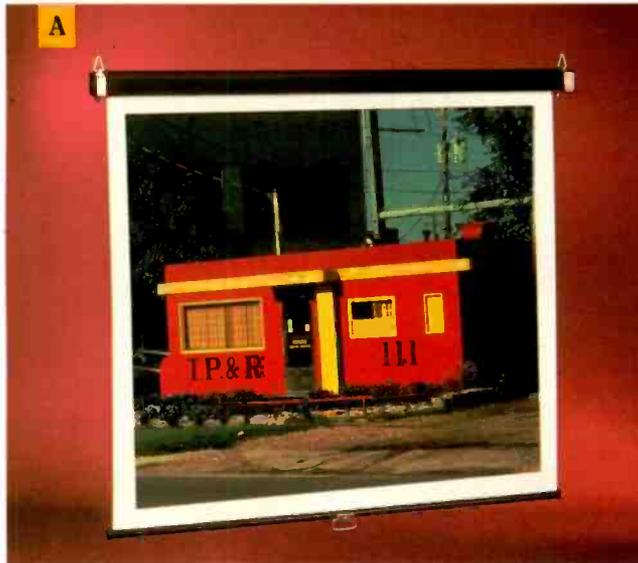
Provide convenience and rugged construction for years of service. Feature strong aluminum legs, positive leg-lock, die-cast handle and steel slat with tension bar. Contemporary steel case has a more durable black finish. Available in 72" or 100" diagonal sizes.

3V45 M	46" x 60"	72" diagonal	26 lbs.	\$191.00
3V45 S				207.00
4V57 M	64" x 84"	100" diagonal	38 lbs.	296.00
4V57 S				317.00

Wall-Mounted Video Screens

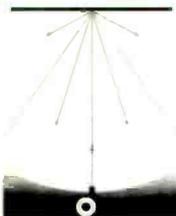
Are made from the best materials. Contemporary case design has a more durable black finish and features a roller-lock which keeps the projection surface in position. Available in 72", 100", or 10' diagonal sizes.

2V45 M	46" x 60"	72" diagonal	12 lbs.	\$ 91.00
2V45 S				108.00
2V57 M	64" x 84"	100" diagonal	24 lbs.	180.00
2V57 S				201.00
2V68 M	72" x 96"	10' diagonal	25 lbs.	207.00
2V68 S				240.00



To Calculate the Screen Size: Determine the distance between the screen and the last row of the audience. Divide that distance by 6 for screen width of 4x3 ratio projected images, or divide the distance by 8 for screen width of square projected images.

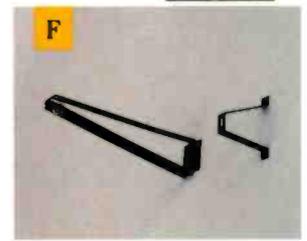
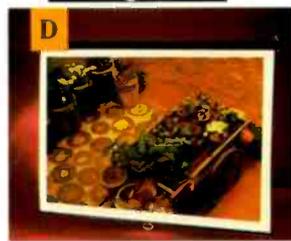
Matte White is an excellent general purpose surface, the best choice for most requirements in Education and Training. Light is reflected almost equally in all directions, and the brightness level is constant from any viewing position.



Silver Lenticular has a picture brilliance of about twice that of a Matte White screen. It is ideal for rooms where ambient light cannot be controlled. Delivers a high proportion of the projected light to the audience while stray light is reflected away.



Glass Beaded screens give a fantastic brilliance in the viewing angle cone. Most of the projected light is reflected back to the audience. Especially suitable for projectors with poor light output and for use in long, narrow rooms.



A Series 65 Monitor

Bretford's most economical projection screen. Features include plated end caps, steel slat, heavy-gauge square steel case finished with a harder more durable Black paint. Matte White fabric only. Ships UPS.

6550 M	50" x 50"	10 lbs.	\$ 45.50
6560 M	60" x 60"	12 lbs.	60.00
6570 M	70" x 70"	14 lbs.	74.00

B Series 200 Mercury

A versatile screen for classrooms and offices. Strong modern design with square steel case and plated end caps. Finished with harder more durable Black paint. Matching slat fits into case opening to keep out dust and dirt. Choose from Matte White (M) or Glass Beaded (B) fabric. Ship UPS.

2050 M or B	50" x 50"	12 lbs.	\$ 70.00
2060 M or B	60" x 60"	15 lbs.	89.00
2070 M or B	70" x 70"	18 lbs.	114.00

C Series 100 Commentator

Keeps a flat, taut projection surface eliminating image waves. Special wall brackets hold screen 4" from the wall for easy access when adjusting tension. Durable steel case with modern square design and plated end caps. Finished with a harder more scratch resistant Black paint. Choose from Matte White (M), Glass Beaded (B) or Lenticular fabric. Ships UPS.

1050 M,B,L	50" x 50"	16 lbs.	\$112.00
1060 M,B,L	60" x 60"	19 lbs.	128.00
1070 M,B,L	70" x 70"	22 lbs.	149.00

D Series 250 Conference

Intermediate sizes suitable for many applications. Classic "D" shaped metal case is fitted with die-cast end caps. Finished in Black. Choose from Matte White (M) or Glass Beaded (B) fabric.

2557 M or B	63" x 84"	24 lbs.	\$178.00
2577 M or B	84" x 84"	25 lbs.	185.00
2568 M or B	72" x 96"	29 lbs.	202.00
2588 M or B	96" x 96"	33 lbs.	232.00

E Series 500 Auditorium

Bretford's largest manually operated wall screen can easily accommodate up to 400 viewers. Designed for easy installation with convenient mounting rings built right into the heavy-gauge steel end caps. Square steel case finished in Black. Choose from Matte White (M) or Glass Beaded (B) fabric. Other sizes available on request.

5077 M or B	7' x 7'	45 lbs.	\$294.00
5088 M or B	8' x 8'	50 lbs.	321.00
5099 M or B	9' x 9'	70 lbs.	344.00
5000 M or B	10' x 10'	78 lbs.	437.00
5022 M or B	12' x 12'	91 lbs.	553.00

Series 700 Auditorium Electric

Similar case design as the Series 500 Auditorium Screen with a detachable motor module on the right. Low voltage wiring for the 3-button switch (included) does not require an electrician for installation, 15 ft. cables included. Choose from Matte White (M) or Glass Beaded (B) fabric. Other sizes available on request.

7055 M or B	60" x 60"	52 lbs.	\$670.00
7066 M or B	70" x 70"	54 lbs.	682.00
7077 M or B	7' x 7'	64 lbs.	724.00
7088 M or B	8' x 8'	70 lbs.	772.00
7099 M or B	9' x 9'	78 lbs.	820.00
7000 M or B	10' x 10'	85 lbs.	906.00
7022 M or B	12' x 12'	104 lbs.	1003.00

F Wall Brackets (Sold in pairs)

KW6	6" fixed	1 lb.	\$ 9.00
KW18	18", adjustable	4 lbs.	19.50

MEDIA STORAGE



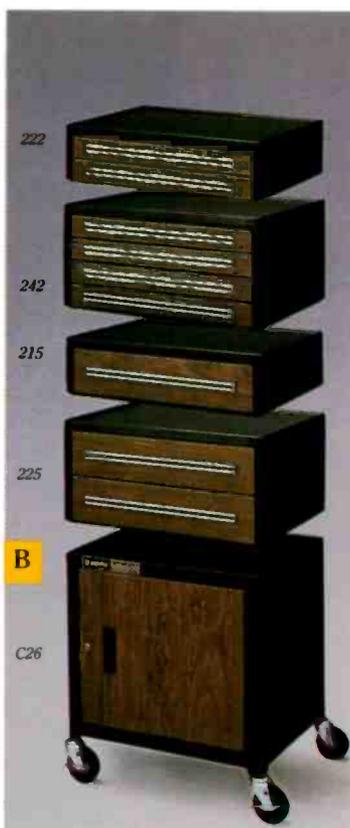
File Maintenance Made Easier With Quick Retrieval of Slides, Photos, Films And Tapes.

Bretford's Material and Media Storage Centers come in 2 sizes, 24"W x 18"D and 36"W x 18"D to meet your needs. They are completely modular inside and out. "Lock-Stack" design allows units to be added one on top of another. All components ship assembled. Basic cabinets are Black with drawer and door fronts in Walnut vinyl-clad steel. Features include: high impact baked enamel finishes that are mar and scratch resistant, heavy gauge welded steel with double wall construction for extra strength and ruggedness, full extension glides on drawers to provide access to entire contents, and brushed aluminum handles. Exclusive "QuietGlide" caster system on bases assure easy mobility. Base available with casters or glides. Lock Assemblies are available for all units.

A. B25 Mobile Base for 200 Series in Black. Modules "Lock-Stack" on this base. 2" casters. Ships UPS. B25GL with glides.

B. C26 Cabinet Base for 200 Series, with Walnut door, 26"H, 4" casters. C26GL with glides. Cabinet interior 23"W x 17"H x 17"D.

All bases are designed to accept "Lock-Stacking" modules. Can be stationary with glides, or mobile with casters. The perfect support for your media center.



Slide Storage Insert—S suffix



Slide Storage with Cassettes Insert—SA suffix



Filmstrip Storage Insert—F suffix



Track File Filmstrip Insert—T suffix



Filmstrips with Cassettes Insert—FA or TA suffix



Cassette Storage Insert—A suffix

A	B25	24"W x 4½"H x 18"D	12 lbs.	\$ 63.00
	B25GL	24"W x 2½"H x 18"D	10 lbs.	56.50
B	C26	24"W x 26"H x 18"D	46 lbs.	\$205.00
	C26GL	24"W x 22"H x 18"D	44 lbs.	184.50

200 Series Media Storage



24" Wide x 18" Deep

222 7"h
Wt. 39
Ships UPS

242 12"h
Wt. 56
Ships UPS

215 7"h
Wt. 30
Ships UPS

225 12"h
Wt. 48
Ships UPS

200 12½"h
Wt. 42
Ships UPS

Media to be Stored

Media to be Stored	222	242	215	225	200
Group Slide Storage	222S \$196.00 Stores 5,600	242S \$272.00 Stores 11,200			
Group Slide Storage with Cassettes Out of Containers	222SA \$199.00 Stores 84 Sets	242SA \$278.00 Stores 168 Sets			
Individual Filmstrips	222F \$196.00 Stores 240	242F \$272.00 Stores 480			
Track Filing Filmstrips	222T \$196.00 Stores 240	242T \$272.00 Stores 480			
Individual Filmstrips with Cassettes Out of Containers	222FA or 222TA \$199.00 84 Sets	242FA or 242TA \$278.00 168 Sets			
Individual Filmstrips with Cassettes in Containers			215FC or 215TC \$171.50 60 Sets	225FC or 225TC \$252.00 120 Sets	
Large Filmstrip Canisters (#2 Polycron)	222C \$196.00 Stores 168	242C \$272.00 Stores 336			
Cassettes without Containers	222A \$202.00 Stores 168	242A \$284.00 Stores 336			
Cassettes in Containers			215 \$172.00 Stores 166	225 \$253.00 Stores 332	
Filmloops			215 \$172.00 Stores 48	225 \$253.00 Stores 96	
35mm Microfilm			215 \$172.00 Stores 50	225 \$253.00 Stores 100	
16mm Microfilm			215 \$172.00 Stores 85	225 \$253.00 Stores 170	
Microfiche			215 \$172.00 Stores 5,000	225 \$253.00 Stores 10,000	
½" Video Tape			215 \$172.00 Stores 30	225 \$253.00 Stores 60	
L.P Records or Overhead Transparencies					200 \$217.00 *200J \$271.00 Stores 160
Study Prints	222N \$164.00	242N \$208.00	215N \$154.00	225N \$217.00	

*200J with 160 dustjackets Wt. 52 pounds.



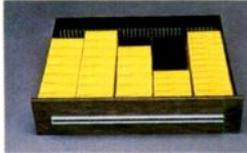
Filmstrips with Cassettes Insert—
FC or TC suffix



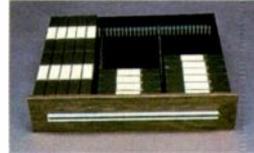
Cassettes in Containers Storage



342



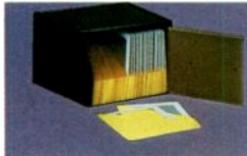
Microfilm and Microfiche Storage



Video Cassette Storage



325



OH/LP Record Storage—J suffix



Flat Stock Storage—N suffix

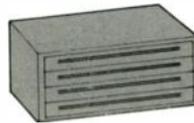


VTRC29

C. VTRC29 Cabinet Base for 300 Series, with Walnut doors. Black finish. Dual doors lock to protect accessories. Cabinet interior 35"W x 21"H x 17"D. VTRC29GL with glides.

C	VTRC29	36"W x 29"H x 18"D	66 lbs.	\$281.00
	VTRC29GL	36"W x 25"H x 18"D	64 lbs.	260.00

300 Series Media Storage



342 12"h
Wt. 77



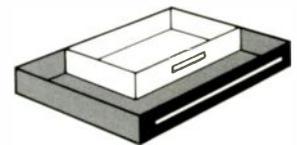
325 12"h
Wt. 61

36" Wide x 18" Deep

Media to be Stored	Model	Price
Group Slide Storage	342S	\$524.00 Stores 16,800
Group Slide Storage with Cassettes Out of Containers	342SA	\$530.00 Stores 240 Sets
Individual Filmstrips	342F	\$524.00 Stores 720
Track Filing Filmstrips	342T	\$524.00 Stores 720
Individual Filmstrips With Cassettes Out of Containers	342FA or 342TA	\$530.00 240 Sets
Individual Filmstrips With Cassettes In Cassettes	325FC or 325TC	\$521.00 240 Sets
Large Filmstrips Canisters (#2 Polycron)	342C	\$524.00 Stores 504
Cassettes Without Containers	342A	\$542.00 Stores 504
Cassettes In Containers	325	\$524.00 Stores 512
Filmloops	325	\$524.00 Stores 168
35mm Microfilm	325	\$524.00 Stores 160
16mm Microfilm	325	\$524.00 Stores 272
Microfiche	325	\$524.00 Stores 13,000
½" Video Tape	325	\$524.00 Stores 90
Study Prints	342N	\$428.00
	325N	\$470.00



"Lock-Stacking" Capabilities
Pictured above are two 242S cabinets lock-stacked together. This vertical stacking capability allows you to fully customize your storage center and make the best use of limited space, now and in the future.



20% More Storage
The 200 Series Material Storage Cabinets are 24"W x 18"D. Each unit stores 20% more material since all comparable cabinetry is smaller.



Lock Accessory—add \$25.00
Available for cabinet drawer units. Locks all drawers simultaneously. Ships with set of 2 keys. Should be ordered with cabinet. Add suffix LK to model number.



The central component of WALLTRAK is the 8-foot section that is firmly mounted to the wall. All accessories hang on the pre-drilled track sections. Install them as single sections or wrap an entire room.



WALLTRAK shelving is made from 1" thick particle board with putty beige laminate. Uprights are finished in dark brown and hang from the track.



Simplify AV And Meeting Presentations While Maximizing Your Wallspace

WALLTRAK is a flexible system of multi-purpose visual components and shelving units that hangs from a track. The pre-drilled aluminum track mounts to the wall and is the only permanent installation the system requires. From this track, hang any combination of visual components: flip charts, projection screens, dry erase boards, bulletin boards, even shelves. You can quickly expand WALLTRAK to handle large group presentations then revert to a simpler system. The bulletin board and dry erase board hang either vertically or horizontally. Shelves are 1" particle board with Putty Beige laminate and Dark Brown T-molding. Uprights are Dark Brown and hang from the track.

A. WUTH1 WALLTRAK Utility Hooks for mounting screens, maps, photos, plants, etc. 2 per set. Ships UPS. Dimensions: 6"x1".

B. WALLTRAK Projection Screens feature matte white surfaces and hang from track on WUTH1, Utility Hooks, ordered separately. Ships UPS.

C. WDEB34 Dry Erase Board is easy-to-use and clean. Use dry-wipe markers to add color to presentations. Ships assembled.

D. WMK1 WALLTRAK Marker Kit includes green, red, blue and black markers, eraser and 4 magnets in a magnetic mounting holder.

E. WFC1 Flip Chart Easel features dry erase surface, holds standard 2-hole or 3-hole paper, and has 2-position mounting brackets to adjust height. Ships disassembled.

F. WTB34 WALLTRAK Bulletin Board is burlap covered to resist wear. Ships assembled.

G. WALLTRAK Shelving can organize store and display equipment, books, samples, anything you normally shelve. The Uprights hang from the track and support the shelves. You design the system you need! Ships UPS.

H. WWT8 Aluminum Track comes in two 4' sections, pre-drilled on 16" centers. Vinyl trim hides mounting holes. Ships UPS.

I. WALLTRAK Organizational Boards provide visual guides with dry erase surface. Screen printed as a Monthly Planner, 4-month Organizer or Schedule Planner. 48"W x 36"H

A	WUTH1	Utility Hook	1 lb.	\$ 24.00
B	W2250M	50" x 50"	12 lbs.	\$ 96.00
	W2260M	70" x 60"	15 lbs.	110.00
	W2270M	70" x 70"	18 lbs.	135.00
C	WDEB34	36" x 48"	31 lbs.	\$158.00
D	WMK1	Marker Kit	1 lb.	\$ 38.50
E	WFC1	33 1/4"W x 35"H x 8"D	32 lbs.	\$172.00
G	WST1332	13"D x 32"W	16 lbs.	\$ 72.00
	WST1356	13"D x 56"W	28 lbs.	105.00
	WST1932	19"D x 32"W	23 lbs.	88.00
	WST1956	19"D x 56"W	41 lbs.	111.00
	WSB47	47"H	3 lbs.	31.50
	WSB61	61"H	4 lbs.	39.00
	WKB1	Keyboard Drawer	20 lbs.	90.00
H	WWT8	8' Track	6 lbs.	\$ 56.00
I	W01M34	Monthly Planner	31 lbs.	\$200.00
	W04M34	4 Month Planner	31 lbs.	200.00
	W0SP34	Schedule Planner	31 lbs.	200.00

Versatile, Mobile AV/Utility Carts

Life Time Warranty

tuffyTM
carts



Durable Basic and Colored Tuffy Carts

Wilson Tuffy Carts are formed from durable, structural thermoplastic that won't warp, crack or peel. The rich colors of the thermoplastic shelves and almond legs are in the material so nothing will chip or wear away. Tuffy is now available in six additional attractive colors: *Red, Green, Blue, Off-White, Gray* and *Yellow*. This new dimension in color extends the versatility of these carts to all types of utility applications. Comes with easy-rolling 4" or 5" swivel, ball bearing casters (two with brakes) that glide over floor cracks and thresholds without effort. Model numbers listed have 4" casters.

For additional work space and storage the popular Tuffy Cart can be purchased with a variety of multiple accessories.

WTT-Reversible pullout tray. The almond colored 17 3/4"W x 13"D metal shelf can be reversed to create a 1 3/4"H drawer. Ship. Wt. 7 lbs. UPS. Price \$49.95.

WTC-Spacious, lockable, 18 gauge steel almond enamel finish cabinet. Fits any 26", 34" or 42" Tuffy. New extrusion design provides easy assembly. No tools required. Ship. Wt. 20 lbs. UPS. Price \$94.00.

WTCS-Interior chrome plated wire cabinet rack for additional shelving. Ship. Wt. 4 lbs. UPS. Price \$12.95.

WTH-New attractive, chrome plated handle. May be attached to either or both sides for convenience. Ship. Wt. 2 lbs. UPS. Price \$14.95.

Additional versatility is reflected in the **WT30T** computer workstation. Economical Workstation for any PC computer. CPU and monitor position securely on top shelf with keyboard placed on pullout tray. Middle shelf houses printer with bottom shelf handling printer paper. 30" overall height. WTH handle can be purchased as an accessory.

Model	Description	Color	Shelf Size	Between Shelves	Ship. Wt. (lbs.)	Price
WT42	42"H Cart	Brown	18"x24"	14 1/2"/16 1/2"	27 UPS	\$ 92.50
WT34	34"H Cart	Brown	18"x24"	6 1/2"/16 1/2"	26 UPS	89.50
WT26	26"H Cart	Brown	18"x24"	16 1/2"	20 UPS	77.50
WT16	16"H Cart	Brown	18"x24"	6 1/2"	19 UPS	73.50
WT30T	Comp. Sta.	Brown	18"x24"	12 1/2"/6 1/2"	33 UPS	139.95

For color choice suffix "**OW**" (Off-White), "**R**" (Red), "**G**" (Green), "**Y**" (Yellow), "**GY**" (Gray) or "**BU**" (Blue) to Model No.; add \$5.50 to price.

Suffix "**E**" to model no. for 3-outlet electrical assembly; add \$26.00 to price and 2 lbs. to ship. wt.

Suffix "**-5**" to model no. for 5" casters; add \$10.00 to price and 1 lb. to ship. wt.



Uni-Strong Plus, AV/TV Tables



SPEC48S

WP54CE

W54SC

WP54E

W48TVC

Gold Seal Welded AV/TV Tables

These Uni-Strong Plus, Gold Seal tables with our new arc weld technique provide a sturdy, durable table unmatched in the industry. We stamp our logo into the shelving to indicate our pride in manufacturing. Constructed of heavy gauge steel with a charcoal gray nylon bead finish. Comes with 4" or 5" swivel, ball-bearing casters (two lock) and non-slip rubber mat for top shelf. Slant models have monitor strap included. Model numbers listed have 4" casters. "S" models have 5° slanted top shelf. "SPEC" models designed for use with larger video equipment. "WP" Pyramid models are wide base engineered providing increased stability. "C" models have lockable spacious cabinets. "A" models adjust in height from 24" to 42".

Model	Description	Ht. (in.)	Shelf Size (in.)	Ship. Wt. (lbs.)	Price
W54TV	TV Table	54	24x28	60	\$177.00
W54C	w/Cabinet	54	24x28	79	266.00
W54S	TV Table-Slant	54	24x28	59	181.00
W54SC	w/Cabinet	54	24x28	78	271.00
SPEC54F	Super TV Table	54	25x34	75	225.00
WP54	TV Pyramid Table	54	(2)24x28	65	198.00
WP54C	w/Cabinet	54	(1)30x30	84	287.00
SPEC48F	Super TV Table	48	25x34	72	215.00
SPEC48S	Super TV Table	48	25x34	71	220.00

(CONTINUED)

Model	Description	Ht. (in.)	Shelf Size (in.)	Ship. Wt. (lbs.)	Price
W48TV	TV Table	48	24x28	57	\$168.00
W48C	w/Cabinet	48	24x28	76	259.00
W48S	TV Table-Slant	48	24x28	56	173.00
W48SC	w/Cabinet	48	24x28	75	263.00
WP48	TV Pyramid Table	48	(2)24x28	62	189.00
WP48C	w/Cabinet	48	(1)30x30	81	278.00
W42TV	TV Table	42	24x28	55	165.00
W42TV C	w/Cabinet	42	24x28	74	256.00
W42A	Adj. A/V Cart	24-42	18x24	42 UPS	122.00
W42AC	w/Cabinet	24-42	18x24	54 UPS	190.00
W42	A/V Cart	42	18x24	41	125.00
W34	A/V Cart	34	18x24	39	119.00
W26	A/V Cart	26	18x24	30 UPS	106.00
W16	A/V Cart	16	18x24	28 UPS	101.00

Suffix "E" to model no. for 2-outlet electrical assembly w/20' cord; add \$27.00 to price and 3 lbs. to ship wt.

Suffix "E3" to model no. for 3-outlet electrical assembly w/20' cord; add \$32.00 to price and 4 lbs. to ship wt.

Suffix "-5" to model no. for 5" casters; add \$10.00 to price and 1 lb. to ship wt.

Accessories: AWS-Monitor Securing Strap; Price \$21.00.



W34



W42E



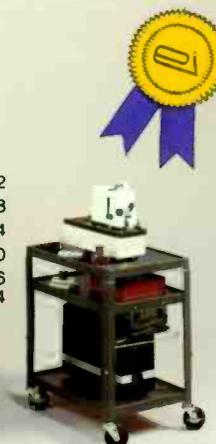
W26E



W16

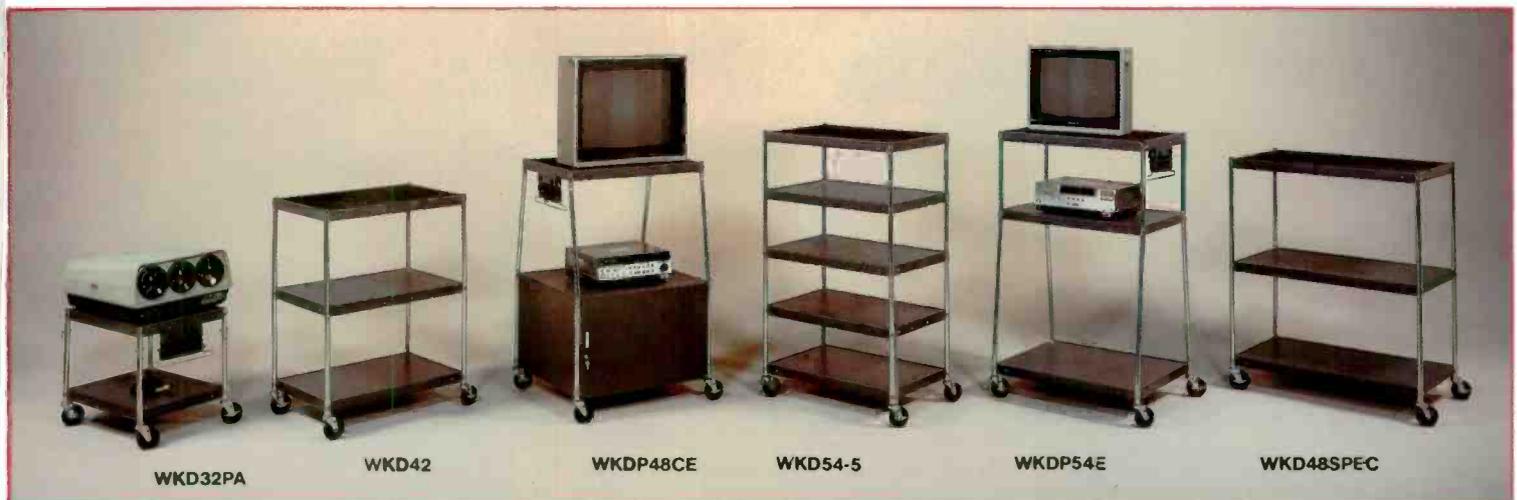


W42ACE



W42AE

Video Projector and TV Tables



Super Versatile, Knock Down, Video Tables

These knocked down video tables are designed to support a variety of video hardware applications. Constructed of charcoal gray nylon bead finish, 18 gauge steel shelves with rolled retaining lip and 1" tubular chrome-plated steel legs. The patented corner clamps attach the legs to the shelves with a grip stronger than a weld. Top shelf can be slanted up to 5°. These models come in various shelf sizes and shelf height adjustability. "A" models have overall height adjustments at 2" increments. "WKDP" Pyramid design models are wide base engineered for increased stability. Comes with 4" or 5" swivel, ball-bearing casters (two lock) and non-slip rubber mat for top shelf. Model numbers listed have 4" casters.

Model	Description	Ht. (in.)	Shelf Size (in.)	Ship. Wt. (lbs.)	Price
WKD54	Basic Table	54	21x30	61 UPS	\$199.95
WKD54A	Adj. Basic Table	36-54	21x30	60 UPS	212.00
WKD54X	Super Table	54	27x30	73 UPS	265.95
WKD54XA	Adj. Super Table	36-54	27x30	72 UPS	262.00
WKD54SPEC	Special Table	54	24x36	76 UPS	276.00
WKD-54-4	4 Shelf Table	54	21x30	79 UPS	241.00
WKD-54-5	5 Shelf Table	54	21x30	91 UPS	290.00
WKDP54	Pyramid Table	54	(2)21x30 (1)27x30	69 UPS	210.00
WKDP54C	w/Cabinet	54	(1)21x30 (2)27x30	109 UPS	316.00
WKD48	Basic Table	48	21x30	59 UPS	197.95
WKD48X	Super Table	48	27x30	71 UPS	261.95
WKD48SPEC	Special Table	48	24x36	74 UPS	269.00
WKDP48	Pyramid Table	48	(2)21x30 (1)27x30	67 UPS	207.00
WKDP48C	w/Cabinet	48	(1)21x30 (2)27x30	107 UPS	313.00
WKD42	Basic Table	42	21x30	58 UPS	187.95
WKD42X	Super Table	42	27x30	70 UPS	251.95
WKD42PA	Adj. Table	28-42	18x24	45 UPS	185.00
WKD42SPEC	Special Table	42	24x36	73 UPS	254.00
WKD32A	Adj. Table	22-32	(2)21x30	42 UPS	190.00
WKD32PA	Adj. Table	22-32	(2)18x24	33 UPS	165.00
WKD32WA	Adj. Table	22-32	(2)24x30	48 UPS	220.00
WKD32XA	Adj. Table	22-32	(2)27x30	48 UPS	229.00

Suffix "E" to model no. for 2-outlet electrical assembly w/20' cord; add \$27.00 to price and 3 lbs. to ship. wt.

Suffix "E3" to model no. for 3-outlet electrical assembly w/20' cord; add \$32.00 to price and 4 lbs. to ship. wt.

Suffix "-5" to model no. for 5" casters; add \$10.00 to price and 1 lb. to ship. wt.

Accessories: AWS-Monitor Securing Strap; Price \$21.00. WKDC-Cabinet Pack for Basic Tables; Price \$96.00. WKDX-Cabinet Pack for Super Tables; Price \$106.00. WKDS2130-Extra shelf 21"x30"; Price \$59.00. WKDS2436-extra shelf 24"x36"; Price \$69.00. WKDS2730-extra shelf 27"x30"; Price \$65.00.



Overhead Projection Tables

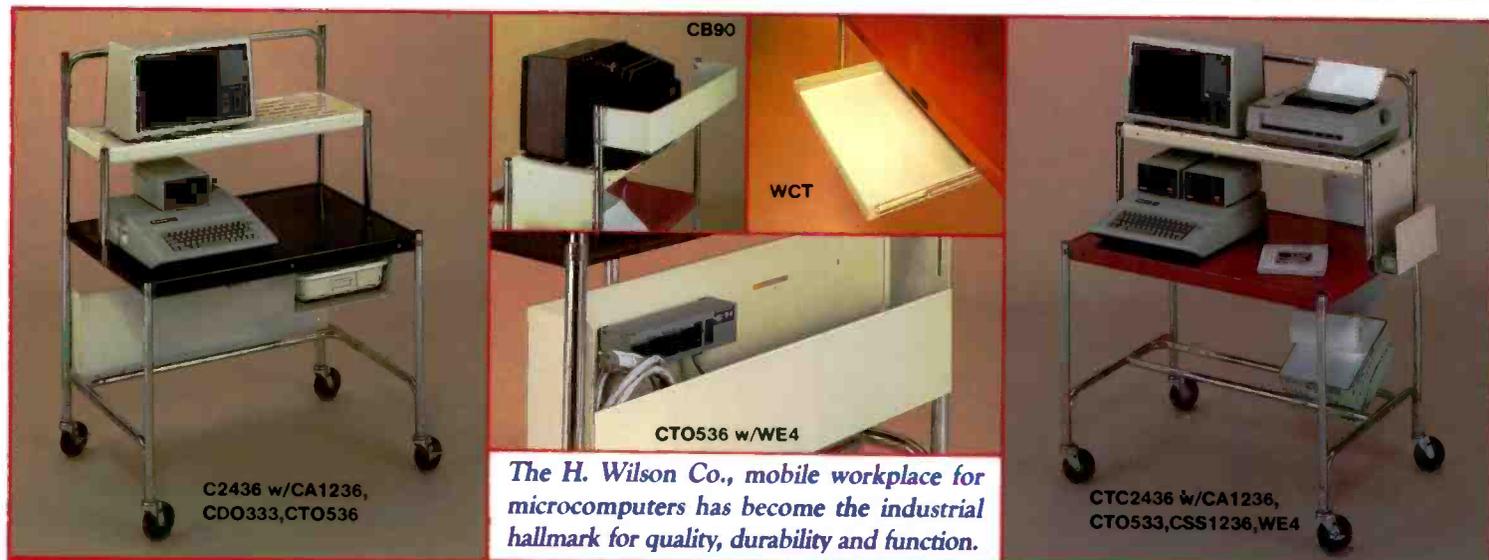
Available in 29" desk or 39" podium height. Both have large 19"x16" well opening. Constructed of steel with baked brown enamel finish and 1" tubular, chrome-plated, steel legs. Patented corner clamps allow shelf height adjustment. Comes with 4" swivel, ball-bearing casters (two lock).

Model	Description	Shelf Size	Between Shelves	Ship. Wt. (lbs.)	Price
WOH39KD	39"H Podium	21"x36"	Adj.	47 UPS	\$223.00
WOH29KD	29"H Desk	21"x36"	Adj.	48 UPS	241.00

Suffix "E" to model no. for 2-outlet electrical assembly w/20' cord; add \$27.00 to price and 3 lbs. to ship wt.

Suffix "E3" to model no. for 3-outlet electrical assembly w/20' cord; add \$32.00 to price and 4 lbs. to ship. wt.

Personal Computer Workcenters



The H. Wilson Co., mobile workplace for microcomputers has become the industrial hallmark for quality, durability and function.

Basic Mobile Workstation

C2436 (brown) or **CTC2436** (terra cotta) **Basic Mobile Station.**

Shelves are heavy gauge steel and have a raised edge retaining lip. Legs are rugged 1" diameter chrome-plated steel tubing. Has 24"x36" height adjustable, baked enamel work surface. Comes with 4" swivel, ball-bearing casters (two lock). Ship. Wt. 36 lbs. UPS. **Price \$160.00**

C2436CT (brown) or **CTC2436CT** (terra cotta) **Mobile Station with Reversible Pullout Tray.**

Same construction as above but with a 17 1/4"W x 13"D Pullout Shelf which can be reversed, and used as a 1 3/4"H Drawer. Has a baked almond enamel finish. Ship. Wt. 45 lbs. UPS. **Price \$209.95**

ACCESSORIES:

WCT - Reversible Pullout Tray. A shelf for keyboard or extra work surface, or a drawer for materials and supplies. Ship. Wt. 9 lbs. UPS. **Price \$59.95**

CA1236 - Monitor/Printer Shelf. Slotted 12"x36" almond enamel height adjustable shelf with leg extensions and height adjustable retaining bar. Ship. Wt. 17 lbs. UPS. **Price \$95.00**

* **CTO536 - Wire Management Tray.** Ideal place to mount electricals and tuck in all cordage needed to power a modular system. Ship. Wt. 12 lbs. UPS. **Price \$55.00**

* **CTO533 - End-Mount Management Cradle.** Fastens to either end of monitor shelf. Will hold 4-outlet electrical assembly only. Ship. Wt. 4 lbs. UPS. **Price \$34.00**

* **CDO333 - Pedestal with Tray.** Handy place to store diskettes, supplies. Ship. Wt. 11 lbs. UPS. **Price \$53.00**

* **CB90 - 90° Monitor Retainer.** Provides extra depth needed when using retainer bar. Almond color. Ship. Wt. 6 lbs. UPS. **Price \$19.00**

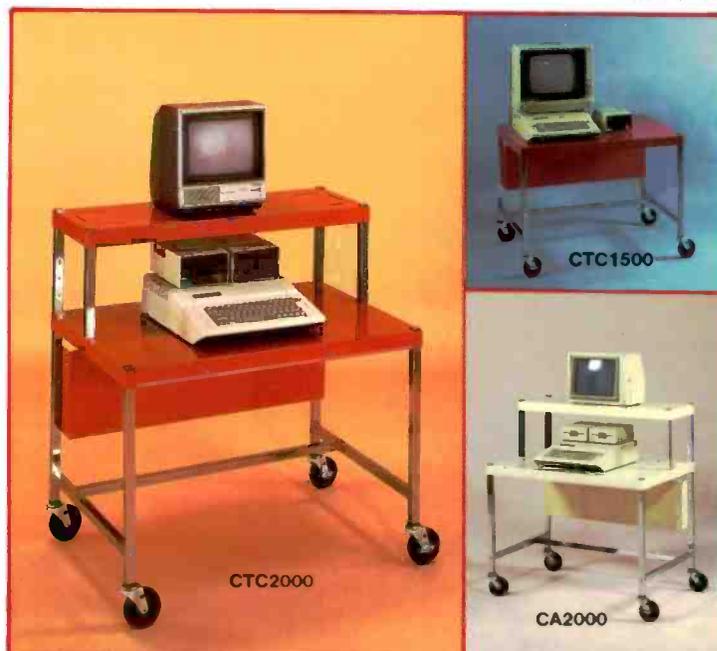
* **CSS1236 - Printer Paper Storage Support.** Tubular bar, mounts to provide stable cradle for standard box of letter-size printer paper. Ship. Wt. 3 lbs. UPS. **Price \$18.00**

* **WE4-UL - Electrical Assembly.** 4 grounded outlets, circuit breaker, on-off switch. Ship. Wt. 2 lbs. UPS. **Price \$28.00**

* **WE6-UL - Electrical Assembly.** 6 grounded outlets, circuit breaker, on-off switch. Ship. Wt. 2 lbs. UPS. **Price \$31.00**

* **CMM-Monitor Security Mount.** Provides extra security for monitors. Ship. Wt. 2 lbs. UPS. **Price \$24.00**

* *Cannot be used together on same unit.*



Budget-Minded Workcenter

A mobile, metal workplace for your computer. Comes in a terra cotta, brown or almond enamel finish. Work surface is 36"W x 24"D. Legs are 1" square, chrome-plated steel tubing with provisions for work surface height adjustments. The 1500 series comes with a wire management tray and 4-outlet electrical assembly with circuit breaker and on-off switch. Overall height 30" with 4" casters (two lock). The 2000 series also includes a height adjustable, ventilated, monitor shelf. Overall height 39".

Model	Description	Ship. Wt. (lbs.)	Price
CTC1500	Workstation (terra cotta)	48 UPS	\$209.00
CTC2000	w/monitor shelf	62 UPS	233.00
CA1500	Workstation (almond)	48 UPS	209.00
CA2000	w/monitor shelf	62 UPS	233.00
C1500	Workstation (brown)	48 UPS	209.00
C2000	w/monitor shelf	62 UPS	233.00

Accessories: **CSL**-Security Lock. Ship. Wt. 1 lb. UPS Price **\$24.00**.

WE4SP-U.L.-Power Surge Electrical. Ship. Wt. 2 lbs. UPS Price **\$67.00**.

HWC® /h. wilson co. division of **EBSCO industries inc.** 

The Winsted Matchmaker Systems



A Model H8502
\$1653.00



C Model G8539
\$1935.00

B Model H8501
\$1416.00

SYSTEM/85 MODULAR VIDEO CONSOLES

A new generation of modular video furniture for use with Sony's front loading video machines, new 3/4" editing systems and other studio equipment.

These standard 19" EIA modular units are constructed of strong, welded and bolted heavy-gauge steel. All units assemble quickly and easily in any configuration to suit your individual needs. The basic module is expandable to any size system with add-on units. Textured baked on enamel finish in Beige and Gray.

A complete line of console accessories are available to compliment the new System/85 consoles—with rack mounting kits for both series of VTRs, panel kits for editors, heavy-duty swivel casters for mobility, multiple outlet electrical assemblies, an oversize shelf for large controllers, and blank panels.

A Model H8502. For use with Sony's "Type 5" VTRs and RM-440 Controllers. Overall dimensions 41"H x 42 1/2"D x 61"W. System includes:

1 ea. G8502 Basic console—19"	\$515.00
2 ea. G8500 Add-on console—19" (\$319.00 ea.)	638.00
2 ea. 85041 Interchangeable top—19" (\$33.00 ea.)	66.00
1 ea. 85040 Intermediate top—19"	32.00
2 ea. 85080 Sloped editor shelf—19" (\$96.00 ea.)	192.00
1 ea. 85180 RM-440 editor panel	45.00
1 ea. 85147 14" Blank panel—19"	25.00
3 ea. 85140 1 3/4" Blank panel—19" (\$8.00 ea.)	24.00
3 ea. 85149 19 1/4" Blank panel—19" (\$32.00 ea.)	96.00
1 ea. 85141 3 1/2" Blank panel—19"	9.00
1 ea. 85142 5 1/4" Blank panel—19"	11.00

Model H8502 complete. Shpg. wt. 348 lbs. **Total \$1653.00**

Model H8802 (Not shown.) Same as H8502 Set up for Sony's 800 Series VTRs and 801 Edit Controller.

Model H8802 Shpg. wt. 348 lbs. **\$1629.00**

B Model H8501. For use with Sony's "Type 5" VTRs and RM-440 controller. Overall dimensions 44"H x 42 1/2"D x 43"W. System includes:

1 ea. G8502 Basic console—19"	\$515.00
1 ea. G8500 Add-on console—19"	319.00
2 ea. 85041 Interchangeable top—19" (\$33.00 ea.)	66.00
2 ea. 85080 Sloped editor shelf—19" (\$96.00 ea.)	192.00
1 ea. 85180 RM-440 Editing panel	45.00
1 ea. 85141 3 1/2" Blank panel—19"	9.00
1 ea. 85147 14" Blank panel—19"	25.00
1 ea. 85580 Pull-out shelf—19"	69.00
2 ea. 85149 19 1/4" Blank panel—19" (\$32.00 ea.)	64.00
2 ea. 85140 1 3/4" Blank panel—19" (\$8.00)	16.00
3 pr. 85781 3" Industrial casters (\$32.00 pr.)	96.00

Model H8501 complete. Shpg. wt. 255 lbs. **Total \$1416.00**

Model H8801. (Not shown.) Same as H8501 set up for Sony's 800 Series VTRs and 801 Controller.

Model H8801. Shpg. wt. 255 lbs. **\$1400.00**

Prices subject to change without notice.

C Model G8539. Video console with pull-out trays for your video equipment. Overall dimensions: 41"H x 42 1/2"D x 61"W. System includes:

1 ea. G8501 Base module—19"	\$323.00
2 ea. 85000 Add-on module—19" (\$198.00 ea.)	396.00
2 ea. G8590 Cabinet with pull-out shelf—19" (\$215.00 ea.)	430.00
1 ea. 85002 10 1/2" Top module—19"	114.00
1 ea. 85164 Filler panel	18.00
1 pr. 85122 10 1/2" Side panels	64.00
2 ea. 85041 Interchangeable top—19" (\$33.00 ea.)	66.00
1 ea. 85040 Intermediate top—19"	32.00
3 ea. G8540 Flat editor shelf—19" (\$120.00 ea.)	360.00
3 ea. 85148 15 3/4" Blank panel—19" (\$28.00 ea.)	84.00
6 ea. 85140 1 3/4" Blank panel—19" (\$8.00 ea.)	48.00

Model G8539 complete. Shpg. wt. 398 lbs. **Total \$1935.00**

Model G8535. (Not shown.) Same as model G8539 except set up with 20" pull-out shelves.

Wt. 398 lbs. **\$2279.00**



RACK SLIDE KITS

Order separately. Not included in console prices.

RACK SLIDE KITS

1 Model F8501. Rack slide kit for Sony's Type 5 VTRs.
Wt. 8 lbs. **\$235.00**

2 Model F8801. (Not shown.) Rack slide kit for Sony's 800 Series VTRs.
Wt. 8 lbs. **\$235.00**

Call us for additional Rack Kits.

For full-line catalog of editing, production and dubbing consoles, tape and film trucks, film and videotape storage systems contact your Winsted dealer.

NEW DESIGN CONSOLES

Perfect for top-loading VTR's and to rack mount your video electronics



A Model G8300
\$1949.00

A Model G8300. Ideal "A/B Roll" console. Overall dimensions: 42"Hx54"Dx66"W. System includes:

1 ea. G8311	Add-on console—30"	\$446.00
1 ea. 83000	Base module—30"	229.00
1 pr. 85120	Base side panels	85.00
1 ea. 83001	Add-on slope module	177.00
1 pr. 85121	10½" Slope side panels	71.00
1 ea. 83252	Bracket for ½" rack mounting	38.00
1 pr. 83208	10½" Divider rail	56.00
2 ea. 83041	Interchangeable top—30" (\$46.00 ea.)	92.00
2 ea. 83087	Pull-out shelf—30" (\$198.00 ea.)	396.00
1 ea. 83081	Stationery shelf—30"	75.00
1 ea. G8340	Wood editor shelf—30"	153.00
1 ea. 85142	5¼" Blank panel—19"	11.00
1 ea. 83158	15¾" Blank panel—30"	29.00
1 ea. 83151	3½" Blank panel—30"	11.00
1 pr. 83200	Stabilizer leg	80.00

Model G8300 complete. Shpg. wt. 320 lbs. Total \$1949.00



B Model G8321
\$1709.00

B Model G8321. Top loading VTR console with 19" rack space for additional electronics. Overall dimensions 41"H x 54½"W x 42½"D. System includes:

1 ea. G8312	Basic console—30"	\$642.00
1 ea. G8500	Add-on console—19"	319.00
1 pr. 83208	10½" Divider rail	56.00
1 ea. 85041	Interchangeable top—19"	33.00
1 ea. 83041	Interchangeable top—30"	46.00
1 ea. 85082	Flat editor shelf—19"	117.00
2 ea. 83087	Full extension shelf—30" (\$198.00 ea.)	396.00
1 ea. 85148	15¾" Blank panel—19"	28.00
1 ea. 85145	10½" Blank panel—19"	18.00
2 ea. 85140	1¾" Blank panel—19" (\$8.00 ea.)	16.00
1 pr. 83200	Stabilizer legs	80.00

Model G8321 complete. Shpg. wt. 302 lbs. Total \$1709.00

CUSTOM CORNER AND WOOD CONSOLES



C Model G8538
\$3654.00

Corner Console Wrap-around design saves space

C Model G8538. Corner consoles with 24" deep work surface. System includes:

1 ea. G8502	Basic console—19"	515.00
3 ea. G8500	Add-on console—19" (\$319.00)	957.00
4 ea. 85002	10½" Top modules—19" (\$114.00)	456.00
3 pr. 85122	10½" Side panels (\$64.00 ea.)	192.00
4 ea. 85161	Wedges—19" (\$75.00)	300.00
2 ea. 85042	Single tops—19" (\$34.00 ea.)	68.00
2 ea. 85041	Interchangeable tops—19" (\$33.00 ea.)	66.00
1 ea. 85202	Corner kit	398.00
2 ea. G8541	Corner shelves (\$223.00)	446.00
2 ea. 85200	Chrome legs (\$40.00)	80.00
4 ea. 85148	15¾" Blank panel—19" (\$28.00 ea.)	112.00
8 ea. 85140	1¾" Blank panel—19" (\$8.00)	64.00

Model G8538 complete. Shpg. wt. 610 lbs. Total \$3654.00



D Model G8524
\$1707.00

Wood Console Gives your electronics an attractive new look

D Model G8524. Two-bay JVC wood console. Overall dimensions are 53¼"Hx44"Dx44½"W. System includes:

2 ea. 85000	Base module—19" (\$198.00 ea.)	\$396.00
2 ea. 85010	19¼" Slope rack (\$198.00 ea.)	396.00
2 ea. 85085	Flat extended editor shelf (\$122.00 ea.)	244.00
1 ea. 85190	JVC RM-86U controller panel	49.00
1 ea. 85200	Chrome leg	40.00
1 pr. 85520	Base wood side panels	175.00
1 pr. 85528	19¼" Slope wood side panels	156.00
1 ea. 85542	Wood top for 2-bay console	155.00
3 pr. 85781	3" Industrial casters (\$32.00 pr.)	96.00

Model G8524 complete. Shpg. wt. 315 lbs. Total \$1707.00

NOTE: Order blank panels, custom color editor shelf pad and other accessory options on page 15 of a Winsted full line catalog. Please specify color when ordering.

The Winsted Corporation

MOBILE EDITING CONSOLES

A Model E9303. Caster mounted console for complete mobility in your teleproduction studio. Overall dimensions: 56"Hx28"Dx60"W. System includes:

2 ea. C9300 Basic frame—30" (\$329.00 ea.)	\$658.00
2 ea. C9310 VTR drawer—30" (\$193.00 ea.)	386.00
3 ea. 93580 Monitor shelf—30" (\$95.00 ea.)	285.00
1 ea. 93582 Editor shelf—30"	183.00
1 ea. 93084 Mini monitor shelf—30"	39.00

Model E9303 complete. Shpg. wt. 300 lbs. **Total \$1551.00**

B Model L9307. Production console set up for front loading VTRs. Dimensions of VTR console are 56"Hx26"Dx22"W. Dimensions of editing console are 45"Hx45"Dx62"W. System includes:

2 ea. 93021 Mini frames—30" (\$165.00 ea.)	\$330.00
2 ea. 93100 Back panels—30" (\$40.00 ea.)	80.00
1 ea. C9200 Basic frame—22"	319.00
1 pr. 93200 Leg extensions	51.00
3 ea. C9210 Pull-out VTR drawer—22" (\$176.00 ea.)	528.00
1 ea. C9311 Pull-out editor shelf—30"	286.00
1 ea. C9312 Pull-out switcher shelf—30"	405.00
2 ea. 93081 Rack mount shelves—30" (\$93.00 ea.)	186.00
3 ea. 98002 10 1/2" Rack cabinets (\$152.00 ea.)	456.00
1 ea. 93540 Wood top	98.00
1 pr. 93521 Wood side panels	163.00
12 ea. 98243 Cabinet hold down (\$2.00 ea.)	24.00

Model L9307 complete. Shpg. wt. 588 lbs. **Total \$2926.00**



A Model E9303
\$1551.00



B Model L9307
\$2926.00



C Model E4950
\$629.00



C Model E4950. The latest in design for editing and post production rooms. A basic two machine editing console or a sophisticated A/B roll setup. The uniquely designed mini console is only 28" deep and easily rolls through doorways. Top monitor shelf measures 16"D x 48"W. VCR shelves are 23 1/2"D x 20"W; edit shelf is 15"D x 23"W—adjust in 1-inch increments. Call your dealer for additional models. Includes glides and casters for optional mobility. Baked-on enamel finish in Beige and Gray. Overall 34"H x 28"D x 48"W.

Model E4950 complete. Shpg. wt. 146 lbs. **\$629.00 ea.**



D Model R3802
\$992.00

D Model R3802. Compact editing console with locking doors. Overall dimensions: 56"H x 26"D x 24 1/2"W. System includes:

1 ea. 38000 Base console	\$775.00
1 ea. 38080 Upper shelf and posts	217.00

Model R3802 complete. Shpg. wt. 204 lbs. **Total \$992.00**

For full-line catalog of editing, production and dubbing consoles, tape and film trucks, film and videotape storage systems contact your Winsted dealer.

The Winsted Corporation

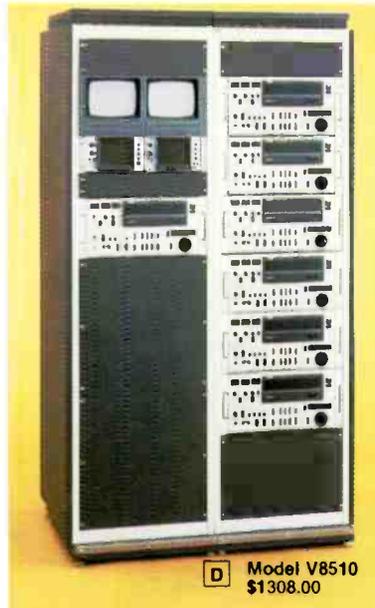
VERTICAL EQUIPMENT CABINETS...with removable side panels for installation of electronics and servicing convenience.



A Model V8506
\$614.00

B Model V8501
\$738.00

C Model V8502
\$359.00



D Model V8510
\$1308.00

Ruggedly constructed, totally adaptable electronic equipment cabinets. Designed to the industry standard of 19"W x 26"D. Large holes in base for cabling. Removable panels. Ventilating louvers on top and base to keep electronics cool. Enamel finish compatible with all other System/85 consoles. Optional rear door available for 35" and 70" models.

A Model V8506. Vertical rack cabinet has 35" of usable rack space. Gray and Beige baked enamel finish, with vented sides and base for cooling. 42"H x 26"D x 22"W. Wt. 90 lbs. **\$614.00**

Rear Door for Model V8506. Wt. 25 lbs.
Model 85301 **\$118.00**

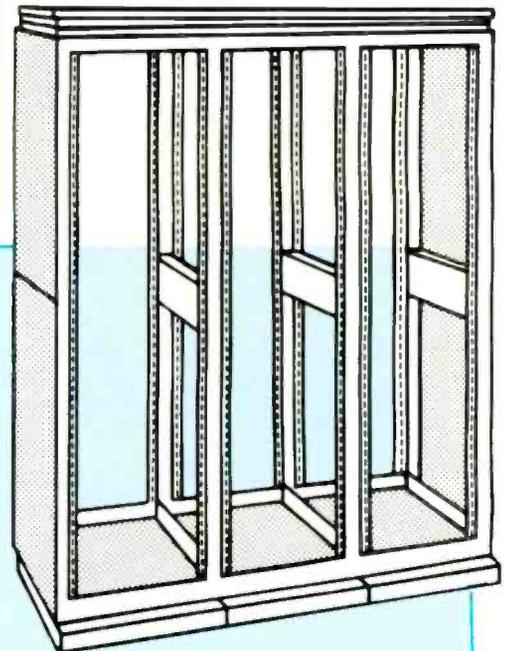
B Model V8501. Vertical rack cabinet with 70" of rack space. Vented top and bottom. 79"H x 26"D x 22"W. Wt. 160 lbs. **\$738.00**

Rear Door for Model V8501. Wt. 31 lbs.
Model 85300 **\$142.00**

C Model V8502. Vertical rack cabinet with 24½" of rack space. Open bottom and vented sides for cool air flow. 30"H x 26"D x 22"W. Wt. 81 lbs. **\$359.00**

Back Panel for V8502 rack cabinet. Wt. 10 lbs.
Model 85100 **\$59.00**

D Model V8510. Gives you a compact duplication console by combining two 70" cabinets into a double width equipment rack. Offers 140" of rack space. Ideal for cable TV and hotel playback systems. May also be used as a production console editing from ¾" machines. Wt. 265 lbs. **\$1308.00**



ADD-A-RACK

70" Basic Rack. Without sides or base. Wt. 102 lbs.
Model V8520 **\$436.00**

Standard Base. With cooling vents and cable access ports. Wt. 31 lbs.
Model 85060 **\$134.00**

Anti-Tip Base. Use with full-suspension shelves and drawers. Wt. 38 lbs.
Model 85062 **\$185.00**

Side Panels. (Pair) Wt. 59 lbs.
Model 85124 **\$168.00 pr.**

Stationary Shelf. Wt. 10 lbs.
Model 85088 **\$35.00**

13" Pull-Out Shelf. Wt. 12 lbs.
Model 85091 **\$119.00**

20" Full-Suspension Shelf. Wt. 12 lbs.
Model 85083 **\$179.00**

Optional 2½" Casters. Set of 4. Wt. 3 lbs.
Model 85782 **\$28.00**

STATIONARY & MOVABLE DUBBING RACKS FOR 1/2" & 3/4" FORMATS

A Model D4500. Stationary type with five walnut woodgrain pull-out VTR shelves. Shelves are mounted on ball-bearing rollers for easy pull-out. Overall dimensions: 72"H x 20"D x 32"W. Includes:

1 ea. D4501 Basic rack	\$302.00
1 pr. 45121 Side panels	\$85.00
5 ea. 45580 Pull-out shelves (98.00 ea.)	490.00
Model D4500 complete. Shpg. wt. 194 lbs.	Total \$877.00

Model 45000 (Not shown). Caster base for models D4500 and D4502. Overall dimensions: 4"H x 28"D x 32"W.
Wt. 32 lbs. **\$208.00**

B Model D9300. Mobile duplication console with all steel pullout shelves. Overall dimensions: 71"H x 26"D x 30"W. System includes:

1 ea. C9302 Extended basic frame—30"	\$406.00
4 ea. C9310 Pull-out drawers—30" (\$193.00 ea.)	772.00
1 ea. 93580 Monitor shelf—30"	95.00
2 ea. 93786 Heavy-duty 4" caster (\$6.50 ea.)	13.00
2 ea. 93787 Heavy-duty locking caster (\$7.50 ea.)	15.00
Model D9300 complete. Shpg. wt. 337 lbs.	Total \$1301.00



A Model D4500
\$877.00

B Model D9300
\$1301.00

C Model D8911. Single bay duplicating rack with seven shelves. Overall dimensions: 78"H x 26"D x 23 1/4"W. System includes:

1 ea. D8900 Basic rack	\$316.00
1 pr. 89120 Side panels	119.00
7 ea. 85088 Stationary shelf (\$35.00 ea.)	245.00
Model D8911 complete. Shpg. wt. 180 lbs.	Total \$680.00

D Model D8913. Compact dubbing console with 14 inches of rack mount capacity. Overall dimensions: 78"H x 26"D x 46 1/4"W. System includes:

2 ea. D8900 Basic racks (\$319.00 ea.)	\$638.00
1 pr. 89120 Side panels	119.00
12 ea. 85091 13" Pull-out shelves (\$119.00 ea.)	1428.00
2 ea. 89061 Anti-tip base (\$63.00 ea.)	126.00
1 pr. 89243 14" Rack rail	18.00
Model D8913 complete. Shpg. wt. 347 lbs.	Total \$2326.00

Model 85300 (Not shown). Rear door for Model D8900.
Wt. 25 lbs. **\$142.00**

ADD-A-RACK

Basic rack frames can be bolted together without side panels to form an economical "in line" duplicating center. Side panels are installed at each end. Shelves can be installed at 1" increments to fit exact equipment needs.

Model D4501. Basic rack without side panels.
Wt. 89 lbs. **\$302.00**

Model 45121. Side panels (Pr.)
Wt. 55 lbs. **\$85.00**

Model 45580. Pull-out shelves.
Wt. 18 lbs. **\$98.00**



C Model D8911
\$680.00

D Model D8913
\$2326.00

ADD-A-RACK

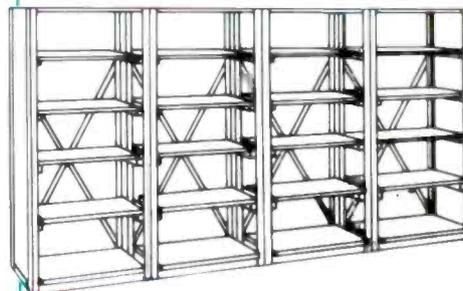
Basic rack frames can be bolted together without side panels to form an economical "in line" duplicating center. Side panels and shelves may be added to complete your duplicating center.

Model D8900. Basic rack without sides or shelves.
Wt. 62 lbs. **\$316.00**

Model 85088. Stationary shelf.
Wt. 10 lbs. **\$35.00**

Model 89120. Side panels (Pair)
Wt. 49 lbs. **\$119.00**

Model 85091. 13" Pull-out shelf.
Wt. 12 lbs. **\$119.00**

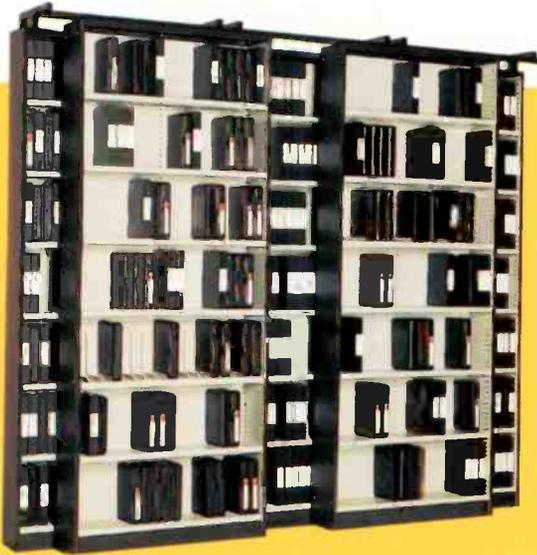


For full-line catalog of editing, production and dubbing consoles, tape and film trucks, film and videotape storage systems contact your Winsted dealer.

The Winsted Corporation

MOVABLE STORAGE SYSTEMS In a variety of designs and 5" to 36" depths to serve your special storage needs.

Winsted Shelf Storage System. Offer organization and storage for most any tape or film storage system. Choose from stock or custom shelving at affordable prices. All designs are completely flexible—can be adapted to a variety of configurations and setups to serve your special storage needs. What's more, Winsted shelving grows as your needs grow. Both stock and custom installations can be expanded, or relocated as your needs change.



A

TYPICAL CABINET INSTALLATIONS

Stationary Units (In Back)



Movable Units (In Front)

A "Super Density" Movable Cabinets. Offered in a range of cabinet depths for maximum storage in a limited space. Front row cabinets move side to side on floor tracks for easy access to rear storage. Ideal for "VHS," "BETA," U-matic and broadcast tape storage.

B Space-Saving Pull-Out Cabinets. Ideal for "high access" tape storage. May be installed in room alcoves or set-backs. Save floor space, too, by eliminating unnecessary aisles. Gives you 100% storage space efficiency. Units bolt together for any length system. Cabinets pull-out effortlessly on a low-profile track.

C High Capacity Tape Storage System. Affords compact storage in a limited space. Offered in a full range of cabinet depths to meet every storage need. Cabinets move laterally on low-profile rails for easy access to all records instantly, effortlessly.



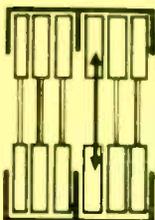
B

TYPICAL INSTALLATIONS



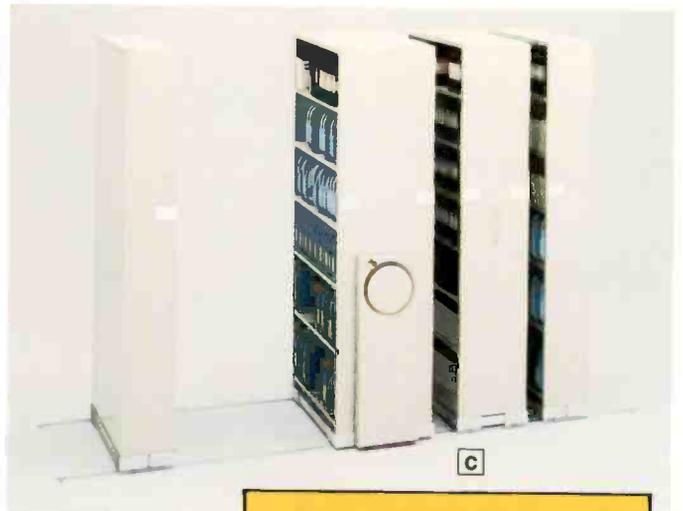
HOW IT WORKS

Sliding cabinets, in two unit or three unit configurations, pull-out for time saving access to tapes. Ideal for previously unusable storage space.

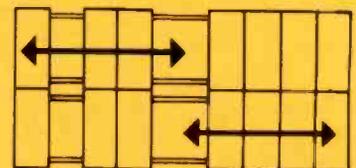


WALK-IN CENTER AISLE COMBINATIONS

Cabinets are installed directly opposite each other and use a common track and center aisle. Units pull out from left or right to provide fast access to stored material. All steel construction.



C



HIGH CAPACITY CABINET INSTALLATION

Cabinets roll on low-profile rails for easy access to all contents. Stationary, movable and movable with mechanical assist models are available.

FREE PLANNING SERVICE...

Let our analysts show you how you can save storage space and make your operations more efficient with Winsted's super-density storage systems. Just call or write and let us know the quantity and type of tapes to be stored, along with dimensions of available space. We will

analyze your storage space problems and provide a design for your particular operation.

Call or write to:
Winsted Design Service
 10901 Hampshire Ave. So.
 Minneapolis, MN 55438

OPEN SHELF TAPE CABINETS

For the organization & storage of all tape formats

A Model T7400. Ideal videotape storage system for 3/4" U-Matic videocassettes. Eight inch deep cabinet holds 161 videocassettes. Order molded plastic dividers for videocassettes separately (Model 70983—see Optional Accessories). Seven shelves. Overall: 88"H x 8"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).
Wt. 120 lbs. **\$439.00**

Add-on Unit. Model T7403. For side-to-side installation.
Wt. 105 lbs. **\$409.00**

Model 74080. Extra Shelf.
Wt. 4 lbs. **\$26.00**

B Model T7700. Video tape storage system holds 102 1" video tapes. Deeper 12" cabinet depth takes 1" broadcast tapes, 7"-10 1/2" quad tapes and 3/4" U-Matic videocassettes. Order molded plastic dividers for videocassettes separately. Six shelves overall: 88"H x 12"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).
Wt. 125 lbs. **\$464.00**

Add-On Unit. Model T7703. For side-to-side installation.
Wt. 110 lbs. **\$426.00**

Model 77080. Extra Shelf.
Wt. 5 lbs. **\$29.00**

C Model T7600. "Super Pak" videocassette tape storage system. Holds 207 3/4" videocassettes. For maximum capacity tapes are stored and labeled on end. Nine shelves. Overall: 88"H x 10"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).
Wt. 139 lbs. **\$459.00**

Add-on Unit. Model T7603. For side-to-side installation.
Wt. 118 lbs. **\$421.00**

D Model T7800. Quad Tape Storage System. A 16" deep cabinet that is perfect for 2" quad and holds 55 tapes. Five shelves. Overall: 88"H x 16"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).
Wt. 165 lbs. **\$519.00**

Add-On Unit. Model T7803. For side-to-side installation.
Wt. 150 lbs. **\$479.00**

Model 78080. Extra Shelf.
Wt. 6 lbs. **\$31.00**

E Model 70300. Locking cabinet doors provide security for valuable master tapes. Doors fit all of the Winsted "T" series tape cabinets (except T7200 and T7500 models) and can be added to any existing "T" unit. Full length door hinge and two-point locking system. NOTE: Install cabinet doors only on cabinets that are securely fastened to a wall. Dimensions: 84 1/2"H x 1 1/4"D x 34 1/2"W. Beige baked enamel finish.
Wt. 61 lbs. **\$235.00**

F Model T7104. Beta or VHS Storage. Holds 270 Beta tapes or 240 VHS. Ideal for 1/2" videocassette storage. Order molded plastic dividers for videocassettes separately (Model 70986). Overall: 88"H x 4 1/2"D x 36"W. (Inside dimensions: 34 1/2"W x 83"H).
Wt. 137 lbs. (BETA) **\$419.00**

Model T7100. (Not shown.)
Wt. 135 lbs. (VHS) **\$398.00**

Add-On Unit. Model T7107. For side-to-side installation.
Wt. 127 lbs. (BETA) **\$399.00**

Add-On Unit. Model T7103. For side-to-side installation.
Wt. 120 lbs. (VHS) **\$378.00**



A Model T7400
\$439.00

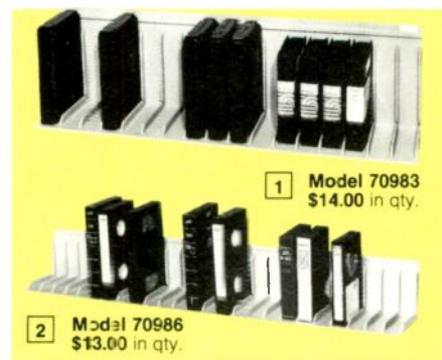
OPTIONAL ACCESSORIES

1 Model 70983. Molded plastic divider insert (3/4" tapes) for use in T7400, T7600, or T7700.

#70983 Individual Dividers.
Wt. 3 lbs. **\$14.00**

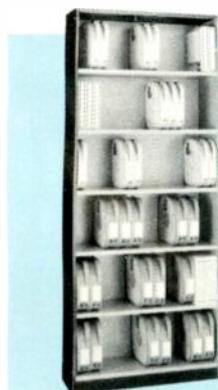
2 Model 70986. Plastic cassette holder (1/2" tapes) for use in T7100 or T7104 cabinets.

#70986 Individual Dividers.
Wt. 2 lbs. **\$13.00**



1 Model 70983
\$14.00 in qty.

2 Model 70986
\$13.00 in qty.



B Model T7700
\$464.00



C Model T7600
\$459.00



D Model T7800
\$519.00



E Model 70300
\$235.00

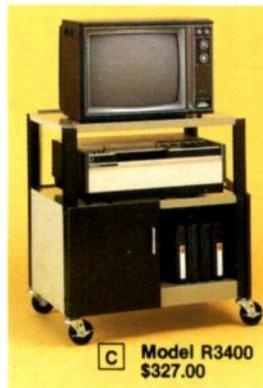


F Model T7104
\$419.00

A
Model R3303
\$147.00



B
Model R3353
\$155.00



C
Model R3400
\$327.00



D
Model R3601
\$749.00

E
Model 37509
\$1475.00



F
Model R3720
\$598.00



G
Model R3740
\$981.00

MOBILE VIDEO CENTERS

Mobile carts and consoles to organize and store your video equipment

Four new economy A/V carts with the same built-in quality you've learned to expect from all Winsted products. Choose from 34" or 54" heights. Shelves are 28 5/8" W x 18 5/8" D to fit most any electronics. Sturdy, strong, formed and welded steel construction for years of service. Four-inch swivel casters (two locking) for mobility. Textured baked on enamel gray finish with chrome post accents.

A **34" High Video Stand.** Features three shelves to fit all of your electronics. Twelve inch clearance between shelves leaves plenty of room for equipment access. Measures 34"H x 22"D x 32"W. Shpg. wt. 43 lbs.
Model R3303 \$147.00

Two Shelf Video Stand. (Not shown.) Top shelf accommodates up to a 25" monitor. Shelf measures 28 5/8" W x 18 5/8" D. Stand is 34"H x 22"D x 32"W. Shpg. wt. 34 lbs.
Model R3302 \$125.00

B **Portable Video Stand.** Ideal for setup anywhere. Three shelves makes a space for your monitor, VCR and accessories. Measures 54"H x 22"D x 32"W. Shpg. wt. 47 lbs.
Model R3353 \$155.00

54" Video Stand. (Not shown.) Gives you four shelves to hold all of your A/V equipment. Measures 54"H x 22"D x 32"W. Shpg. wt. 54 lbs.
Model R3354 \$177.00

Beautifully styled, decorator consoles in a selection of attractive finishes. Ball bearing casters for total mobility on any surface. Fine furniture for your conference room, office, studio, show-room...and point of purchase displays.

C **Low-Profile Video Center.** Designed for smaller groups and individual use. Monitor shelf is set back slightly to permit easy access to VTR shelf. Top shelf is 15"D x 32"W. Cabinet is 34"H x 22"D x 32"W. Wt. 68 lbs.
Model R3400 \$327.00

Full Shelf Low-Profile Video Center. (Not shown.) Same as R3400. Top shelf is a full 22"D x 32"W. Lockable base cabinet is 17 1/2"H x 22"D x 32"W. Overall dimensions: 34"H x 22"D x 32"W. Wt. 72 lbs.
Model R3401 \$327.00

D **Compact Portable Video Center.** Provides complete mobility, ease of operation, and key-lock security. Top section takes most 19" (some 21") monitors and VTR units. Locking swing-away doors. Ventilated locking rear panel for full access to video equipment. Bottom section provides safe storage for your expensive video accessories. 60"H x 22"D x 32"W. Wt. 195 lbs.
Model R3601 \$749.00

Executive Conference Room Consoles

E **Hand Rubbed Oak VCR Cabinet.** For the VCR center where only the nicest furniture will do. An elegant VCR cabinet sculpted of oak solids with matching oak wood veneers. The look is expensive. The rolled edge design comfortable and clean. Satin smooth hand rubbed finish with uncommon attention to detail.
Offer a pull-out VCR shelf, an adjustable shelf in the lower storage area (30"W x 23 3/4"D) and a spacious compartment (30"W x 23 3/4"D x 25"H) for your TV monitor. Locking doors swing out of the way a full 270°. Cut-outs in rear for cabling. Rolls where you want it on hidden heavy duty casters. Inside dimensions are 57 1/2"H x 30"W x 23 3/4"D. Outside dimensions are 62 1/2"H x 31 1/2"W x 25 5/8"D. Natural oak finish. Shpg. wt. 140 lbs.
Model 37509 \$1475.00

F **Executive Video Console.** Rich medium oak woodgrain. Holds any 3/4" or 1/2" VTR machine and monitor of up to 25". Convenient shelf stores tapes and other video accessories. VTR shelf pulls out for easy access to controls. Accessory equipment shelf adjusts up or down. Locking cabinet doors for extra security—swing back out of the way. Rear opening provides access to cords, cables and control adjustments. Swivel casters make moving easy. 31 1/2"W x 33"H x 28 1/2"D. Wt. 110 lbs.
Model R3720 \$598.00

Model R3724. (Not shown.) Same features as our Model R3720 with two pull-out shelves. Shpg. wt. 110 lbs.
Model R3724 \$627.00

Model R3722. (Not shown.) Same features as our Model R3720 with storage drawer. Shpg. wt. 110 lbs.
Model R3722 \$648.00

G **Large Security Cabinet.** With full length locking doors. Provides ample storage space for 25" monitors as well as front loading VTRs. Plate casters for total mobility. Pull-out shelf for accessibility to top, sides and back of your installed equipment. Adjustments and settings may be made without removal. Base compartment offers storage for extra cassettes and video accessories. Measures 63 3/4" x 31 1/2"W x 28 1/2"D. Wt. 198 lbs.
Model R3740 \$981.00

Model R3742. (Not shown.) Same features as our Model R3740 with two pull-out shelves. Shpg. wt. 198 lbs.
Model R3742 \$1010.00

Model R3744. (Not shown.) Same features as our Model R3740 with storage drawer. Shpg. wt. 198 lbs. \$1031.00

For full-line catalog of VCR production equipment, contact your Winsted dealer.



We don't end here because you don't end here.

Your business is a lot more than cables and connectors, and so is ours.

Inside the *Comprehensive* catalog you'll discover a wide range of accessories to enhance every step of your production. Microphones, mixers, switchers, lighting, test equipment, computer software, and much more.

And it doesn't stop there. Look further, and you'll find an organization committed to backing everything it sells with top-notch support and prompt, responsive service.

Whether you're looking for a simple BNC cable or a sophisticated, full-featured character generator, look to *Comprehensive's* newest **Complete Book Of Professional Video Accessories**. Get a copy at your PSNI dealer affiliate now. See for yourself how far our products, support, and service can go—for you.

Comprehensive
VIDEO SUPPLY CORPORATION

EQUIPMENT

Alphabetical Manufacturer listing:

Acrodyne Industries
 ADC
 ADM Audio
 Alpha
 Amtel Systems
 Anchor Audio
 Andrew
 Angenieux
 Anton/Bauer
 Anvil Cases
 Aries Industries
 Atlas/Soundolier
 Bencher
 Beyer Dynamic
 Blonder Tongue
 Bogner Broadcast Equipment
 Bretford
 Broadcast Electronics
 Broadcast Video Systems Ltd.
 BTS (Bosch)
 Buhl Optical
 Cablewave Systems
 Canon
 Catel
 Channel One Lighting

Channelmatic
 Cine 60
 Cinema Products Company
 Comprehensive Video Supply
 Cosmicar
 Drama Products Co.
 Dubner Systems
 Dynair
 Electrohome
 Electro-Voice, Inc.
 Emcor
 EMI
 FOR-A
 Fortel
 Frezzolini
 Fujinon
 General Instrument (Jerrold)
 Grass Valley Group
 Hale Color Consultants
 Harris Video Systems
 HM Electronics
 ITE
 JBL
 Kangaroo Video Products
 Klieg Brothers
 Knox Video

Laird Telemedia
 Lowel-Light
 Luxor
 M/A Com Video Systems
 3M Company
 Microtime
 NEC Industrial
 O'Connor Engineering
 Orban
 Panasonic
 Pelco
 Porta Brace
 Porta-Pattern
 Q-TV
 Quanta
 QuickSet
 RAMSA
 ROH Systems Division
 Rohn Tower
 RTS
 Sachtler
 Scala
 Schneider
 Scientific Atlanta
 Sharp Electronics

Shure Brothers
 Sigma Electronics
 Sony Broadcast Products
 Sony Professional Video
 Sony Pro Plus
 Star Cases
 Sylvania
 Symetrix
 Tascam
 Tektronix
 Telex
 Tiffen
 Transimage International
 Trompeter
 United Media
 Vicon
 Videotek
 Vinten
 Will-Burt
 Wilson
 Winsted
 Zei-Mark

Manufacturers by product category:

Video Cameras
 Sony Professional Video
 Sony Broadcast Products
 Sharp Electronics
 Panasonic

Camera Supports
 Vinten
 Sachtler
 QuickSet
 O'Connor Engineering
 ITE
 Drama Products Co.

Lenses/Filters
 Vicon
 Tiffen
 Schneider
 QuickSet
 Pelco
 Fujinon
 Cosmicar
 Canon
 Angenieux
 Alpha

Lighting
 Sylvania
 Smith-Victor
 Lowel-Light
 Klieg Brothers
 Comprehensive Video Supply
 Channel One Lighting
 Anton/Bauer

Video Recorders
 Sony Pro Plus
 Sony Professional Video
 Sony Broadcast Products
 Panasonic

Edit Controllers
 United Media
 Sony Pro Plus
 Sony Professional Video
 Sony Broadcast Products
 Panasonic
 Grass Valley Group
 Edit Master (Comprehensive Video)

Monitors and Receivers
 Videotek
 Sony Pro Plus
 Sony Professional Video
 Sony Broadcast Products
 Sharp Electronics
 Panasonic
 NEC Industrial

Video/Data Projectors
 Sony Professional Video
 Sharp Electronics
 Panasonic
 Electrohome

Video Tape
 Sony Professional Video
 3M Company

DVE/Paint/CG
 Quanta
 Microtime
 Knox Video
 Harris Video Systems
 Grass Valley Group
 Dubner Systems
 Comprehensive Video Supply
 BTS (Bosch)

Time Base Correctors
 Sony Pro Plus
 Sony Professional Video
 Sony Broadcast Products
 Microtime
 Harris Video Systems
 Fortel
 FOR-A

Test Equipment/Charts
 Videotek
 Tektronix

Test Equipment/Charts (Cont'd)
 Porta-Pattern
 Hitachi Denshi Ltd.
 Hale Color Consultants

Production Switchers
 Sony Pro Plus
 Sony Professional Video
 Sony Broadcast Products
 Panasonic
 Grass Valley Group

Distribution/Switchers
 Videotek
 Trompeter
 Transimage International
 Sigma Electronics
 Panasonic
 Grass Valley Group
 General Instrument (Jerrold)
 Dynair
 BTS (Bosch)
 Broadcast Video Systems Ltd.
 Blonder Tongue
 ADC

Signal Processing
 Tektronix
 Microtime
 Harris Video Systems
 Grass Valley Group
 Fortel
 Broadcast Video Systems Ltd.

Closed Circuit TV
 Vicon
 QuickSet
 Pelco
 Panasonic
 Hitachi Denshi Ltd.
 EMI
 Cosmicar

Audio
 Telex
 Tascam
 Symetrix
 Sony
 Shure Brothers
 RTS
 RAMSA
 Panasonic
 Orban
 JBL
 HM Electronics

Audio (Cont'd)
 Electro-Voice, Inc.
 Broadcast Electronics
 Beyer Dynamic
 Atlas/Soundolier
 Anchor Audio
 ADM Audio

Batteries/Chargers
 Frezzolini
 Cine 60
 Anton/Bauer

Transmitters and RF
 Scientific Atlanta
 Scala
 M/A Com Video Systems
 General Instrument (Jerrold)
 Catel
 Cablewave Systems
 Bogner Broadcast Equipment
 Blonder Tongue
 Andrew
 Acrodyne Industries

Cases, Carts and Racks
 Winsted
 Wilson
 Star Cases
 Porta Brace
 Luxor
 Kangaroo Video Products
 Emcor
 Bretford
 Anvil Cases

And More...
 Zei-Mark (multiplexers)
 Will-Burt (pneumatic
 microwave masts)
 Rohn Tower
 Q-TV (prompter systems)
 Comprehensive Video Supply
 Cinema Products Co. (prompters)
 Channelmatic (commercial insert
 and program automation)
 Buhl Optical (multiplexers)
 Bencher (copy stands)
 Atlas Industries (hydraulic masts)
 Amtel Systems (time code systems)

VIDEO IMAGES