## CRIMP TYPE COAXIAL CONNECTORS

<table>
<thead>
<tr>
<th>CABLE TYPE</th>
<th>CONNECTOR TYPE</th>
<th>CONNECTOR NUMBER</th>
<th>100-LOT UNIT PRICE</th>
<th>CRIMP TOOL NUMBER</th>
<th>CRIMP TOOL UNIT PRICE</th>
<th>CRIMP DIE NUMBER</th>
<th>CRIMP DIE UNIT PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RG-59</td>
<td>UHF</td>
<td>2-330830-6</td>
<td>$4.65</td>
<td>69710</td>
<td>$300.00</td>
<td>220036-1</td>
<td>$185.00</td>
</tr>
<tr>
<td>RG-59</td>
<td>BNC</td>
<td>331350</td>
<td>$2.50</td>
<td>69477-1</td>
<td>$185.00</td>
<td>Integral</td>
<td>—</td>
</tr>
<tr>
<td>8281</td>
<td>UHF</td>
<td>2-330830-2</td>
<td>$4.65</td>
<td>69710</td>
<td>$300.00</td>
<td>220037-1</td>
<td>$185.00</td>
</tr>
<tr>
<td>8281</td>
<td>BNC</td>
<td>4-331350-0</td>
<td>$2.95</td>
<td>220043-1</td>
<td>$260.00</td>
<td>Integral</td>
<td>—</td>
</tr>
</tbody>
</table>

**Note:** Tri-LOC Connectors are available to terminate conventional coaxial cables such as RG-59/U and Belden 8281. Consult factory for information.

### PART NO. 69710

#### UHF/RG59

[![UHF/RG59](image1.png)](image1.png)

#### BNC/RG59

[![BNC/RG59](image2.png)](image2.png)

### CRIMP TOOL

- **BNC/RG59**
- **UHF/RG59**

### KINGS ELECTRONICS

## CRIMP TYPE TRIAX CONNECTORS

### TRI-LOC PLUGS

### JACKS

### TRI-LOC CABLE SPECIFICATION CHART

<table>
<thead>
<tr>
<th>CABLE GROUP</th>
<th>CENTER CONDUCTOR</th>
<th>NOMINAL CABLE DIMENSIONS</th>
<th>KINGS PART NO.</th>
<th>DESCRIPTION</th>
<th>FIG. NO.</th>
<th>CRIMP DIE NO.</th>
<th>DIELECTRIC TRIM JIGS</th>
<th>JACKET TRIM JIGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BELDEN 9232</td>
<td>14 AWG STRANDED</td>
<td>0.0</td>
<td>KPB010-740-400</td>
<td>PLUG</td>
<td>1</td>
<td>KTH-2041</td>
<td>KTD-304</td>
<td>KTJ-300</td>
</tr>
<tr>
<td>BELDEN 8233</td>
<td>14 AWG SOLID</td>
<td>0.0</td>
<td>KPB010-740-401</td>
<td>JACK</td>
<td>2</td>
<td>KTH-2040</td>
<td>KTD-300</td>
<td>KTJ-300</td>
</tr>
<tr>
<td>BELDEN 9267</td>
<td>14 AWG SOLID</td>
<td>0.0</td>
<td>KPB010-740-401</td>
<td>PLUG</td>
<td>1</td>
<td>KTH-2002</td>
<td>KTD-303</td>
<td>KTJ-303</td>
</tr>
<tr>
<td>BELDEN 9332</td>
<td>14 AWG SOLID</td>
<td>0.0</td>
<td>KPB010-740-400</td>
<td>JACK</td>
<td>2</td>
<td>KTH-2002</td>
<td>KTD-303</td>
<td>KTJ-303</td>
</tr>
<tr>
<td>FELTEN AND</td>
<td>7/0 STRANDED</td>
<td>0.0</td>
<td>KPB010-770-400</td>
<td>PLUG</td>
<td>1</td>
<td>KTH-2104</td>
<td>KTD-307</td>
<td>KTJ-300</td>
</tr>
</tbody>
</table>

**Note:** Use CRIMP TOOL NO. KTH-1000

**Note:** Part numbers ending in 400 indicate plugs with Safety Tip

**Note:** Part numbers ending in 401 without Safety Tip

**Note:** Prices and Specifications Subject to Change Without Notice.

---

**Price:** All Connectors listed above — $120.00 each.
Protect your A/V and Video investment with the strength of ANVIL Cases!

If your equipment is constantly on the road—or in the air—rugged, dependable ANVIL cases will make sure it arrives in performance-ready condition every time.

ANVIL cases have been on tour with everyone from top rock bands to the Super Bowl Champs for years. They can't afford to miss a performance. If you can't afford to miss a performance you should protect your equipment with ANVIL quality too.

We can custom-build cases to fit any A/V or Video product on the market. And we can design your case to carry those all-important cords, cables and connectors right with your unit!

ANVIL ATA cases conform to rigid Airline Transport Association specs.

RECORDER CASES. The ever-increasing demand for remote, field recording has increased the possibility of damage to delicate alignment and calibration adjustments during transit.

CAMERA CASES. Without a doubt, cameras are the most delicate and easily damaged of all video products. Keep your camera safe and vital interface components at hand in an ANVIL case.

COMBINATION CAMERA/RECORDER CASES. Now any manufacturer's camera can be safely transported with any recording unit. Once on location, just open the case—hook up—and shoot!

MONITOR CASES. Your delicate video monitor is gently but firmly suspended in high-density poly-foam sculptured to exact dimensions. The foam core is supported by top-grade wood and impact-resistant ABS plastic walls riveted to a rugged aluminum frame.

E.I.A. RACKMOUNT CASES. Standard 19 inch rackmount configurations can be safely and easily moved to your location—shoot-ready! Front and back covers remove to provide full access to controls and connections. Adequate ventilation for proper equipment operation is designed into the case.

Prices and specifications subject to change without notice.
**Microphone Floor Stands**

- **MS-10C** $30.00
  - The world's most popular, budget-priced microphone stand. 5/8"-27 standard microphone threads. Grip-action clutch, 10" dia., circular base, charcoal finish. 35" to 63" H., 10 lbs.

- **PS-C** $44.15
  - Porta-Series. Functional and foldable. Designed for the touring performer. Unique spring lock tripod base reduces to 32" H. minimum for transport and storage. PS-C3; with 3-section tube for miking at low height. PS-C; 35" to 63" H., 4.5 lbs. PS-C3; 26" to 68" H., 4 lbs.

- **MS-11S** $67.60
  - MS-12S $69.15
  - MS-14G
  - MS-11C $35.70
  - MS-12C $30.00
  - Versatile general purpose floor stands featuring grip-action clutch, and low profile, 10" dia. base with added weight for stability. MS-11C; chrome finish base. MS-12C; texture charcoal base. MS-14G; tube assembly and base cover in decor gold. 39" to 62" H., 12 lbs.

- **MS-11S** $36.15
  - MS-20 $46.85
  - Professional stands, with grip-action clutch. Low contour circular base provides heavy duty stability required for stage, or use with boom attachment. MS-4; 3 section 25" to 65" H., 11 lbs. low height option. MS-20; 37" to 66" H., 14 lbs.

- **MS-4** $44.15
  - MS-25 $82.20

**Microphone Boom Attachments**

- **PB-1** $36.40
  - PB-1X $34.15
  - Porta-Boom, with maximum functional and operational flexibility. Professional appearance, rugged construction. Attaches to any stand terminating in 5/8" dia. tubing. Cast iron tapered counterweight, easy-grip, decorative hardware. PB-1; 31" L., 5 lbs. PB-1X; expandable from 31" to 50" L., 6 lbs.

- **BB-44** $20.70

- **PB-2X** $31.25
  - Expandable boom attachment for hand held use or stand attachment. Grip-action clutch control for length adjustment from 21" to 37" L., 2.5 lbs.

**Loudspeaker Stands**

- **SS-2**
  - **CSS-100**
  - The fully portable support stands to elevate loudspeaker cabinets, PA horns, sound columns, etc. For indoor or outdoor use. SS-2; vertical adjustments from 60" to 120" H., base spread 48"-50", 20 lbs. CSS-100; 42" H., single tube design, stationary height. Base spread 40", 14 lbs.

**Studio Booms**

- **SB-36** $151.40
  - **SB-36W** $220.85
  - Professional boom stand. Grip-action clutch with integral air suspension system for counterbalance. Boom length 62", tapered counterweight. Vertical adjustments from 48" to 72" H., triangular base 17". Includes microphone swivel, cable guide clips, chrome shell on base, 36 lbs. SB-36W; Mobile model. Same as SB-36 with noiseless rubber casters, 40 lbs.

Prices and Specifications Subject to Change Without Notice.
**Professional 6-inch American-made monitor features a 600-line horizontal resolution, 100% solid-state circuitry; compact desktop, rack mount or console mount design; easily replaced regulator and deflection transistors; readily accessible components; rigidly constructed frame with easy-to-remove chassis assembly. Inter-compartment shielding prevents cross-talk; coaxial connectors mounted at 60-degree angle; front-mounted major controls and adjustments; and external sync provisions. Metal cabinet. 7” x 5-7/8” x 10-7/8”. 8-3/4 lbs. $325.00**

6VM917C
Without metal cabinet.
$315.00

6VM917T
Triple-six monitor. Three 6-inch monitors (see above) in a row with rack/desktop metal cabinet. 7” x 17-1/4” x 10-7/8”. 28 lbs. $325.00

9VM967
Low price, general purpose 9-inch monitor features 700 line horizontal resolution, convenient up-front operating controls, simplified service adjustments and time lapse VTR capability. Heavy duty single chassis construction. 8-3/4” x 8-3/4” x 10-1/4”. 16 lbs. $175.00

10VM965
Modestly-priced 10-inch monitor features 100% solid-state circuitry, 800-line horizontal resolution, front-access to key controls; screwdriver adjustments for vertical linearity, height and focus; regulated power supply, and fast AFC circuit for excellent scan VTR display. Rear panel controls and connectors: 75-ohm termination switch for video input, BNC connectors for video input and looping, AC fuse, and optional sync selector switch. Metal cabinet. 8-3/4” x 8-5/8” x 10-5/8”. 14 lbs. $250.00

10VM965C
Without metal cabinet $240.00

10VM965RT
Dual ten monitor. Two 10-inch monitors (see above) in a row with rack/desktop metal cabinet. 8-3/4” x 17-1/4” x 10-5/8”. 25 lbs. $250.00

12VM918
Broadcast quality 12-inch video unit features UNIT-IZED plug-in circuit modules for rapid, on-the-spot maintenance; 100% solid-state circuitry; compact design, with attractive lightblue finish; front-mounted major controls; convenient front-panel screwdriver adjustments for vertical linearity, height and focus; regulated power supply, and a fast AFC circuit for superior quality VTR display. Rear panel controls and connectors: 75-ohm termination switch for video input, BNC connectors for video input and looping, AC fuse, and optional sync selector switch. Metal cabinet. 11-3/8” x 12-1/8” x 12-1/8”. 21 lbs. $380.00

12VM918C
Without metal cabinet $350.00

14VM939
The 14-inch screen offers top picture quality, solid-state reliability, and unitized construction at modest cost. Styling is attractive, with shadow blue finish and aluminum control panels. Key features are: 100% solid-state circuitry, except for CRT; 800-line (or better) resolution; front-panel operating controls; regulated power supply; VTR compatibility; plug-in module incorporation of major components; CRT bleeder discharge system, and switchable D.C. restoration. The unit complies with federal rules governing X-radiation. Metal cabinet. 10-1/2” x 15-5/8” x 12-7/8”. 29 lbs. $475.00

17VM922
The 17-inch model features silicon 100% solid-state circuitry (except CRT) for maximum performance stability, long life reliability and low power drain and heat; 800-line (or better) resolution, front-panel operating controls, regulated power supply to counteract power line fluctuations, and fast AFC action for optimum VTR operation. The model also includes bleeder discharge systems for CRT, and black porch clamp D.C. restoration. All major components incorporated in plug-in modules for ease of maintenance and minimum down time. Metal cabinet. 15-1/2” x 16-1/4” x 11-7/8”. 33 lbs. $505.00

23VM952
The 23-inch CRT display monitor features front “slide out circuitry” for reduced down time and instant on-the-spot servicing and also permits in-the-wall installation in areas where rear access is impossible. Silicon 100% solid-state circuitry provides maximum performance and stability, long life reliability and low power drain and heat. All major controls are front mounted for easy access and operation. Power supply is regulated to prevent raster size or brightness deviation due to line voltage fluctuations. The monitor features a superior gray scale and VTR capability. 17-3/4” x 22-1/2” x 16-1/2”. 60 lbs. $655.00

**MONITOR OPTIONS:**

- External Sync Provisions $21.00
- Underscan Nonswitchable $21.00
- Ceiling Yoke Adaptor (23M952 only) $42.00
- Dual 9” Rack Mount $30.00
- Rack Mount for 14VM939 $35.00
- Rack Mount for 17VM922 $35.00

Prices and Specifications Subject to Change Without Notice.
The Ball TD Series of monochrome television monitors consists of high performance, high reliability, raster-scan displays which accept an EIA composite input. They are designed for quality display of alphanumeric dot characters, or TV camera video. These monitors are proven in such demanding uses as remote computer terminal data display, industrial CCTV, educational TV, and airline arrival/departure information display. TD Series monitors are available in 12-inch, 15-inch and 23-inch diagonal screen sizes. Each is contained in a rugged steel cabinet. They include modular construction and 100% solid-state silicon circuitry. P4 white phosphor is standard, with other EIA registered phosphors available. Other options include walnut wood grain vinyl-clad metal cabinet, choice of connector types, and special faceplates.

The Ball TE Series black and white monitors are low cost, solid-state video monitors designed for utility applications in broadcast television, instructional television, visual information display and security television systems where reliability and high quality video reproduction are desired. The monitors feature either a 9-inch “T-banded” or a 12-inch “Shell bonded” cathode ray tube, with the remaining circuitry of solid-state construction.

**MONOCHROME — HIGH PERFORMANCE MONITORS FOR REMOTE DATA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TD12C</td>
<td>Chassis only</td>
<td>$480.00</td>
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<tr>
<td>TD12M</td>
<td>Metal cabinet</td>
<td>$535.00</td>
</tr>
<tr>
<td>TD15C</td>
<td>Chassis only</td>
<td>$510.00</td>
</tr>
<tr>
<td>TD15M</td>
<td>Metal cabinet</td>
<td>$565.00</td>
</tr>
<tr>
<td>TD23M</td>
<td>Metal cabinet</td>
<td>$620.00</td>
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<tr>
<td></td>
<td>Option: Ceiling mount for TD23M</td>
<td>$62.00</td>
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**MONOCHROME — GENERAL PURPOSE MONITORS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE9C</td>
<td>Chassis only</td>
<td>$440.00</td>
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<tr>
<td>TE9M</td>
<td>Metal cabinet</td>
<td>$495.00</td>
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<tr>
<td>TE9RT</td>
<td>Twin units in rack mtg.</td>
<td>$590.00</td>
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<tr>
<td>TE12C</td>
<td>Chassis only</td>
<td>$475.00</td>
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<tr>
<td>TE12M</td>
<td>Metal cabinet</td>
<td>$520.00</td>
</tr>
<tr>
<td>TE12R</td>
<td>Rack mtg.</td>
<td>$505.00</td>
</tr>
</tbody>
</table>

Prices and specifications subject to change without notice
# Camera Cables

## Complete Catalog Available Upon Request

### 75 OHM PRECISION VIDEO CABLE

<table>
<thead>
<tr>
<th>Trade &amp; UL Style Number</th>
<th>AWG (Stranding) (Dia. in mm) Material and Nom. D.C.R.</th>
<th>Nominal Core O.D.</th>
<th>Shield Material and Nom. D.C.R.</th>
<th>Jacket</th>
<th>Nom. O.D.</th>
<th>Nom. Imp. (Ohms)</th>
<th>Nom. Vel. of Prop. (pF/ft)</th>
<th>Nominal Capacitance (pf/m)</th>
<th>Nominal Attenuation (KHz or MHz db/100 ft)</th>
<th>Standard Lengths (ft. m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8281*</td>
<td>20 (Solid) [.81] bare copper 3.64 ft/M 32.5 ft/km</td>
<td>0.304 7.72</td>
<td>96.4% 1.06 ft/M 3.5 ft/km</td>
<td>Conductor, polyethylene insulated, tinned copper double braid shield, black polyethylene jacket. Nom. Core O.D. .200&quot; (5.08 mm).</td>
<td>75</td>
<td>66%</td>
<td>21</td>
<td>59</td>
<td>10 kHz .06 100 kHz .08 1 MHz .25 4.5 MHz .45 10 MHz .78 100 MHz 2.70</td>
<td>500, 152.4, 304.8</td>
</tr>
</tbody>
</table>

### CATV-MATV COAXIAL CABLES

<table>
<thead>
<tr>
<th>Trade &amp; UL Style Number</th>
<th>AWG (Stranding) (Dia. in mm) Material and Nom. D.C.R.</th>
<th>Insulation Nom. Core O.D.</th>
<th>Insulation Nom. Core O.D.</th>
<th>Nominal O.D.</th>
<th>Nom. Imp. (Ohms)</th>
<th>Nom. Vel. of Prop. (pF/ft)</th>
<th>Nominal Capacitance (pf/m)</th>
<th>Nominal Attenuation (KHz or MHz db/100 ft)</th>
<th>Standard Lengths (ft. m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8221</td>
<td>22 (solid) [.64] bare copper covered steel 35.0 ft/M 180.5 ft/km</td>
<td>Cellular Polyethylene .146 3.71</td>
<td>95% bare copper braid 2.6 ft/M 8.5 ft/km</td>
<td>Gray, White, Black vinyl</td>
<td>2.242 6.15 80 78%</td>
<td>16.3 53.5</td>
<td>50 2.1 2.9 5.9</td>
<td>100 4.1 13.5 200 6.6 21.7</td>
<td>500 8.8 26.9</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Trade &amp; UL Style Number</th>
<th>AWG (Stranding) (Dia. in mm) Material and Nom. D.C.R.</th>
<th>Insulation Nom. Core O.D.</th>
<th>Insulation Nom. Core O.D.</th>
<th>Nominal O.D.</th>
<th>Nom. Imp. (Ohms)</th>
<th>Nom. Vel. of Prop. (pF/ft)</th>
<th>Nominal Capacitance (pf/m)</th>
<th>Nominal Attenuation (KHz or MHz db/100 ft)</th>
<th>Standard Lengths (ft. m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9248</td>
<td>18 (solid) [.97] bare copper 7.5 ft/M 24.5 ft/km</td>
<td>Cellular Polyethylene .190 4.57</td>
<td>65% tinned copper braid 5.2 ft/M 17.1 ft/km</td>
<td>Black vinyl</td>
<td>.270 6.86 75 78%</td>
<td>17.3 56.6</td>
<td>50 1.5 4.9</td>
<td>100 2.1 6.9</td>
<td>200 3.1 10.2</td>
</tr>
</tbody>
</table>

### MULTI-CONDUCTOR CABLES

#### 9265*

#### 9262

### 13-CONDUCTOR REMOTE CONTROL AND VIDEO CABLE

Recommended for use in installations requiring external drive signals, tallies, intercom, switching and video operations Underwriters’ Laboratories, Inc. Listed

Specifications:
- 12-20 AWG (7x28) tinned copper conductors, vinyl insulated, color coded
- 1-75 ohm coax, 22 AWG stranded bare copper conductor, foam polyethylene insulated, bare copper braid shield, polyester tape wrapped
- Overall tinned copper braid shield
- Overall gray vinyl jacket, .425" nominal O.D.
- Standard Spool Lengths in ft 50, 100, 500, 1000

### BELDFOIL 8451

Belden miniature audio cable, 2-conductor 22 AWG stranded, drain wire, foil shield, vinyl jacket

**Passes the FR-1 vertical flame test.**

![Trademark of Copperweld Steel Co.](image)

* Belden U.S. Patent 3,032,604

Prices and specifications subject to change without notice
Video Production Generator for Studio or Mobile Vans
• Multi-font display capability
• 31.25 nanosecond resolution
• Internal 150-page disc memory
• Internal character and background color generator
• No edging, full surround or drop-shadow edging
• Proportional spacing with true character overlap
• 4 speeds of roll and crawl with auto-stop
• Automatic row centering
• Italics at the stroke of a key
• 16 horizontal tab locations
• Word flash and underline
• Character insert and delete
• RS-232-C input interface
• Double logo capability up to 128 scan lines high
• Engineer’s service diagnostics card
• Preview safe area and system status display
• Firmware programming
• Compact size of mainframe

Marquee 2000 Video Character Generator — Basic System
• 2 Floppy Discs containing 25 standard fonts
• 3 double height of 6 single height logos or mix (1 double = 2 single)
• 1 150 page Floppy Disc
• 1 Service extender card
• 1 Operator’s manual
• 1 Technical manual
$26,500.00

Accessories
Additional Marquee 2000 Keyboard — Available for English, German, Lithuanian, Russian, Greek, French, Finnish, Swedish or Norwegian languages $2600.00

Marquee 2000 Memory Recall Keyboard (Model MRKI)
A small compact keyboard providing limited control of the Marquee 2000, including: Font Load, Font Select, Cursor Shift, Row Shift, Incremental Row Shift, Select page on Disk, Take Page, Delete Page, Clear Page, Select Roll/Crawl, Select Speed of Roll/Crawl, Start-Stop of Roll/Crawl, Select Preview and Select Mode $1500.00

Marquee 2000 Dual Channel Option
This unit provides a second independent high resolution channel which, with the exception of roll and crawl, offers full function capabilities for editing and color display. Captions on disc can be first previewed and then instantly transferred to the program channel at a keystroke, with automatic read from disc of the next caption. Captions can be composed, edited, recorded and read from disc on one channel without affecting the other channel. Alternatively, captions can be recalled from disc into alternate channels on cue from the video mixer for cross-fades, wipes and other special effects.
The Dual Channel Option measures 14” x 19” x 18½” and can be supplied with or without a Disc Drive Unit.
With Disc Drive Unit $16,750.00
Without Disc Drive Unit $15,250.00
Marquee 2000 Disc Drive Unit $1500.00

Marquee 2000 Font Compose Unit
This unit connects directly with the Marquee 2000 Video Character Generator and provides the user with the ability to compose fonts and logos directly onto the disc. The Font Compose unit is controlled by the Marquee 2000 keyboard and measures 5½” x 19” x 10” $5000.00

Additional Standard Fonts $100.00 each
plus disc

Special Fonts
Special fonts can be supplied based upon customer supplied artwork and specifications. $200.00 each
plus disc

Please Note: Once a Special Font has been supplied it is then added to our list of Standard Fonts and available to other users of the Marquee 2000.

Additional Logos (single or double height) $100.00 each

Hard Sectored, pre-formatted Floppy Disc $ 25.00 each

Prices and Specifications Subject to Change Without Notice.
Marquee Model CG800
- Microprocessor and large scale integrated circuits for fewer components
- No pre-wired frame for options: options by program and board changes
- Single housing: all electronics built into the keyboard housing
- Heathkit® Digital Weather Computer for local weather instrumentation

Model CG-800
Basic Message System ........................................... $2995.00
Includes: Character generator, RS-170 Color sync. generator,
Microprocessor control, Keyboard and interface, 4 page memory (32
lines), Crawl line with 1000 characters, Blue matte background
generator, “F” connectors (BNC, upon request).

Rack Mounted System
For single or multiple channel systems
CG-800R Basic generator $2395.00
800RFS Rack frame for above (will hold 3 CG-800R’s) 100.00
800KRB Keyboard for rack system (will operate 6 channels) 500.00

Options
8001KM Added 32 line memory for page memory 100.00
8001KC Added 1000 characters for crawl line 100.00
800TOLG RAM or PROM Title line generator 100.00
8004CC 4 Color colorizer for background 200.00
800GLS Gen-lock sync. generator 300.00

800VPS Video page switch (Programs external video into seq.) $1500.00
800INV Inverter (for battery back-up) 50.00

Prices and Specifications Subject to Change Without Notice.

MESSAGE SYSTEM

Data-Prompter
Automatically paces talent editing functions (word processing and
story sorting) line 21 closed captioning for the hearing impaired (Live
“Real Time” interface to a line 21 encoder). Easy to interface to
electronic new room equipment. News stories may be skipped and
re-inserted “on air”. Clear easy to read display (character generated)

Data-Prompter Model DP-1000

BASIC ELECTRONICS

DP-1000R Rack mounted electronics with 16K* memory (order
keyboard below) $5200.00
DP-1000M Desk top electronics with monitor, special housing
and 16K* memory (order keyboard below) $6000.00
*16K of memory is approximately 15 minutes of reading time.

KEYBOARDS

DPKB-100 Basic keyboard $1600.00
DPKB-200 Basic keyboard with prompter control $1600.00
DPKB-300 Basic keyboard with tape drive $2950.00
DPKB-400 Basic keyboard with prompter control and
tape drive $3600.00
DP-PC Prompter control in separate housing $750.00

EXPANDED MEMORY

DP-32K Additional 32K to expand memory to 48K (maximum
per terminal) $2000.00

PRINTERS

Oki Data Microline 82A $800.00
Data Products Corp. M-120 2700.00
Data Products Corp. M-200 3570.00
Pedestal for Data Products Printers 180.00

DIGITAL TAPES

DP-T80 80-ft. Digital cassette tape (10 tapes per box) $75.00/box

Prices and Specifications Subject to Change Without Notice.
**MPVC40E**

Suitable for small or large group application plus a roomy storage cabinet! Recessed top shelf allows easy access to VTR Recorder/Player on middle shelf. Storage cabinet has one movable shelf and with tubular chrome legs. Shelves are inlaid with wood grained vinyl. Equipped with 2” ball carpet casters, electrical assembly and a set of 2 keys. Ships disassembled. Weight: 90 lbs. Dimensions: Outside 30”W x 40”H x 20”D, Top Shelf 30”W x 16”D, top to middle shelf 13”, cabinet 28”W x 17”H x 18”D  $256.00

**VTRC30E**

The standard of the industry for moving, storing and utilizing video systems. Recessed top shelf. Storage cabinet has double locking doors. Constructed of heavy gauge steel, finished in Black with tubular chrome legs. Shelves are inlaid in wood grained vinyl. Equipped with 2” ball carpet casters, electrical assembly and a set of 2 keys. Ships disassembled. Weight: 64 lbs. Dimensions: Outside 30”W x 32”H x 20”D, Top Shelf 30”W x 16”D, Top to Middle Shelf 13”, Cabinet 28”W x 10”H x 18”D  $237.00

**MPVC54E**

Accommodates a complete video system and large top is suitable for most 25” Receivers. Constructed of heavy gauge steel, finished in Black with tubular chrome legs. Shelves are inlaid with wood grained vinyl. Equipped with heavy duty 4” casters, electrical assembly and a set of 2 keys. Ships disassembled. Weight: 88 lbs. Dimensions: Outside 30”W x 54”H x 20”D, Top to Middle Shelf 26”, Cabinet 28”W x 17”H x 18”D  $256.00

**VTRC54E**

Slanted top provides glare-free TV viewing. Top shelf “Double Welded” for maximum security, recessed to allow easy access to VTR. Constructed of heavy gauge steel, finished in Black. Door available in Walnut, Blue, Red or Yellow. Features arc welded caster sockets, “Quiet-Glide” caster system, heavy duty 4” casters, smooth rounded edges, die-pressed shelves, full-length piano hinge door and a set of 2 keys. Ships fully assembled. Weight: VTRC29 66 lbs. (includes electrical unit), VTRC29 66 lbs. Dimensions: Outside 36”W x 29”H x 18”D, Cabinet 35”W x 21”H x 17”D  $234.00

**VTR29E**

Designed to accommodate a variety of both TV and AV equipment where mobility and easy access are necessary. Constructed of heavy gauge steel, finished in Slate. Comes equipped with arc welded caster sockets, “Quiet-Glide” caster system, heavy duty 4” casters, smooth rounded edges and die-pressed shelves. Ships fully assembled. Weight: VTR29E 38 lbs. (includes electrical unit), VTR29 36 lbs. Dimensions: Outside 36”W x 29”H x 18”D, Top to Bottom Shelf 20”.  $140.00

**C42E**

Perfect for both TV and AV applications. Offers both security and mobility as well as economy. Constructed of heavy gauge steel, finished in Black, Door available in Walnut, Blue, Red or Yellow. Feature arc welded caster sockets. “Quiet-Glide” caster system, heavy duty 4” casters, smooth rounded edges, die-pressed shelves, a full-length piano hinge door and a set of 2 keys. Ships fully assembled. Weight: C42E 58 lbs. (includes electrical unit), C42E 56 lbs. Dimensions: Outside 24”W x 42”H x 18”D, Top to Middle Shelf 14”, Cabinet 23”W x 17”H x 17”D  $183.00

Prices and Specifications Subject to Change Without Notice.
MP54 Series
Suitable for a variety of TV and AV applications. Finished in Putty Beige accented with Black legs. Features steel construction, smooth rounded edges, die-pressed shelves, "Quiet-Glide" caster system and a Square Lock Design which assembles in minutes. Slant Top Accessory (MPS models) enables glare-free TV viewing. Ship disassembled. WEIGHT: MPS54E 56 pounds (includes electrical unit), MPS54 54 pounds, MP54E 54 pounds (includes electrical unit), MP54 52 pounds. DIMENSIONS: Outside 30"W x 54"H x 20"D, Top to Middle Shelf 23", Middle to Bottom Shelf 20".

MP54E-$144.00 MP54E-$138.00 MPS54-$123.00 MP54-$117.00

MP30E
Large enough for a variety of AV and TV equipment, yet small enough for lightweight mobility and easy accessibility. Construction features are the same as the MP54 Series. Ships disassembled. WEIGHT: MP30E 38 pounds (includes electrical unit), MP30 36 pounds. DIMENSIONS: Outside 30"W x 30"H x 20"D, Top to Bottom Shelf 14".

MP30E-$119.00

MP48 Series
Offers the same quality features as the MP54 Series, with a shorter height. Suitable for large or small group application for both TV and AV presentations. Ship disassembled. WEIGHT: MPS48E 53 pounds (includes electrical unit), MPS48 51 pounds, MP48E 51 pounds (includes electrical unit), MP48 49 pounds. DIMENSIONS: Outside 30"W x 48"H x 20"D, Top to Middle Shelf 17", Middle to Bottom Shelf 20".

MPS48E-$139.00 MP48E-$133.00 MPS48-$118.00 MP48-$112.00

Mini Pack Series
The strength of metal combined with Bretford's Standard 5 Year Warranty make these stands the most economical on the market! Construction features are the same high quality as the MP54 Series. Ship disassembled. WEIGHT: MP42E 32 pounds (includes electrical unit), MP42 30 pounds, MP34E 30 pounds (includes electrical unit), MP34 28 pounds, MP26E 28 pounds (includes electrical unit) MP26 26 pounds. DIMENSIONS: Outside 20"W x 42, 34 or 26"H x 18"D, Top to Bottom Shelf: MP42E 21", MP34E 13", MP26 17".

MP42-$74.00 MP34-$74.00 MP42E-$93.00
Here's beautiful furniture to provide mobility with lock-up security for your entire video system or other valuable equipment. The VTR Centers each accommodate player recorders (with a rolling pull out shelf) and a monitor in a variety of ready-to-use positions allowing small or large group use. Shelves are movable in all the centers to accept the widest variety of equipment. The strength of metal is combined with the beauty of wood. Cabinets are constructed of heavy gauge steel finished in Black and accented by wooden doors finished with a rich walnut mar-resistant laminate. Ventilated back panel on VTR models is removable, allowing access for adjustments. All cabinets roll easily on quiet, special heavy duty 4" ball bearing casters. "E" models complete with electrical assembly having 2 outlets, 20 foot 3 wire cord and grounded plug. Additional shelves are available. All units ship disassembled.

RAS Rolling Accessory Shelf for VTRC40E, VTRC70E and VTRC80E  $46.00

FAS Fixed Accessory Shelf for 40's, 70's and VTRC80E  $20.50

RS Rolling Accessory Shelf for VTRC50E  $43.80

VTRC70E
One rolling shelf plus two movable shelves. Dimensions: Outside 33" W x 72" H x 24" D, Inside 31" W x 60" H x 22" D.
VTRC70E TV/VTR Center Wt. 268 lbs.  $794.00

VTRC80E
Two rolling shelves plus two movable shelves. Dimensions: Outside 33" W x 72" H x 24" D, Inside 31" W x 60" H x 22" D.
VTRC80E TV/VTR Center Wt. 281 lbs.  $881.00

C70
Two movable shelves. Dimensions: Outside 33" W x 72" H x 24" D, Inside 31" W x 60" H x 22" D.
C70 Security Center Wt. 253 lbs.  $690.00

VTRC50E-W
Two movable shelves and one rolling shelf. Dimensions: Outside 28" W x 55" H x 23" D, Inside 26" W x 48" H x 22" D.
VTRC50E-W TV/VTR Center Wt. 163 lbs.  $541.00

C50-W
Three movable shelves. Dimensions: Outside 28" W x 55" H x 23" D, Inside 26" W x 48" H x 22" D.
C50-W Security Center Wt. 161 lbs.  $519.00

VTRC40E
One movable shelf and one rolling shelf. Dimensions: Outside 33" W x 38" H x 24" D, Inside 31" W x 30" H x 22" D.
VTRC40E TV/VTR Center Wt. 144 lbs.  $450.00

C40
One movable shelf. Dimensions: Outside 33" W x 38" H x 24" D, Inside 31" W x 22" D.
C40 Security Center Wt. 129 lbs.  $364.00

All prices F.O.B. Schiller Park, Illinois

Prices and Specifications Subject to Change Without Notice.
Series 3000 Tape Cartridge Machines

The Series 3000 cartridge machine incorporates an automatic release deck with a large air damped solenoid. Total power consumption is so low that the Series 3000 is the coolest running unit in the industry. Modern integrated circuits are used extensively, card edge connectors have gold plated contacts and all audio sections are internally shielded. Long life heads are provided in all units. Stereo units are equipped with the new Phase-Lok IV head bracket with independent azimuth adjustment for extremely tight control of stereo phasing. The Series 3000 is available in a full range of mono and stereo models to fit all cartridge sizes. Units can be desk top or rackmounted. Model 3100 is available in mono or stereo playback units which accept A size cartridges. Three 3100 models can be placed in a 19" rack. Model 3200 is available in mono or stereo playback units which accept A size cartridges. Two cu tones (1 kHz and 150 Hz) are standard. Modular construction for easy field maintenance. Top quality Nortronics heads for exceptional performance; Direct drive transport and ½-inch aluminum deck for rugged, reliable operation. New Phase-Lok IV head assembly for azimuth adjustment independent of height and zenith adjustments; Exclusive Mono/Stereo switching to aid in future conversions from mono to stereo broadcasting.

Prices and Specifications Subject to Change Without Notice.
10-Mixer, Vertical Fader, Dual Channel Models 10S350
Stereo, 10M350 Mono

150 Series 5- and 8-Rotary Mixer
Mono/Stereo Consoles
Mixing controls are of sealed potentiometer, high-reliability, long-life design, each equipped with cue bus switches. The 150 Series features contact-free FET bus selection and field-proven 3600 series plug-in modular electronics. Each mixing channel accommodates two pushbutton-selected inputs, and may be preset for either microphone or high-level service. Mono/stereo mode switching optional on stereo models. Monitor, headphone and cue amplifiers insure full-monitoring capability. Professional performance at a reasonable price insures the broadcaster of a console tailored to his needs. Front panel graphics are under a laminated polycarbonate overlay for maximum durability.

4S50, 4-Mixer Stereo

4M50, 4-Mixer Mono
Selectable high/low input sensitivity, all channels. Individual monitor, headphone and cue amplifiers. High reliability sealed potentiometer-type mixer controls. Two inputs per mixer.

4V50, 4-Mixer Mono
10 inputs to 4 mixers. Cue switches, all mixers. For broadcast, A/V, CCTV and CCTV applications. Switchable microphone/high level inputs. Integral tone generator. 1.0 watt rms headphone and cue amplifiers.
3-Meter Earth Station Model 6001
The 3-Meter Earth Station Antenna offers excellent performance and maximum cost effectiveness for audio digital and video receive-only applications.

Manufactured with precision die-stamping techniques, the 3-meter antenna has six reflector panels. No special tools, panel alignment or testing are required to achieve the specified performance. Compact components allow economical transportation and facilitate assembly in remote sites or on rooftops where handling equipment is not readily available.

The single-axis mount provides pointing accuracy, structural safety, and simple pointing adjustment. With proper alignment on installation, the antenna can be pointed with a single-axis adjustment to any two satellites in the 90-136° arc with zero pointing error. Similar pointing adjustments can be made in the 70-90° arc by a single strut change.

For minimum installed cost, a specially designed foundation kit, which reduces both concrete requirements and installation time, is available.

Features
- Minimum shipping costs
- Minimum site preparation and installation costs
- No panel alignment or testing required at installation
- Single-axis mount for ease of pointing
- Rigid mechanical design
- Single or dual-polarized feed system
- Modular, interchangeable parts for ease of field support
- Stamped aluminum panels for consistently good surface accuracy

The antenna has the advantage of a modified polar mount. You simply adjust a single mount member for coverage of the orbital arc segments. Standard operation is in the 3.7-4.2 GHz frequency range for reception of satellite transmissions. Transmit capability is also available.

Features
- Easy assembly and positioning
- No on-site alignment of reflector panels
- Field proven technology
- Minimum maintenance
- Interchangeable component parts
- Easy access to LNA
- Easy feed polarization alignment from rear of reflector
- Minimum shipping volume and weight

Model 6002 — 6.05 Meter Earth Station

■ Reflector Type: Parabolic, 6 panel 3.0 meter expanded to 6.05 meter diameter utilizing 12 precision die stamped aluminum panels
■ Reflector Diameter: 3.65 Meter
■ Mount Configuration: Single-axis
■ Arc Coverage: 91°-136° West Longitude from contiguous U.S. without foundation change
■ Foundation: Drilled pier type or suitable roof mount

3.65 Meter Earth Station Model 6003

■ Reflector Type: Parabolic, 6 panel 3.0 meter expanded to 3.65 meter diameter utilizing 12 precision die stamped aluminum panels
■ Reflector Diameter: 3.65 Meter
■ Mount Configuration: Single-axis
■ Arc Coverage: 91°-136° West Longitude from contiguous U.S. without foundation change
■ Foundation: Drilled pier type or suitable roof mount

4.6-Meter Earth Station Model 6003
The Model 6003 Earth Station Antenna substantially reduces satellite terminal costs by offering comparable performance to larger antennas. Measuring 4.6 meters in diameter it accomplishes this by utilizing a high efficiency Cassegrain design rather than a prime focus feed configuration. At the same time, the unit provides better equipment accessibility.

The 12-panel main reflector is paraboloidal and uses a shaped subreflector to focus the incoming signal to a receive-only feed horn. The design provides high gain while meeting FCC sidelobe requirements.

ACCESSORIES

Model 6009 — Foundation Pier Kit
Permits quick hassle-free installation of the Blonder-Tongue Model 6001 or Model 6002 Antenna System. Kit consists of 3 pier foundations and three joining shear beams. All necessary hardware and full instructions are also included.

When assembled and anchored in three concrete-filled holes, the pier kit provides a rugged triangular base for easy mounting of the antenna system.

Model 6010 — 4.6 Meter Antenna Pier Kit
For quick, easy mounting of the Blonder-Tongue Model 4.6 Meter Antenna System. Construction is similar to but larger than the Model 6009.

Model 6013 — Antenna Trailer
A two-wheel computer designed trailer for easy transportation of a Blonder-Tongue Model 6001 3.0 Meter Antenna. This trailer has an integratedly mounted leveling system which provides quick stabilization on rough terrain, and can be easily towed with a standard trailer hitch.

The trailer and 3.0 Meter Antenna System equips an MATV installer with a fully transportable Earth Station demo system for selling potential customers.

Model 6015 — Receiver Mounting Tray
A self-contained mounting system that permits easy side-by-side mounting of two Model 6008 Earth Station Receivers in a standard 19” rack assembly. A blank filler plate is included for use in one-receiver installations.

Model 6016 PD-2 — Two-way Splitter
Model 6017 PD-4 — Four-way Splitter
Multiple Receiver installations

Prices and Specifications Subject to Change Without Notice.
TVM 4930 Television Modulator
Stock No. 4930 .................... $1743.98
The TVM is an all solid-state, high quality, audio video modulator that generates TV channel RF carriers using video and audio sources. The unit accepts standard polarity video (sync negative) of 5-2VP-P level. The TVM features a loop-thru video input and a balanced line level bridging input provided for the audio. Level controls and modulation indicators are provided on the front panel. Aural intercarrier phase locked to 4.5 MHz xtal.

- Switch Selectable VID/4.5 MHz Optional Input
- Wide Frequency Range; Ch 2 thru 13, Sub and Midband
- Balanced Low Impedance MIC Input with XLR Connector
- Vestigial Sideband Filtering Suitable for Adjacent Channel Color Systems

Various options are available in the TVM. These include:

Option 2 ......................... $412.84
CHANNEL LOCK MODULE: Visual carrier channel lock to an amplified and filtered off-the-air channel to eliminate co-channel beat.

Option 3 ......................... $258.03

Option 4 ......................... $167.72
VIDEO LPF: Video low pass filter removes spurious signals above 4.2 MHz from video sources to protect adjacent channels from interference.

Option 5 ......................... $258.03
A/V AGC: Audio/Video AGC controls the audio and video level to prevent overmodulation or undermodulation of aural and visual carrier respectively.

Option 6 ......................... $129.02
Video AGC: For models Opt. 7 with composite video/4.5 MHz aural subcarrier input. Again it prevents overmodulation of the visual carrier.

Option 7 No charge when ordered with 4930 AURAL/VIDEO SEPARATOR: Takes composite video/4.5 MHz from a microwave receiver output and provides 4.5 MHz aural input to aural mixer and video to video modulator. Microphone input circuitry and 4.5 MHz phase lock circuits are deleted. High-level audio input is included for bench testing when 4.5 MHz aural is not available.

NOTE: A maximum of two options may be selected from Options 3, 4, 5, and 7. Audio AGC portion of Option 5 is not functional with Option 7. Use Option 6 with Option 7.

Frequency Range, Standard: TV Channel 2 to Channel 13; Special Sub-band, IF, and Midband channels.

Visual Carrier Output: +57 dBmV.

AVMTa Modulator
Stock No. 4923 .................... $1142.80
The AVMTa is an all solid-state, audio video modulator that provides a modulated visual and modulated aural carrier RF output on any single VHF TV channel 2-13. It can be used to put sound and color video on any unused channel of a closed circuit, MATV or CATV System. The AVMTa works with standard video sources such as a TV camera, video tape recorder, or TV demodulator. The wide range audio input can be directly driven from an AM or FM tuner tape recorder, or Hi Impedance dynamic or crystal microphone. The AVMTa may also be used for carrier substitution.

The model number of the AVMTa indicates its channel of operation, e.g., AVMTa-4 is a channel 4 unit. All AVMTa's are designed for rack or cabinet mounting.

Frequency Range, Standard: SUB Channels B-1 to B-6; VHF Channels 2 to 13; Special Order: Midband.

Spurious Beats in adj. channel at +50 dBmV output: -50 dB min., -65 dB typ.; All other spurious outputs up to 300 MHz: -60 dB, -65 dB typ.

VCM: Video Channel Modulator
Stock No. 4926 .................... $308.33
The VCM-4926 solid-state video channel modulator is designed to provide low cost modulated visual carrier RF output on any single TV channel 2-13. It may be used as a carrier substitution generator.

The VCM contains a vestigial sideband filter, suitable for adjacent channels operation and also assures quality performance for both monochrome and color TV channels. The operating RF output level is at least +20 dBmV with a control provided on the front panel for adjustment over a 14 dB range. The VCM accepts video inputs from a line, film chain, camera or TV demodulator. The video signal before modulation is DC restored at sync, thus preventing variations in the RF output due to changes in the picture content.

*Specify Channel

Prices and specifications subject to change without notice
CATV INDOOR DISTRIBUTION AMPLIFIERS
DA-51 2/3 WIDEBAND DISTRIBUTION AMPLIFIERS
* Specifically Designed for CATV "DROP" Distribution Systems
* Wide Frequency Range for Incorporating MID-SUPER Bands with VHF/FM
Designed for TV signal distribution systems that use a CATV "drop" as a signal source. 50 to 300 MHz bandpass. An excellent amplifier for apartment buildings fed from a CATV system wide frequency range allows the DA-51 to be used in systems incorporating MID and SUPER band channels with the standard VHF and FM channels. Push-Pull Hybrid IC output. Has high output capability of 56 dBmV on each of 12 channels. Two models of the DA-51 are available: DA-51-3 with a slope control covering 50-300 MHz, and DA-51-2 with a slope control operating between 50-220 MHz.

DA-30 WIDEBAND DISTRIBUTION AMPLIFIER
* Flat Response — 50-300 MHz.
* 40 dBmV Output per Channel for 21 Channels.
* Front Panel Gain and Slope Controls.
* Slim Line Design — Easy to Install.
Designed specifically for apartment building and other multi-set installations served by CATV. Features flat response from 50 to 300 MHz for distribution of VHF, MID, and SUPER band channels. Good output capability and wide gain and slope control ranges make it easy to adapt to any system. Front panel gain and slope controls.

DA-33 WIDEBAND AMPLIFIER
* Ultra-Wide Bandwidth 0.5 MHz-300 MHz
* Push-Pull Hybrid IC Amplifier
* Exceptionally High Output
The DA-33 features extremely wide bandwidths; 0.5 MHz to 300 MHz, wide range continuous gain control and surge protected amplifier and power supply sections. It is ideal for increasing the output level of sweep generator or signal generator to test very lossy devices under test, such as long lengths of coaxial cables, coaxial relay isolation, etc. The DA-33 is also used as a preamplifier for CATV signal level meter (SLM) used to make FCC required signal leakage measurements. It may also be employed as a sub-channel return amplifier. In this case external multiplexers such as Blonder-Tongue MSVM are required to bypass VHF in the forward direction. The DA-33 is also used aboard ship where its coverage of the short wave and communications bands is desired.

CATV LINE POWERED AMPLIFIERS
LP-51 CATV LINE EXTENDER AMPLIFIER
* High Output Capability
* 50 to 300 MHz Bandpass
* Wide Range Gain and Slope Control
* Push-Pull Hybrid IC Output
The LP-51 is a pedestal-mounted CATV line amplifier designed for direct insertion in CATV branch lines. Input and output connectors for 412 cable are located at the same end of the unit to facilitate installations in CATV pedestals. (500 connectors available on request). The LP-51 may be powered from either the input or output side of the thru line. A power selector jumper board allows installers to block power from either the input or output connector or to pass power thru the amplifier. The voltage necessary to power the amplifier ranges from 20 to 60 VAC.

LP-30 CATV LINE EXTENDER AMPLIFIER
* 50-300 MHz — 30 Channel Capability
The LP-30 is designed for direct insertion in CATV branchlines. It may be powered from either the input or output side of the thru-line and has a 6-amp thru power capability. Up to five amplifiers may be cascaded for maximum branchline extension. Input and output test jacks are backmatched and provide a means of testing the unit's performance without interrupting service. A power-selector board allows installers to select input, output, or through powering, and a wide range gain control allows gain to be varied over a 19 dB range. The unit's slope control will supply any degree of cable slope between 8 and 20 dB.

LP-45P IN-LINE AC POWERED AMPLIFIER
* High Output and Gain Provide Exceptional Stability
* Added Flexibility — Wide Range Gain and Tilt Controls
The LP-45P amplifier is designed for VHF/FM CATV distribution systems in which AC power is duplexed on the TV signal distribution cable. The unit accepts power from either its input or output sides. It will pass power straight through or can be used to block power from either side. Connectors are standard 75-ohm, F-type. Test points (isolated from AC power) are provided on both the input and output. This amplifier features all solid state, printed circuit board construction. Split-band amplifier design permits separate gain and band slope adjustment (low band with FM and high band). Wide trunkline spacing and elimination of temperature equalizers is possible, owing to the wide dynamic range of the LP-45P.
VARI-FLEX MODULAR HEADENDS

Modular Design
Eliminates Costly Wiring

The perfect headend for medium to large MATV systems. Easily balances alternate channel signal levels, and amplifies TV and FM signals from broadband and/or single channel antennas. System consists of: an input separator (when broadband antenna is employed); up to 8 adjustable-level, single-channel input filters; dual-band VHF amplifier with regulated power supply, and mounting base; lockable cover; and mounting provisions for four, 4-way signal splitters. Provisions exist for single channel UHF converter modules in place of VHF input filters.

Bandpass filters isolate weak from strong signals and T-type level controls reduce signals which may be 10 times stronger than weak ones. High output capability is designed for driving up to 150 outlets, and excellent amplifier backmatch reduces reflections from the distribution system by 80%. Line voltage variations between 100-129 VAC are smoothed by a regulated DC power supply. True labor-saving plug-in design minimizes poor reliability of conventional, interconnecting cables.

The Variflex amplifier is intended for a non-adjacent channel distribution system.

VARI-FLEX CONVERTER

- All UHF to VHF
- Conversions except
- Channels:
  - 22-25 to 7
  - 25-28 to 8
  - 28-31 to 9
  - 31-34 to 10
  - 34-37 to 11
  - 37-40 to 12
  - 40-43 to 13
- Gain/Attenuation: adjustable from +3 dB to -22 dB
- Return Loss: Input= 12 dB RL
- Selectivity: 10 dB down 6 MHz from band edge
- Power Requirement: -21 VDC (supplied from amplifier)

VARI-FLEX AMPLIFIER

- Output Capability: LB/FM= +56 dBmV (0.63v); HB= +53 dBmV (0.45v)
- Gain Adjustable from . . . : LB/FM=31 dB to 51 dB; HB=25 dB to 45 dB
- Match (Avg. Return Loss): Input=14 dB RL
- Noise Figure: LB/FM=9 dB;
- (Avg. at Max. Gain) Output=14 dB RL
- Min. Input for TASO: LB/FM= -4 dBmV (600µv)
- Grade 1 Picture (Excell.): HB= -5 dBmV (560µv)
- Noise Figure Increase: LB/FM= 0.4 dB per dB Gain Reduction
- Bandpass Flatness: HB= 0.6 dB
- Power Supply: Regulated, compensates for line fluctuations from 100 VAC to 129 VAC

VARI-FLEX FILTER

- Selectivity: 40 dB down 9 MHz from channel center
- TV Channels 2-13 FM
- Return Loss: 20 dB down 6 MHz from band edge
- Attenuation Range: 13 dB RL (input)
- Bandpass: 6 MHz (±0.75 dB Flatness)
- TV Channels 2-13 FM
- FMA : 88-108 MHz
- FMB : 92-108 MHz

VARI-FLEX SEPARATOR

- Impedance: 75 ohms
- Return Loss: 18 dB RL (input)
- Insertion Loss: 0.3 dB
- Isolation between outputs: 20 dB min.

VARI-FLEX SYSTEM COVER

- Dimensions: 17 ¾"L x 10"W x 6¾"H
- Material: 20 Gauge Turnplate (coated steel)
- Finish: Black Textured
- Weight: 5½ lbs.
- Accessories: Double bit tumbler lock and two keys

VARI-FLEX FILLER MOUNT

Used to mount 4576 Filters if they are not used as a part of a VARIFLEX System.

18

Prices and Specifications Subject to Change Without Notice.
TM-2300 Television Modulator

The TM-2300 Television Modulator incorporates the latest design concepts and components. To insure broadcast quality and to meet the most demanding CATV and CCTV system requirements, IF modulation is used. The design approach provides the convenience of rapid channel change through the use of a modular channel converter. The TM-2300A is designed for use with film chains, cameras, video tape recorders or television demodulators. For microwave applications the TM-2300B is available with composite video and 4.5 MHz intercarrier input.

High VHF, low VHF, sub-low VHF and mid-band frequencies are available. Special models have been designed for use with PAL (German) and SECAM (French) color systems.

Features
- Output level up to 60 dBmV
- Step attenuator output control
- Illuminated meter for sound and video modulation levels
- IF modulation...channel change simplified
- Low differential gain, + / -0.5 dB
- Low differential phase, + / -1.0°
- High impedance and 600 Ohm audio input
- Tamper guard front panel, protects pre-set adjustments
- Frequency range 6-270 MHz
- Ten pole band pass filter
- Integrated circuits

TM-2400 Television Modulator

The TM-2400 TV modulator brings the advantages of IF modulation within reach of almost any CATV and CCTV system. Technical performance is close to that of the more expensive, fully modular CATEL TM-2300, and the instrument meets the stringent broadcast, CATV and CCTV requirements. It can be used with film chains, cameras, VTR's or TV demodulators. For microwave, a second version (TM-2400B) is available with composite video and 4.5 MHz intercarrier input. A model is also available for PAL standards at a slightly higher price.

In addition, the TM-2400 is the only unit in its price range with easy, in-the-field channel change, a feature usually found only on more expensive modulators, like the TM-2300.

As a result, users can change the operating channel by simply changing a P.C. board assembly. Aural and visual circuits are also modular, to make field maintenance easier. Since the IF design allows modulation at a fixed frequency, filters are optimized for a true vestigial side band signal.

Features
- IF modulation at moderate price
- In-the-field channel change
- Output level of +54 dBmV optional
- Meter for both video and sound modulation levels
- Low differential gain: + / -0.5 dB
- Low differential phase: + / -1.0°
- Automatic white limiter
- High impedance or 600 Ohm audio input
- 6 to 270 MHz frequency range
- Ten pole band pass filter

TELEVISION EQUIPMENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-2400 A or B</td>
<td>Television Modulator (IF Modulation) (CCIR-M, U.S.A.)</td>
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<td>TV Modulator (For CCIR-B/European Systems) (220 V.A.C.)</td>
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<td>TC-2400</td>
<td>Channel Converter PC Assembly</td>
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<td>PS-2200A</td>
<td>Power Supply (When Purchased Separately) (220 V.A.C. Optional)</td>
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<td>CA-2300</td>
<td>Cabinet (When Purchased Separately)</td>
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<td>FCC Group Delay Pre-Distortion Network (U.S.A.)</td>
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<td>CCIR 'B' Group Delay Pre-Distortion Network (Europe)</td>
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<td>VCS-2000</td>
<td>Video Controlled Switcher (Module)</td>
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<td>VCS-2000-S</td>
<td>Video Controlled Switcher, Complete With Power Supply, Cabinet, Spacer</td>
<td>675.00</td>
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Prices and Specifications Subject to Change Without Notice.
WIRELESS MICROPHONE SYSTEMS*

The Professional I
- Crystal controlled, VHF operation for low interference.
- Pocket-sized transmitter with 50mW power output and distortion-free overmodulation protection.
- Transmitter circuitry sealed in separate compartment from battery, all within a noiseless, unhinged, impact-resistant cycolac case.
- Ultra-sensitive, high performance receiver with 4-cavity helical-resonator preselector for optimum selectivity and low interference.
- Excellent audio quality, 50Hz – 15kHz response with low harmonic distortion and better than 70dB signal-to-noise overall.

The Professional II
- Crystal controlled, VHF operation for low interference.
- Pocket-sized transmitter with 50mW power output and distortion-free overmodulation protection.
- Transmitter circuitry sealed in a separate compartment from battery, all within a noiseless, unhinged, impact-resistant cycolac case.
- Ultra-sensitive, high performance dual-diversity receiver virtually eliminates fades and dropouts for greater reliability and longer effective range.

The Performer I
- Crystal controlled, VHF operation for low interference.
- One piece microphone-transmitter with no cables and integral antenna.
- Transmitter is battery powered, throw-away or rechargeable type.
- Ultra-sensitive, high performance receiver with 4-cavity helical-resonator preselector for optimum selectivity and low interference.
- Excellent audio quality, 50Hz – 15kHz response with low harmonic distortion and better than 70dB signal-to-noise overall.

The Performer II
- Crystal controlled, VHF operation for low interference.
- One piece microphone-transmitter with no cables and integral antenna.
- Transmitter is battery powered, throw-away or rechargeable type.
- Ultra-sensitive, high performance receiver with 4-cavity helical-resonator preselector for optimum selectivity and low interference.
- Excellent audio quality, 50Hz – 15kHz response with low harmonic distortion and better than 70dB signal-to-noise overall.

The Traveler I
- Lightweight, compact and battery powered receiver can be powered by external sources for truly portable operation.
- Receiver is extremely sensitive, selective, and reliable; all controls, connectors and monitoring on front panel for added convenience.
- Crystal controlled, VHF operation for low interference.

The Traveler II
- Pocket-sized transmitter with 50mW power output and clip-free over-modulation protection.
- Transmitter circuitry sealed in separate compartment from battery, all within impact-resistant, unhinged, noiseless cycolac case.
- Excellent audio response, 40Hz – 15kHz.
- Multi-function metering on transmitter and receiver.

Prices and Specifications Subject to Change Without Notice.

“D” in model number indicates Dynex low-noise compandered system.
*Systems include all cables, batteries, & choice of microphones for 77B (see mic section)

ORDERING INFORMATION FOR CETAC VEGA WIRELESS MICROPHONE SYSTEM
Frequencies must be specified when transmitters or receivers are ordered. Review list of accessories to see if some of them will assist in your application.
ReFLEX-20 Battery Pack Features
- Special n-cad cells
- Resealable vents
- 3-way matching
- Each pack includes thermistors, thermal switches, and thermal fuses
- Welded connections
- 1000 to 5000 cycle average life

ReFLEX-20 Charger Features
- Full recharge in 12 to 20 minutes
- Faster recharge of partially discharged batteries
- Longer battery cycle life
- Less capacity fading
- Patented charge termination circuit
- Charger termination backup
- Hot battery charge lockout
- State-of-charge indicator

The Sequencer Model RS1, when used together with ReFLEX-20 Charger Model DM6128 and appropriate cables, provides numerous benefits:
- Requires less than 4 hours to charge up to 8** intermixed ReFLEX-20 batteries automatically in sequence***
- Requires even less time for fewer batteries, without need for reconnection
- Shows state-of-charge of any battery connected by utilizing manual override
- Indicates cycle status and battery being charged
- Allows system to be left on for prolonged periods without damage to batteries
- Accepts input of 115 or 230 volt, 50/60 Hz., when used with appropriate charger
- Saves space by fitting under charger: size 10 1/4" w x 5 1/4" h x 9 3/8" d. Weight 11 1/2 lbs.

* DM612B2Z for 230 volt, 50/60 Hz. applications
** Count batteries with plus and minus sections (e.g., HL-33, HL-35, HL-77) as 2 batteries
*** unless batteries too hot from prior discharge—see automatic charger lockout

SEQUENCER

BATTERY PACKS – CHARGERS

<table>
<thead>
<tr>
<th>CHARGERS</th>
<th>BATTERIES</th>
<th>RECORDERS</th>
<th>CAMERAS</th>
<th>LIGHTS</th>
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<tbody>
<tr>
<td>115 Volt 60 Hz</td>
<td>230 Volt 50/60 Hz</td>
<td>115/230 Volt 50/60 Hz</td>
<td>Charged to Battery Cable</td>
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<td>S120A2Z</td>
<td>S120A2Z</td>
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<td>D6A06Z</td>
<td>D6A06Z</td>
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<td>D12B2Z</td>
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<td>CB2</td>
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<td>CB8</td>
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<tr>
<td>D12B2</td>
<td>CB8</td>
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</table>

- Charges one battery in less than 20 minutes
- Charges one battery in less than 40 minutes
- Charges one battery in less than 20 minutes, or two batteries in less than 40 minutes (in sequence)

<table>
<thead>
<tr>
<th>BATTERY PACKS</th>
<th>10B75A3</th>
<th>10B75C3</th>
<th>11B802Z3 B1</th>
<th>12B802Z3 B1</th>
<th>12B840Z3 B1</th>
<th>B840Z3 B1</th>
<th>B810Z3 B1</th>
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<tbody>
<tr>
<td>11B802Z3 B1</td>
<td>C35'</td>
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<td>C41</td>
<td>B6</td>
<td>C51</td>
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<td>C61</td>
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<td>B11</td>
<td>B11</td>
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<td>B11</td>
<td>B11</td>
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</table>

- Appropriate battery pack and cable or connector.
- Allows two battery packs to be operated in parallel.
- Connector only.
- Belt Pack for size 36 to 44. Substitute B2 for size 40 to 48.
- Consists of two 12B802Z3 packs, series connected on one belt.
- Consists of two 8B840Z3 packs, series connected on one belt.
<table>
<thead>
<tr>
<th>CAMERA OR VTR</th>
<th>REFLEX-20 BATTERY</th>
<th>REFLEX-20 CHARGERS (115V, 60 Hz)</th>
<th>BATTERY-TO-EQUIPMENT CABLES</th>
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<tbody>
<tr>
<td></td>
<td>Model</td>
<td>Aprx. run-time</td>
<td>Single Channel Charge Model</td>
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<td></td>
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<td></td>
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<td>AMPEX</td>
<td>BCC-14</td>
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<td>HITACHI</td>
<td>SK-90</td>
<td>HR1</td>
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<td>SK-91</td>
<td>KR 1</td>
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<td>FP-40</td>
<td>KR 1</td>
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<td>IKEGAMI</td>
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<td>CR-4400</td>
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<td>MNC-71</td>
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<td>VIDEO-80</td>
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<td>RCA</td>
<td>TK-76</td>
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Prices and Specifications Subject to Change Without Notice.
### CHARGERS & POWER SUPPLY

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<thead>
<tr>
<th>Voltage</th>
<th>115/230V 50/60Hz</th>
<th>115V 50/60Hz</th>
<th>230V 50/60Hz</th>
<th>115V 60Hz</th>
<th>Model</th>
<th>Unit Price</th>
<th>Used On</th>
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<td>DMBZ1</td>
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<td>DMCZ</td>
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<td>SF02</td>
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**PRINTED CIRCUIT BOARDS**

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<tbody>
<tr>
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<td>All &quot;S&quot; Series Chargers</td>
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<tr>
<td>PCBD</td>
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**MOUNT ADAPTERS**

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</tr>
</thead>
<tbody>
<tr>
<td>KA12</td>
<td>$95.00</td>
<td>Kit, Mount Adapter for Sony BV-P300/330, Thomson MC-601</td>
</tr>
<tr>
<td>KA20</td>
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<td>Kit, Mount Adapter for RCA TK-766, C</td>
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<tr>
<td>KA21</td>
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<td>Kit, Mount Adapter for RCA TK-96</td>
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<td>KA23</td>
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<td>Kit, Mount Adapter for Ampex BCC-20</td>
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<tr>
<td>KA24</td>
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<td>Kit, Mount Adapter for Ikegami HL-790</td>
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<td>KA25</td>
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<td>Kit, Mount Adapter for Ikegami IT-350</td>
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<td>KA28</td>
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<td>Kit, Mount Adapter for Hitachi SK91, SK81 &amp; FP10</td>
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**BATTERY CONNECTORS**

(Allows Customer to make "BE" Cable)

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<tr>
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**CABLES — CHARGER-TO-BATTERY**

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<td>Ampex VPR-20</td>
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<td>CBB1</td>
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<td>ER4, ER5</td>
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<tr>
<td>CBB2</td>
<td>165.00</td>
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<td>KR1</td>
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<tr>
<td>CBB16</td>
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<td>KR2</td>
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<tr>
<td>KBZ</td>
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<td>SF2 to KR2 Interface</td>
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<tr>
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**CABLES — BATTERY-TO-EQUIPMENT**

<table>
<thead>
<tr>
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<th>Unit Price</th>
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<tbody>
<tr>
<td>BE3</td>
<td>195.00</td>
<td>RCA TK-76</td>
</tr>
<tr>
<td>BE7</td>
<td>195.00</td>
<td>Sun GunMini-Pro/Omni</td>
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<tr>
<td>BE8</td>
<td>120.00</td>
<td>Ikegami HL-77</td>
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<tr>
<td>BE11</td>
<td>120.00</td>
<td>Thomson MC-602</td>
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<td>85.00</td>
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<tr>
<td>BE16</td>
<td>165.00</td>
<td>NEC MNC-71, Bosch KCA-80</td>
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<td>BE18</td>
<td>120.00</td>
<td>Ampex BCC-14; Philips LCX-14</td>
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<td>BE19</td>
<td>195.00</td>
<td>Panaflex 35mm</td>
</tr>
<tr>
<td>BE20</td>
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<td>Arri 35 BL, 16SR, 16ST, RCA TK76, TK86, w/RX and KA Mount</td>
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<td>165.00</td>
<td>Arri 16 BL</td>
</tr>
<tr>
<td>BE22</td>
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<td>Phillips Video-60</td>
</tr>
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<td>BE26</td>
<td>120.00</td>
<td>Hitachi SK-90, FP1020, GF7</td>
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<tr>
<td>BE27</td>
<td>85.00</td>
<td>Unended Cable to HR3</td>
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<td>BE28</td>
<td>165.00</td>
<td>Hitachi SK-80</td>
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<td>BE30</td>
<td>105.00</td>
<td>RCA TK-86 w/AKA21 and KRX to 4-Pin XLR Connector</td>
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<td>BE3E</td>
<td>275.00</td>
<td>Dual RCA TK-76</td>
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<td>Dual Ampex BCC-14; Philips LKX-14</td>
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<tr>
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<td>BE27</td>
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<td>BE28</td>
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<td>Hitachi SK-80</td>
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<td>BE30</td>
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<td>RCA TK-86 w/AKA21 and KRX to 4-Pin XLR Connector</td>
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**BELTS**

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<td>B1</td>
<td>30.00</td>
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<td>B2</td>
<td>30.00</td>
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<td>B3</td>
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**SEQUENCER**

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<td>DMB, DMBZ1 &amp; DMBZ2; requires 4 &quot;CB(B)&quot; cables for full operation</td>
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**BATTERY PACKS**

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<td>ER5</td>
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<td>HR1</td>
<td>450.00</td>
<td>Ampex BCC-14; Hitachi FP1020, SK-90, Philips LDK-14; RCA TK-76A, 3, C; Thomson MC-602; Arri 165R, 16ST, 16B, 35BL; Panaflex 35mm**; 30V, 250 watt lights**; Hitachi GF7</td>
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<td>Philips Video-60**</td>
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<td>Hitachi SK-80**</td>
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*Can be used with all REFLEX-20 batteries listed above; included is one "CB(B)" cable.

**Two each batteries required for operation.

†Available through Ampex Corp.

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Prices and Specifications Subject to Change Without Notice.
CAMRAPROMPTER
Cinema Products' unique film/video camera prompting system: low-cost, compact, light-weight, easy to set up and simple to operate!

Mounted in a matte box-type enclosure, the Camraprompter* utilizes a clear acrylic optical flat set at a 45° angle in front of the camera lens. The optical flat acts as a mirror reflecting the bright, easy-to-read script to the subject being photographed, with virtually no light loss to the lens.

A side-mounted light source is used to back-light the script "scroll." The script copy can be typed or hand-printed onto the matte-finish clear plastic 25-foot roll which is advanced by means of an ultra-silent, miniaturized motor drive.

A small remote control unit provides continuously variable speed control (forward or reverse). The remote control unit may be operated by the "on camera" subject or by the person in charge of pacing the sequence who is viewing the script roll from the side of the Camraprompter unit.

Camraprompter is an ideal prompting system for documentary, educational or industrial assignments, and all applications generally shot on location.

*Patents pending.

Specifications
- Bright, easy-to-read script information. Copy "frame" size 6 1/4" wide x 5" high.
- Copy can be typed or hand-printed on matte-finish plastic rolls (7" wide x 25' long).
- Small remote control unit (with 10' detachable cable) provides continuously variable speed control (forward or reverse).
- Ultra-silent, miniaturized motor drive.
- Side-mounted light source utilizes two standard fluorescent lamps (GE F4T5-CW).
- System includes a universal camera mounting plate for film and video cameras.
- Power: standard 12V battery pack or belt (1.75 amps max).
- Weight: Camraprompter (less universal camera mounting plate) weighs only 5 lbs. 12 oz. $2100.00
STANDARD POWERBELTS

12 VOLT STANDARD POWERBELTS

6307 12V.-4AH STANDARD POWERBELT with built-in 115V Overnite Charger. Automatic Reset Circuit Breaker. 5-pin Canon XLR5-31 connector. Wt. 5.5 lbs. $375.00

7007 12V.-7AH STANDARD POWERBELT. Higher capacity version of No. 6307. Wt. 7.5 lbs. $611.00

6327 12V.-8AH STANDARD POWERBELT with built-in 115V Overnite Charger. Automatic Reset Circuit Breaker. Charge/Use Switch. 5-pin Canon. Wt. 10 lbs. $571.00

7027 12V.-14AH STANDARD POWERBELT. Higher capacity version of No. 6327. Wt. 14 lbs. $890.00

+12V./-12V. STANDARD POWERBELTS

6311 +12V./-12V.-4 AH STANDARD POWERBELT with built-in 115V. Overnite Charger. Automatic Reset Circuit Breaker. 5-pin Canon connector. Wt. 10 lbs. $375.00

7011 +12V./-12V.-7 AH STANDARD POWERBELT with built-in 115V. Overnite Charger. Automatic Reset Circuit Breaker. 5-pin Canon connector. Wt. 13 lbs. $655.00

+14.4V./-14.4V. STANDARD POWERBELTS

6315 +14.4V./-14.4V.-4 AH STANDARD POWERBELT with built-in 115V. Overnite Charger. Automatic Reset Circuit Breaker. 5-pin Canon connector. Wt. 11.5 lbs. $630.00

7015 +14.4V./-14.4V.-7 AH STANDARD POWERBELT with built-in 115V. Overnite Charger. Automatic Reset Circuit Breaker. 5-pin Canon connector. Wt. 15 lbs. $940.00

FAST CHARGE POWERBELTS

12 VOLT FAST CHARGE POWERBELTS

8307FC 12V.-4AH 1 HOUR FAST CHARGE POWERBELT with built-in 115V, Overnite Charger. Automatic Reset Circuit Breaker, 5-pin Canon connector. Fast Charge Circuitry. Requires Model 9400 Fast Charger to FC in one hour. Wt. 10 lbs. $415.00

8327FC 12V.-8AH 1 HOUR FAST CHARGE POWERBELT with built-in Overnite Charger, Automatic Reset Circuit Breaker. Charge/Use Switch. 5-pin Canon, Fast Charge Circuitry. Requires Model 9400 Fast Charger to fast charge in one hour. Wt. 10 lbs. $571.00

+12V./-12V. FAST CHARGE POWERBELT

8311FC +12V./-12V.-4 AH 1 HOUR FAST CHARGE POWERBELT with built-in 115V, Overnite Charger, Automatic Reset Circuit Breaker. Fast Charge Circuitry, 5-pin Canon connector. Requires Model 9400 Fast Charger to fast charge in one hour. Wt. 10 lbs. $695.00

+14.4V./-14.4V. FAST CHARGE POWERBELT

8315FC +14.4V./-14.4V.-4 AH 1 HOUR FAST CHARGE POWERBELT with built-in 115V, Overnite Charger, Automatic Reset Circuit Breaker. Fast Charge Circuitry. 5-pin Canon connector. Requires Model 9400 to fast charge in one hour. $660.00

STANDARD POWERPAKS

12 VOLT STANDARD POWERPAKS

9107 12V.-4AH STANDARD POWERPAK with external 115/230V. Overnite Charger. Automatic Reset Circuit Breaker, 5-pin Canon. Sh. Strap. Wt. 4 lbs. $410.00

9707 12V.-7AH STANDARD POWERPAK. Higher capacity version of No. 9107. Wt. 6 lbs. $642.00

9127 12V.-8AH STANDARD POWERPAK with built-in 115V. Overnite Charger. Manual Reset Circuit Breaker. Charge/Use Switch. 5-pin Canon Sh. Strap. Wt. 9 lbs. $606.00

+12V./-12V. STANDARD POWERPAKS

9111 +12V./-12V.-4 AH STANDARD POWERPAK with built-in 115V. Overnite Charger. Manual Reset Circuit Breaker, 5-pin Canon connector. Sh. Strap. Wt. 9 lbs. $630.00

9711 +12V./-12V.-7 AH STANDARD POWERPAK with built-in 115V. Overnite Charger. Manual Reset Circuit Breaker, 5-pin Canon connector. Sh. Strap. Wt. 13 lbs. $916.00

+14.4V./-14.4V. STANDARD POWERPAKS


FAST CHARGE POWERPAKS

12 VOLT FAST CHARGE POWERPAKS

9107FC 12V.-4AH 1 HOUR FAST CHARGE POWERPAK with external 115/230V. Overnite Charger. Automatic Reset Circuit Breaker. Fast Charge Circuitry. Requires 9400 Fast Charger to FC in one hour. Wt. 4 lbs. $410.00

9127FC 12V.-8AH 1 HOUR FAST CHARGE POWERPAK with built-in 115V, Overnite Charger. Manual Reset Circuit Breaker. Charge/Use Switch. 5-pin Canon. Fast Charge Circuitry Shoulder Strap. Requires Model 9400 Fast Charger to fast charge in one hour. Wt. 9 lbs. $645.00

9727 12V.-14AH STANDARD POWERPAK. Higher capacity version of No. 9127. Wt. 13 lbs. $890.00

+12V./-12V. FAST CHARGE POWERPAK


+14.4V./-14.4V. FAST CHARGE POWERPAK


Prices and Specifications Subject to Change Without Notice.
The 12V. Sun-Gun Kit consists of:
The Cine 60 Sun-Gun Head (with integral Swing-Away Filter Holder, removable handle, integral battery cable), Cat. No. 6201A; Tungsten-Halogen Lamp, 11.5V. 100 Watt, Cat. No. 6211; Swing-Away Dichroic Filter, Cat. No. 6202; Battery Cable Adapter, Cat. No. SG6512; 12V. SG Powerbelt or Powerpak, Standard or Fast Charge; Overnite Charger; Carrying Case Cat. No. 6207.

Pictured: 12 V. 8AH Fast Charge Powerbelt Sun-Gun Kit with 1 Hour Fast Charger.

Cat. No. SGK-9104FC

SGK-8304PS 30V.-4AH FAST CHARGE POWERBELT SUN-GUN KIT. 25 minute life. With 9400 Fast Charger. Wt. 21 lbs. ....................... $1,187.00

SGK-7004PS 30 VOLT 7AH STANDARD POWERBELT SUN-GUN KIT. 40 minute life. Wt. 23 lbs. .............................. $1,179.00

SGK-9104FC 30V.-4AH FAST CHARGE POWERPAK SUN-GUN KIT. 25 minute life. With 9400 Fast Charger. Wt. 26 lbs. ...................... $1,465.00

SGK-9704PS 30V.-7AH STANDARD POWERPAK SUN-GUN KIT. 40 minute life. Wt. 23 lbs. .............................. $1,187.00

SGK-9704FC 30V.-7AH 2 HR. FAST CHARGE POWERPAK SUN-GUN KIT. 40 minute life. With 9400 Fast Charger. Wt. 26 lbs. ...................... $1,472.00

Prices and Specifications Subject to Change Without Notice.

Cine 60's Sun-Gun is a unique battery powered light used by TV camera men and documentary film makers all over the world as a "fill" light outdoors, a "key" or "fill" light indoors. For 30 Volt 150, 250, 350 watt and 12 Volt 100 watt tungsten-halogen lamps. Features: Soft, Wide Angle Focusing Light ideal as a camera mounted light in head-on situations. At 10 ft. Flood Position throws a 14 ft. wide beam flat from edge to edge, free of hot spots, filament patterns, or halos. Lets camera man achieve better picture quality, balancing "fill" light to ambient light, and eliminating harsh facial shadows. A heat-insulated knob on back is used to focus, sliding in and out and locking at any point from maximum to minimum beam width. Built-In Swing-Away Dichroic Filter, 3400°K indoor color temperature or 5500°K color temperature with the turn of a knob.

Prices and Specifications Subject to Change Without Notice.
VIDEO ACCESSORIES

Call Or Write
For The
Comprehensive Video Supply Center Catalog
Convergence Corporation, the proven leader in video tape editing technology, brings you the speed, simplicity and convenience of joystick editing at a very affordable price.

Whether you're in industrial, educational, broadcast or post-production television, you can benefit from the versatility and low cost of this powerful new system.

Advanced features include:
- Fully variable joystick control of tape speeds
- Preview, perform and replay of edits
- Interchangeable VTR formats
- Independent control of audio and video channels
- Programmable high-speed search
- Mark-in/out on the fly
- CRT display of edit data
- Programmable pre- and post-rolls
- Full VTR remote control
- Auto tag
- Control track or optional SMPTE time code

Here's an editor you can start with and stay with. And it protects your hardware investment by easy installation with your present VTR’s. New direct plug-in interface connects to industrial ½ inch cassette and ¾ inch U-matic format recorders with absolutely no modifications.

Discover the new low price of high-quality editing.

ECS-90 EDITOR | $4250.00

Convergence Corporation, the proven leader in video tape editing technology, brings you the speed, simplicity and convenience of joystick editing at a very affordable price.

Whether you’re in industrial, educational, broadcast or post-production television, you can benefit from the versatility and low cost of this powerful new system.

Advanced features include:
- Fully variable joystick control of tape speeds
- Preview, perform and replay of edits
- Interchangeable VTR formats
- Independent control of audio and video channels
- Programmable high-speed search
- Mark-in/out on the fly
- CRT display of edit data
- Programmable pre- and post-rolls
- Full VTR remote control
- Auto tag
- Control track or optional SMPTE time code

Here’s an editor you can start with and stay with. And it protects your hardware investment by easy installation with your present VTR’s. New direct plug-in interface connects to industrial ½ inch cassette and ¾ inch U-matic format recorders with absolutely no modifications.

Discover the new low price of high-quality editing.

ACCESSORIES:

TCR-90 Two-channel Time Code Reader
Reads pre-recorded longitudinal SMPTE/EBU time code from two sources. Includes IOA-90 paralleled input/output assembly for interconnect to ECS-90, and one Operation and Maintenance Manual.

IFS-90/2860 High Speed Module
Option for use with CCA-90/2260/2860 HS Kit for greater than play speed joystick operation.

SPK-90 Spare Parts Kit

PLUG-IN OPTIONS:

LL-90 Liplock Audio Pitch Corrector
Corrects audio pitch to provide intelligible auto monitoring when tape is joystick at faster or slower than normal speed.

BL-90 BLADE black generator and fade module
Fades up from and/or down to black at in or out edit points. Includes internal black burst generator for prerecording color black on video tapes. (Fade NTSC and PAL, Black Burst Generate NTSC only).

CCA-90 Control Cable Assembly
Specify VTR manufacturer and model number

Prices and Specifications Subject to Change Without Notice.
**ECS-103 (A, B and C) Superstick Multi-Source Editing System**

Includes Superstick panel with Cruise Control, Auto Tag, Replay, Automatic Return to Edit, Transport Controls, Adjustable Preroll, Automatic Audio Monitoring with built-in speaker amplifier, Record Mode Controls and Accessory Controls. Also includes Full Keyboard for selection of multiple input sources on optional switcher, Programmable Fast Wind Tape Search, manual Tag, Split Edit Controls, Store and Recall of 100 scene locations. Edit Trim Register, SDG-100 Status Display and two ¼" interfaces. Call or write for complete ECS-103 Accessory List.

**Prices for ECS-100 Series Editors**

- ECS-103A (has the full 103 keyboard, split audio-video edits, scene store and recall, high-speed search, effect notation for off-line editing and B and C source VTC capability for cuts only editing) - $10,500.00
- ECS-103B (same as the 103A except capable of A-B roll edits, special effects, switcher control, and can mix formats between 1" and ¼" VTR's), including 3 interfaces - $19,000.00
- ECS-103C (has additional capability of list management and auto-assembly, expanded program memory and RS-232 serial port, 3 interfaces and EDL Board) - $24,500.00

**ECS-104**

"Human-engineered" is a phrase that takes on new meaning with ECS-104 List Management Edit Controller — the easiest to learn and easiest to operate editing system on today's market. List management and operating features you hoped would be available "someday" are standard right now in every ECS-104. They combine critical edit accuracy with unprecedented editing flexibility, making it possible to produce air-ready master tapes with maximum creativity, minimum time.

The ECS-104's unique standard features include:

- EDL-100 Edit Decision Lister provides serial EIA RS-232 signal-level output of editing information for listing on printer, tape punch or other device.
- JoyScroll™ — lets you edit from pictures and sound, searching up and down, with the list automatically following the VTR and always available, edit by edit, or by control of the joystick + TimeSearch™ — provides direct, automatic access of the list to any known time location on either the record or source tapes by a simple keyboard entry + "409" — the first time this industry-recognized clean-up process has been included as standard in any editing system + CleanUp™ — eliminates overlaps automatically to help keep the list clean as you edit, saving time as you go + SynTag™ — keeps multiple video and audio tape recorders perfectly synchronized to maintain continuity of edits when doing a sync roll + CheckIt™ — starts automatically when power is turned on to verify proper operation of all programs within the system + TenCom™ — provides 10 relay contact closures (and corresponding logic levels); user assigns time and sequence of closures to control external devices such as effects generators, recorders, character generators, etc., with respect to any selected VTR. (Requires the CG-100 Command Generator option.) + AutoMatch™ — allows the operator to match the scene and record VTR in-edit points at any location within the precious edit, with one keystroke + Action-Match™ — automatically calculates the required edit points to match action or sound anywhere in an edit sequence. Audio only or video only inserts can be precisely matched to proper action or sound with the Superstick and a single keystroke. — $36,000.00

**ECS-104S List Management Editing System**

TCR-100 Time Code Reader System reads prerecorded longitudinal SMPTE/EBU time code from two VTRs. Expandable up to four VTRs with optional RC-100 plug-in module. Includes: Rack frame with plug-in modules: PS-100 Power Supply, MX-100/TCC Multiplexer, (2) RC-100 Time Code Reader Modules; ICC-100/20 twenty foot accessory interconnect cable with connectors and P10-100 Parallel Input/Output Module. — $4,500.00

**RC-100 Time Code Reader Module** Puts into TCR-100 Time Code Reader system. One module required for each VTR added. Includes: Plug-in module and connector — $900.00

**ARC-100 Animate Remote Control** Provides control to ECS-100 Series animate function from remotely located manual or automatic animate tape. Box with 15' control cable and connector — $2,500.00

**EDL-100 Edit Decision Lister** Provides serial EIA RS-232 signal level output of editing information to be listed on customer supplied printer, tape punch or other device, consists of SOG-100 Serial Input/Output plug-in module and output connector (no used with ECS-100) — $1,500.00

**SE-100 Editing Switcher/Effects System** A dedicated five-inputs, two-buss audio follow video switcher and special effects system for two-source cut/dissolve/key or wipe with 46 patterns including soft wipes. Transitions are programmable from ECS-103 keyboard (Must be used in system with TCR-100 Time Code Reader System. All VTR inputs must be time base corrected.) (For ECS-103 Series only) Includes: 7" frame, PS-100 Power Supply and system plug-in modules; ICC-100/55" and ICC-100/20"20C accessory interconnect cables and JB-100 Junction Box for system interconnect to ECS-103 Console. — $8,000.00

**ME-110 Editing Mix/Effects System** Enables the professional editor to add 23 different standard effects patterns (wipes, dissolves, etc.) and key transitions up to 250 frames via the ECS-104 editing keytoard. — $11,000.00

**CP-110 Control Panel** Extends the ME-110's capabilities by enabling manual override of automatic functions if your own keyboard and expanding programmable transitions to 999 frames, allowing variable transition rates. — $3,000.00

**ECS-110/CP-110** — $12,500.00

**Update Kits to convert an existing**

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<td>ECS-103C</td>
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<td>ECS-103D</td>
<td>$12,000.00</td>
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<tr>
<td>ECS-103B</td>
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**AVS-100 Audio Video Switcher** (Not used in systems with SE-100) A dedicated five-inputs/one-output video switcher with audio follow. All inputs selected at ECS-103 keyboard includes: 3 ½" rack mount unit with internal power supply and A/V Switch Module, ICC-100/55" and ICC-100/20"20C accessory interconnect cables and JB-100 Junction Box for system interconnect to ECS-103 Console. (Must be used in system with TCR-100 Time Code Reader System.)

**AVS-1000 Audio Video Switcher** (Not used in systems with SE-100) Same as AVS-100 except includes P10-100 Parallel Input/Output Module for systems which do not include TCR-100 Parallel Input/Output Module for systems which do not include TCR-100 Time Code Reader System. — $2,500.00

**SWI-110 Universal Switcher Interface** — $3,000.00

**Interface Packages**

- IFF-100 1/4" and 3/8" — $1500.00
- IFF-100 1/1" Type E and C and Ampex — $2500.00
- IFF-100/ATR Audio — $3000.00

**Prices and Specifications Subject to Change Without Notice.**
### CCTV LENSES

#### FOR 2/3 INCH VIDICON CAMERA

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#### FOR 7/8 & 1 INCH VIDICON CAMERA

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<th>Relative Aperture</th>
<th>Type</th>
<th>Note</th>
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<td>Motorized Auto Iris</td>
<td>For Silicon Camera VS or V DC 6V - 18V</td>
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**Optional Accessories:**
- X2 range extender, Extension tube set, Wall bracket, Microscope adapter and Close-up attachments are separately available as well as remote control boxes for Motorized zoom lenses.

**Remarks:** Symbols in Model No.
- **ES:** Automatic Diaphragm for Silicon Vidicon Camera
- **M2:** Motorized-Zooming, Focusing
- **E:** Automatic Diaphragm (EE)
- **N:** Without Diaphragm
- **X:** Fixed Focus

**Prices and specifications subject to change without notice.**
Model 6114 Eight input (including colorizer) three bus video switcher, 12 patterns, positioner, event timer, pattern modulator, soft wipe, spot lite, blink key, toggle, take preview, automatic or manual mix and wipe, blanking processor, non-sync lamp, loop thru video inputs, black burst output. Includes extender board. Price $4680. PAL $5680.

Model 6112 Four bus, nine input (including colorizer), video switcher with two fully independent mix effects systems, downstream keyer, pattern modulator, automatic or manual mix and wipe, colorizer, dual pattern generators with positioners, loop thru video inputs, take preview, toggle, adjustable soft and border effects, intercom, spot lite, dual back porch clamps, black burst output, blanking processor. Includes rack slides for electronics package and extender board. Price N.T.S.C. $7,950. PAL $8,950.

6112 Options
Encoded chroma keyer (plug in board) $1,050.
RGB chroma keyer (plug in board) $1,050.
Slimline control panel (4 inches) $250.
Relay Board $150.
Pulse Lock Module to enable 6112 for genlocking to input #1 $850.

Model 6107 Six input, (including colorizer), two bus video switcher: 12 patterns, positioner, automatic or manual mix and wipe, soft wipe, full preview, intercom, tally, blanking processor, loop thru video inputs, black burst output. Includes extender board. Price N.T.S.C. $3,800. PAL $4,800.

Model 6118 Six input (including colorizer) three bus video switcher with 12 patterns, positioner, soft wipes, colorizer, key, super and blanking processor. Genlocks to inputs 1 or 5 (internally selectable) and provides all six drive outputs and black burst input #5 genlocks to VTR. Price $2995.

6118 Option Automatic camera lock module - for use with Sony 16"0 or 1640 and JVC G71US color cameras - automatically drives and times up to 4 cameras - Sony cameras do not need CMA-6. Price $850.

Model 6107 Options
6107-110 Intercom $200.
6107-111 Intercom $200.
6107-210 Intercom $200.
6107-211 Intercom $200.
6107-310 Intercom $200.
6107-311 Intercom $200.
6107-410 Intercom $200.
6107-411 Intercom $200.
6107-510 Intercom $200.
6107-511 Intercom $200.

Prices and Specifications Subject to Change Without Notice.
Model 7200 AUTO DRIVE™ is a programmable computer controller for the 6124 and 6112 switchers. The unit is capable of storing the entire configuration of the control panel of the switchers as an “event.” Its solid state memory has a capacity for 255 events. AUTO DRIVE™ can produce abrupt or smooth transitions between events controlling analog functions smoothly from one event configuration to the next. Events can be set for duration times from 1 frame to 3 minutes for “smooth” and 1 frame to 99 minutes for “abrupt.” AUTO DRIVE™ can even learn manual fader handle operations and reproduce it precisely. Price $12,500.

**7200 Options**

- Video Media 26E Interface: $3,000.
- Datatron Interface: $3,000.
- Convergence Interface: $3,000.

Model 6024 Full Field color bar generator and background colonizer, one output each, two black burst outputs. Price $1150.

**6024 Option**

Remote control panel. $143.

Model 6025 Color background generator with two black burst outputs. Price $990.

**6025 Option**

Remote control panel. $143.

Model 6026 Encoded Chroma Keyer and Video mixer. 1 ½” rack mountable, horizontal positioner, dual outputs for midstream and downstream chroma keying. Price $3,500.

Model 6027 Fade To Black Generator 1 ½” rack mountable. With a built-in 2 input mixer, includes remote panel. Price $1,500.

Model 6000 PROGRAMMABLE AUDIO MIXER with 7 inputs and a built in 1 KHz time generator balanced inputs and outputs. There are two channels per input (stereo). The two channels may be reversed or combined into either of the two outputs. The 6800 interfaces with editors and can be programmed remotely to perform cuts and mixes with duration times from 1 to 1000 frames. Input 7 may be internally jumpered to double as a “voice over” input, (an external mic. amplifier is necessary). Price $3,500.

Model 6803 AUDIO FOLLOW SWITCHER for the 6112, 6107, and 6124 switchers. 7 balanced inputs (stereo). Gain may be either manually or externally controlled. Balanced outputs, which may be reversed or combined. Input 7 may be internally jumpered to double as an “voice over” input, (requires an external mic. amplifier). Price $2,500.

Model 6403 Programmable Editor Switcher Interface allows most Crosspoint Latch switchers to communicate directly with editors. It handles one ME on the switcher. The 6403 controls the position as well as the size of the patterns, permitting wipes and mixes from one preset limit to another preset limit, to be performed with frame accurate precision. It also has a delay counter permitting delayed effects. The maximum duration and delay times is 1000 frames. The 6403 can either be totally controlled from the more sophisticated editors (by means of the optional EDITOR MODULE) or it can be triggered from even the simplest editors by means of an intercept box which plugs directly into the connector on the record VTR. Price $2750. Editor module (where required) $995.
Model 6104A

PORTABLE VIDEO PRODUCTION SYSTEM. This is a video and audio switching console built into a rugged and portable carrying case, which can be shipped by air as baggage. It operates from both 110V AC as well as from an external 12 volt battery. It has a complete sync generator system capable of driving five cameras of any make or model. The sync distribution system, has five complete sets of drives, as well as five black burst outputs each of which can be independently adjustable both for subcarrier as well as horizontal phase. Other important features include color bar generator, four input mic mixer, very versatile six input switcher with automatic preview, auto and manual wipe. Price $10,700.

Model 6133

Three monochrome five inch monitors mounted in a portable carrying case, with single cable connection to the 6104A. The monitors are set to display Cameras 1, 2 and 3 on the switcher. Price $1565.

SYNC GENERATORS WITH MULTIPLE OUTPUTS

The 6006 series all have:
4 sync/ horizontal drive outputs
5 subcarrier outputs
5 vertical drive outputs
2 each, blanking & burst flag
1 each additional sync & H. Dr.
2 Black Burst
There are four horizontal (sync or H. Dr.) and four subcarrier adjustments on the front panel

IN ADDITION
The 6006A, 6006B and the 6006C all have genlock capability.

The 6006B has four individually phase adjustable black burst outputs, with 360 degrees for burst and 2 microsecond range for horizontal. This enables four cameras to be adjusted from the sync generator panel. The two other black burst outputs allow two more genlock cameras to be driven from the unit. The other drives enables the switcher and other color and monochrome equipment to be driven without the need for other distribution amplifiers.

The 6006C has color bars and a 1 kilocycle tone generator.

Prices:

6006 $1250; 6006A $1590;

Model 6134

Two monochrome and one color monitor package, connected to display the output of the 6104A console. Single cable connection to the 6104A. Price $2415.
The Crown D-75 power amplifier, requiring only 1 1/4" (4.45cm) of vertical rack space, was designed to operate safely and continuously into a variance of load requirements. The D-75 provides 35 watts per channel minimum RMS (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 1 watt 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.

The Crown D-150A is a single or dual channel power amplifier designed for precision amplification of frequencies from 1Hz to 20KHz. The design of the D-150A 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 is capable of a 50 volt balanced line output. The unit operates on AC current from 120V to 240V.

The D-150A 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.

The Crown DC-300A is a single or dual channel power amplifier designed for precision amplification of frequencies from 1Hz to 20KHz. The design of the DC-300A 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 DC-300A is capable of a 70V balanced line output. The unit operates on AC current from 120V to 256V.

The DC-300A 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.

The DC-300A 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 can safely drive any speaker load, resistive or reactive, with no fear of harming the amplifier. The speakers can be paralleled with no deterioration of sound quality since changing the load impedance only affects the maximum power available, not the ability of the amplifier to produce clean sound.

Prices and specifications subject to change without notice
The Datametrics 722A SMPTE Time Code System was designed to provide complete generate, read and video display capabilities in one cost-effective package. It fits well in television studio and production environments, where a maximum of capabilities must fit in a minimum of space.

Complete code generation capabilities include the encoding of Time data in a Drop Frame or Non Drop Frame mode, plus the insertion of User data. Quick code preset is accomplished via a seven position rotary switch and pushbutton. Synchronization to video or crystal reference is an internal automatic feature.

The Model 722A can be selected to decode either Time or User data, incorporating reader features that overcome problems associated with faulty time code. Error by-pass enables the 722A to display and output frame accurate Time data in the presence of disrupted or inconsistent code words. The number of consecutive disregarded words is front-panel selectable. A wide dynamic input and bandwidth allow the 722A to read and display code from 1/20 to 100x VTR play speed. If deteriorated code is encountered, the 722A has complete regeneration capabilities via the Jam Sync mode, laying down accurate code with proper synchronization and timing.

Decoded time is displayed on a clearly legible front panel LED display. In addition, an internal character generator/video inserter will superimpose a character display upon video programming. Multi-size characters are fully positionable, and can be switched onto the vertical interval when needed. Adjustable character brightness and a switchable mask background add format versatility. Drop Frame mode is indicated by a three-dot colon between characters.

The Datametrics Model 722A includes parallel data outputs, selectable for Time or User data, allowing for remote display or computer editing system input.

The Datametrics Model 722A Time Code System is a cost-effective package for studio or production personnel looking for complete SMPTE code capabilities. It is packaged in an attractive case with recessed controls and front panel indicators for Code Present, Drop Frame Status, Sync Present, Hold mode, Time/User mode and error detection.

Model 722A
Reader/Generator/Character Generator w/Video ..................$4,950.00

Prices and Specifications Subject to Change Without Notice.
SMPTE TIME CODE READERS/GENERATORS/VIDEO INSERTERS

SMPTE Character Generator Model 700
$1,850.00
700 Features:  BCD Parallel Input • Keys Hexadecimal Characters on to Video Signal (O-F) • Low Cost

SMPTE Code Reader Model 733
$2,240.00
733 Features:  Time or User Data Operation • Hexadecimal Display and Output • Compact Size • Low Power • Compensated/Noncompensated Format Sensing • Automatic Direction Sensing • Full Input Speed Range

Time Code Generator Model 716
$2,280.00
Designed specifically for Television Studio and Production Environments. Display and output of SMPTE time codes, Internal Reader, Reference Sync inputs for video or film tach pulse, Drop Frame Mode, Jam Sync and Sync lock

SMPTE Code Reader Model 710
$2,280.00
710 Features:  Low Cost • Wide Dynamic Input and Bandwidth • Integral Video Character Generator • Low Profile 1 1/8" x 19" Package

SMPTE Time Code Reader Model 760
$2,960.00
760 Features:  Wide Input Bandwidth • Reads Simultaneous Time and User Data • Integral Video Character Generator • Dot-Matrix • Hexadecimal Display • Low Profile – 1 1/8" x 19" Package

SMPTE Code Generator Model 766
$2,960.00
766 Features:  Generator Time and User Code • Internal or external Sync • Integral User Data Preset Switches • Fully Remote Controllable • Drop Frame Mode • Jam Sync Option • Real Time Clock Option

Prices and Specifications Subject to Change Without Notice.
VANGUARD EDITOR

The Vanguard is a high-performance microprocessor based editing system uniquely suited for today's highly creative, cost conscious editing environment. It allows you to perform fast, accurate edits involving up to five VTR's and a switcher-on-line or off-line, SMPTE code or control track. It offers features and conveniences normally found only in expensive, top-of-the-line editing systems, including: an interactive CRT operator display and color coded dedicated function keyboard; adjustable operator reaction time compensation; selectable preroll and postroll times; dual Varascan™ shuttle controls; auto assembly; edit list management; and a large selection of VTR, ATR and film chain interfaces, just to name a few.

- **TOTALLY FLEXIBLE VTR INTERFACING**
  Field-proven interfaces are available to allow the Vanguard to operate with a wide variety of VTR's, ATR's and film chains.

- **OPERATES WITH A VARIETY OF SWITCHERS**
  Vanguard interfaces to a number of manufacturers' computer compatible switchers, including Datatron's own 2100E model.

- **SMPTE CODE OR CONTROL TRACK OPERATION**
  Insert or assembly editing can be performed on the Vanguard using either SMPTE time code or control track pulses for tape position referencing (a SMPTE jam-sync generator is required to perform assembly edits in SMPTE mode).

- **DUAL VARASCAN™ SHUTTLE CONTROLS**
  VTR's capable of variable speed play and shuttle modes can be controlled by Datatron's Varascan variable speed slider search control.

- **MARK EDIT POINTS ON-THE-FLY OR KEYBOARD ENTER THEM**
  Edit-in and edit-out times can be marked on-the-fly from the time code being read from a moving tape, or they can be entered manually from the keyboard.

- **FIVE TIER SCRATCHPAD MEMORY WITH TIME CODE CALCULATOR**
  The CRT scratchpad display can accommodate up to five memory time code values entered from the keyboard.

- **FULLY AUTOMATIC CUEING, PREVIEWING AND EDITING**
  The Vanguard offers fully automatic cueing, previewing and editing sequences involving up to three VTR's, plus a single VTR preview sequence.

- **ON-THE-FLY (SYNC'D ROLL) EDITS AND PREVIEWS WITH UP TO FOUR SOURCES**
  Vanguard can perform edits and previews on-the-fly with up to four source VTR's rolling.

- **UP TO 999 EVENTS OF EDIT LIST MEMORY WITH POWERFUL LIST MANAGEMENT**
  Vanguard can store up to 999 lines of edit events in its semiconductor memory; 320 events of memory come standard.

- **AUTO ASSEMBLY FROM UP TO FOUR PLAY SOURCES**
  The entire edit decision list, or a designated block of it, can be automatically previewed or edited sequentially, pausing only when new reels must be mounted, or when a manual switcher setting is required.

- **AN OPERATOR KEYBOARD AND DISPLAY THAT GUARDS AGAINST ERRORS**
  All editing functions of the Vanguard system are controlled by the operator from a desktop keyboard and CRT display.

- **EDIT LIST INPUT/OUTPUT IN INDUSTRY-STANDARD FORMATS**
  The Vanguard can be equipped with several types of edit list input/output devices.

Prices and Specifications Subject to Change Without Notice.
5300 SERIES INTELLIGENT TIME PROCESSORS

The Intelligent Time Processor will produce SMPTE/EBU time code simultaneously with user bits, vertical interval time code and video characters. The 5300 will operate in NTSC or in PAL.

A numeric key pad for data entry and high efficiency LED readouts combine to make for an attractive and highly functional front panel assembly.

The ITP reads standard serial code at speeds ranging from 1/3 to 90 times normal play speed in both directions without experiencing any frame decoding delay.

In addition the system will automatically revert to reading vertical interval time code when reading down to still frame to insure complete code reading reliability.

MODEL 5300 STANDARD TIME CODE. This Intelligent Time Processor will generate time code from data which is either preset through the front panel keyboard or dubbed from an external source. Special modes have been created which allow the 'user bits' portion of the code to update as an independent time generator or to be jam sync'd to serial time code from an external source. The ITP will also produce color frame correct time code.

MODEL 5301 VERTICAL INTERVAL TIME CODE. This is an optional feature that provides the ITP with the capability to both generate and read VITC in the proposed industry standard. Any two lines in the vertical interval from line 10 through and including line 20 can be selected. In the read mode, the ITP will decode VITC independently of its recorded position.

MODEL 5302 TIME CODE CHARACTER GENERATOR. The optional time code character generator makes use of a black mask background for either recording or displaying characters in the video picture. The vertical and horizontal positioning of the characters is controllable from the front panel, along with character height and width.

MODEL 5350 SMPTE TIME CODE GENERATOR

The Datatron Model 5350 generates industry standard time code in SMPTE/EBU. Front panel thumb wheel switches allow for user-definable setting of hours, minutes and seconds. Additional user accessible front panel switches allow for such functions as drop frame/non-drop frame format, generator start and stop. Current time count is displayed through the use of LED indicators.

Time code serial output is at the rear chassis through standard balanced XLR connectors. Buffered parallel BCD code is also available.

A front panel indicator displays the presence of sync failure when it occurs. The Model 5350 and all of its features are combined in a standard 19" rack mount package requiring minimum space.

5360 SMPTE TIME CODE READER

The Model 5360 Time Code Reader will process SMPTE/EBU time code ranging in speed from 1/5 to 60 times normal play speed from any compatible source. The translated information is displayed in hours, minutes, seconds and frames through LED readouts. The hold feature allows the user to 'freeze' the display. A front panel lamp indicates the presence of drop frame/non-drop frame code.

To prevent the unit from translating invalid data the Model 5360 allows for the bypassing of one, two, four, or eight frames of code before the internal displays are updated. The time code reader rear panel has input facilities for balanced or non-balanced XLR input as well as buffered parallel BCD output.

5370 TIME CODE CHARACTER GENERATOR

Model 5370 is designed to superimpose up to eight SMPTE/EBU time code characters and three alpha characters on a standard video signal. The numeric characters reflect the SMPTE/EBU time code in hours, minutes, seconds and frames. Additional rear connectors facilitate input for video background, composite sync and mixed output or characters.

Front panel switches and controls allow for character positioning of vertical and horizontal in addition to character height and width.

Prices and Specifications Subject to Change Without Notice.
DYNAIR ELECTRONICS, INC.

DYNAIR Series-X Switchers are pushbutton patch panels for distributing multiple monochrome or color video inputs (with optional audio-follow) to multiple outputs. Input amplifiers and output amplifiers are incorporated to provide isolation. A single input may be routed to any or all outputs simultaneously.

The switcher is available with either 6 or 12 inputs. Output units are individual modules which couple to the unit above. A single assembly of up to 12 outputs is easily constructed. If more than 12 outputs are desired, the looping video and audio input may be extended to one or more additional assemblies for up to 120 outputs.

The Series 10 Solid-State Video and Audio Switching Equipment provides 10-input/10-output high-quality vertical-interframe monochrome or color video switching and on-air quality audio switching. Each 10x10 matrix is housed in a 5 3/8" x 18 1/4" x 19" rack mount chassis (13.34 x 46.28 x 48.26 cm) which includes power supply.

The control system is microprocessor-based and allows local and remote operation. Remote master and individual output bus control panels are available to operate over a single coaxial cable control line. Up to four levels of switching, 1 input by 10 output with tally and crosstalk. Better than 50 dB at 3.58 MHz, better than 40 dB at 12 MHz.

All outputs are individually module which couple to the unit above. A single assembly of up to 12 outputs is easily constructed. If more than 12 outputs are desired, the looping video and audio input may be extended to one or more additional assemblies for up to 120 outputs.

**DYNAIR Series -X Switchers**
- VSX-6X1A $775.00
- VSX-12X1A $1050.00

**Video Specifications**
- Inputs: 6 or 12, 1.5 VPP maximum
- Output Impedance: High-impedance bridging
- Outputs: 1 to 12 channels, 1.5 VPP maximum, 75 ohm source-terminated, dual outputs
- Frequency Response: 30 Hz to 12 MHz, -0.5 dB
- Crossstalk: Better than 50 dB at 3.58 MHz, better than 40 dB at 12 MHz

**Video Gain per Output**
- Variable 3 dB

**Tilt**
- Less than 1%

**Differential Gain**
- Less than 0.5%, 10-90 APL

**Differential Phase**
- Less than 0.5 at 10-90 APL

**Hum and Noise**
- Greater than 60 dB RMS below 1 VPP output (30 Hz to 12 MHz)

**Bus Jumper Cable Assembly**
- Not Included

**Power Supply**
- Regulated power supply

**Audio Specifications**
- Inputs: 6 or 12, 1.5 VPP maximum
- Output Impedance: High-impedance bridging
- Outputs: 1 to 12 channels, 1.5 VPP maximum, 75 ohm source-terminated, dual outputs
- Frequency Response: 30 Hz to 12 MHz, -0.5 dB

**Conversion for Remote Control**
- Video and/or audio switchers
- Master Remote Control Panel Assembly for conversion for remote control operation of SVA-10013 or SAA-11013.
- Basic Master Control Panel Assembly for conversion for local control operation of existing SVA-101B or SAA-111A.
- Blank Panel for video or audio switcher assembly for conversion for remote control with local status operation of SVA-100B or SAA-110A.
- Switcher Control Bus Jumper Cable Assembly. Allows control of slave matrix. Model SVA-102B and/or SAA-112A from SVA-100B or SAA-110A, $100.00
- Rack-mounting Chassis with power supply for housing Model CP-1100A Master Control Panel. $380.00
- Master Remote Control Panel, desk-top use. Same as SCA-120A except for housing. $480.00
- Single Bus Remote Control Panel, rack mounting. For remotely controlling 1 output of video and/or audio switchers. $560.00
- Single Bus Remote Control Panel, desk-top use. Same as SCA-130A except for housing. $560.00
- Basic Master Control Panel Assembly for conversion for local control operation of SVA-101B or SAA-111A. $300.00

**Tally**
- Tally not provided.

**Models**
- SVA-100B, SVA-101B, SAA-110A and SAA-111A include 10 Form A tally relays and facilities to control the slave matrices, Models SVA-102B and SAA-112A.

Prices and Specifications Subject to Change Without Notice.
Electrohome's Large Screen Monochrome Data/Graphics Display System has several new features which enhance performance and add to the ease of operation.

Product Features
- The EDP-57 has a new "Dynamic Focus" circuit which permits corner and center focus to be adjusted separately. In addition, this circuit helps to sharpen overall detailing.
- A new, aspherical f/1.0 lens improves both the focus and crispness of data/graphics information from the EDP-57.
- A simple, accurate "one knob" optical focus control is conveniently located on the rear control panel.
- A 6 ft. screen, elevating legs, pedestal base, desk stand, ceiling mount, interface module and coaxial cable are accessories for the EDP-57 projection system.

Specifications

### Brightness
- 100 foot-lamberts peak on axis on a 5' diagonal 10 gain screen • 100 lumens total light output (Std. P1 Phosphor)

### Display
- Green P1 phosphor standard, other phosphors available on special order • Throw distance approx. 1.2x screen diagonal size • Continuously focusable from 4' diagonal projected picture to 10' diagonal • Aspect ratio 3:4 • Keystone circuitry to correct picture for projection angles up to +/− 15° vertically from screen axis

### Video Circuits

#### Input
- 2 BNC connectors (looped through) • 75 ohms +/− 1% terminated
- 25k ohm shunted by 12pf open • Input level 0.5 to 2.0 volts p-p sync negative • Differential (floating) input rejects 14 volts p-p of power line hum voltage • Horizontal frequency 11 kHz to 24 kHz
- Vertical Frequency 45 to 85 Hz

#### Frequency Response
- 20MHz bandwidth +/− 3dB

#### D.C. Restoration
- Back porch keyed clamp internally switchable to sync tip clamp

#### Gain
- Min. video gain 40dB or 100X • Max video output 110V p-p drive

#### Power requirements
- 120 VAC +/− 10% can be internally reconnected for 220 VAC +/− 10% or 240 VAC +/− 10% • Line Frequency 50 or 60 Hz nominal
- Power 120 watts max.

### EDP-57 Projection System
- $4995.00

### IM-56 Interface Module including Wiring Harness
- 232.00

### PB-56 Pedestal Base
- 400.00

### DS-56 Desk Base (Requires a Ceiling Mount)
- MY-56
- 178.00

### MY-56 Ceiling Mount
- 70.00

### VS8-56 Curved 6 ft. Screen
- 443.00

### EL-56 Elevating Legs
- 103.00

Prices and Specifications Subject to Change Without Notice.
ELECTROHOME

MONITORS/MONITOR RECEIVERS

Color Video Monitor

Electrohome's new ECM 1302 Color Video Monitor is designed and built to international performance standards. It is a high reliability color video display unit designed to meet user needs in the personal computer market. Neatly styled, the new Electrohome color monitor has an attractive moulded cabinet. It is an RGB (TTL) monitor and will operate on NTSC with an optional interface module. Variety of personal computer interfaces available.

ECM 1302-1 (Medium Resolution)
- Resolution: 370 x 235 Pixels  CRT: 370 ESB 22  Video Bandwidth: 6 MHz  80 Characters x 24 Lines Display
- $559.00

ECM 1302-2 (High Resolution)
- Resolution: 380 x 235 Pixels  CRT: 370 JSB 22  Video Bandwidth: 10 MHz  80 Characters x 25 Lines Display
- $978.00

Color Television Receiver/Monitor

CS0-090
RS 170 Input and Direct RGB

Electrohome's new 19" colour receiver/monitor was developed to provide access for individual red, green and blue (RGB) video information and external Composite Video signals in addition to standard broadcast TV video signals.

The Unit features RF input through the antenna for coarse video detail, RS 170 input for Composite Video (medium detail), and direct RGB inputs for highly detailed video. The tuner composite output provides for Teletext decoding and VTR recording.

Finally, there are two TTL control inputs. The first allows rapid switching between Composite Video and RGB pictures, providing "Picture-in-Picture" or Teidon "transparent mode" capability. The second allows remote switching between standard TV operation and external video viewing.

$972.00

Monochrome Data Monitors

Electrohome's international reputation for video display products with an extra degree of excellence has been further extended to include monitors specially designed for the personal computer market. The EDM-926 (9-inch) and EDM-1226 (12-inch) designs, both offering P-4 White and P-31 Green phosphors as standard, demonstrate Electrohome's awareness to user needs. Advanced electronic technology and design innovation are combined to provide crisp, clean character displays with excellent resolution on either 9 or 12-inch models. Performance, reliability and long life standards demanded by the data market, are inherent in these stylish units. Computer compatible design makes the EDM-926 and EDM-1226 ideal companions for compact, professional data displays of computer generated information.

Prices and Specifications Subject to Change Without Notice.
**Camera Mounts**

<table>
<thead>
<tr>
<th>Mount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WM-2</td>
<td>9 1/2&quot; Wall/Ceiling Mount with universal head</td>
</tr>
<tr>
<td>WM-2P</td>
<td>Same as WM-1 but for mounting on a pole</td>
</tr>
<tr>
<td>CPM-3</td>
<td>6&quot; Pedestal Mount with universal head</td>
</tr>
<tr>
<td>CPM-6</td>
<td>9&quot; Pedestal Mount with universal head</td>
</tr>
<tr>
<td>CCM-1</td>
<td>Camera Ceiling Mount with universal head</td>
</tr>
</tbody>
</table>

**Monitor Mounts**

<table>
<thead>
<tr>
<th>Mount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM-1</td>
<td>9&quot; to 12&quot; Monitor wall mount with pan-tilt head</td>
</tr>
<tr>
<td>MPM-6</td>
<td>9&quot; to 12&quot; Monitor 6&quot; pedestal mount w/pan-tilt head</td>
</tr>
<tr>
<td>MCM-2</td>
<td>9&quot; to 12&quot; Monitor ceiling mount with pan-tilt head</td>
</tr>
</tbody>
</table>

**Scanner and Pan-Tilt Mounts**

<table>
<thead>
<tr>
<th>Mount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H/D VSM</td>
<td>Heavy Duty VICON scanner and p/t mount w/strut</td>
</tr>
<tr>
<td>H/D VSPM-6</td>
<td>6&quot; Heavy Duty VICON scanner, p/t pedestal mount</td>
</tr>
<tr>
<td>L/D VSPM-6</td>
<td>6&quot; Light Duty pedestal mount for VICON scanners and pan/tilts or PELCO PS-5 scanners</td>
</tr>
<tr>
<td>SM-1V</td>
<td>Scanner wall mount for L/D VICON scanner and p/t or PELCO L/D PS-5 scanner</td>
</tr>
<tr>
<td>SC-100</td>
<td>Light Duty indoor scanner</td>
</tr>
</tbody>
</table>

**Tamper Proof Environmental Camera Housings**

<table>
<thead>
<tr>
<th>Housing</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCH-1</td>
<td>INSIDE Dimensions (19&quot; L x 6 1/4&quot; W x 7 1/2&quot; H)</td>
</tr>
<tr>
<td>SCH-2</td>
<td>INSIDE Dimensions (19&quot; L x 6 1/4&quot; W x 4 1/2&quot; H)</td>
</tr>
<tr>
<td>SCH-3</td>
<td>INSIDE Dimensions (17&quot; L x 3 7/8&quot; W x 6 1/8&quot; H)</td>
</tr>
<tr>
<td>SCH-4</td>
<td>INSIDE Dimensions (15&quot; L x 5 1/8&quot; W x 3 1/2&quot; H)</td>
</tr>
</tbody>
</table>

Sun Shields available for above housings

**Housing Mounts**

<table>
<thead>
<tr>
<th>Mount</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM-1</td>
<td>12&quot; Medium Duty wall mount w/pan-tilt head</td>
</tr>
<tr>
<td>HM-2</td>
<td>16&quot; Heavy Duty wall mount w/pan-tilt head</td>
</tr>
<tr>
<td>HM-2P</td>
<td>Same as HM-2 but for mounting on a pole</td>
</tr>
<tr>
<td>SHM-1</td>
<td>Same as HM-1, w/&quot;TAMPER PROOF&quot; cover and screws</td>
</tr>
<tr>
<td>SHM-2</td>
<td>Same as HM-2, w/&quot;TAMPER PROOF&quot; cover and screws</td>
</tr>
<tr>
<td>HCM-2</td>
<td>Housing Ceiling Mount w/pan-tilt head</td>
</tr>
<tr>
<td>HPM-6</td>
<td>8 1/2&quot; Housing Pedestal Mount with pan-tilt head</td>
</tr>
<tr>
<td>H/D VSM-CB</td>
<td>Heavy Duty Vicon/Pelco scanner and p/t mount, for mounting on the corner of a building.</td>
</tr>
</tbody>
</table>

A new Swivel Head TAMPER PROOF Ball Socket which adjusts or locks with one allen set screw. Designed for tamper proof CCTV camera mounts, the BS-3 can be adapted to almost any equipment that requires a wide range of movement such as microwave alarms, welding, service or maintenance fixtures. By removing the washer and stud, a 20 pound load can be bolted to the ball top.

Prices and Specifications Subject to Change Without Notice.
These quality features make Equipto cabinets, desks and enclosures your best investment...

**Equipto Modular Electronic Desk Systems**
Made in two heights, seven widths and designed to meet virtually any equipment or instrumentation requirement.

**Equipto Instrument/Equipment Cabinets**...clean, contemporary modular styling. 60 stock sizes, unlimited "custom" sizes in 8 standard colors or any custom color.

**Modular Design** This means you can literally "custom achieve" any required configuration and eliminate the high cost of custom design and manufacture.

**Detail** Every visible and invisible detail in the design and manufacture of our cabinets and desk units reflects our commitment to produce the very finest available... anywhere.

**Challenger Commercial Duty Modular Electronic Cabinet Systems**
- Mod-ular Design
- All welded construction
- Recessable panel mounting angles
- Mar-Proof panel mounting screws
- Standard EIA mounting angles

**Equipto Heavy-Duty Modular Electronic Cabinet Systems**
- 14-gauge, cold rolled steel, multi-formed channel
- Heli-arc welded for rigidity, durability
- 12-gauge pontoon base transmits load directly and safely to floor
- 3/16" EIA mounting angles for more than adequate support of heavy equipment
- 16-gauge cold rolled steel doors and panels are recessed for improved protection of instrumentation
- Structural design eliminates twist, sway and deflection

**Equipto Quality** Engineered and manufactured by the most experienced personnel in the electronic enclosure field.

Finished to your colors at no extra charge.

Ask about our engineering evaluation program.

Call Equipto now and talk to our consulting engineers. Our phone numbers (312) 897-4691. Or write for our free catalogues.

**Equipto Electronics Corporation**
780 SERIES
RAM TIME PROGRAMMERS $150 to $1900
When programmed to more than eight events, the 780 Series RAM Time Programmers are the most cost-effective way of dealing with the problem. They are flexible, easy to use, and provide 32 events (a maximum of 99) to 3-5 inches of rack space.

780 Series operate from the power line, with a backup crystal clock base and 72 hour battery charger as an integral part of the equipment.

Displays: The front panel consists of:
- An eight digit real-time display, which is used for input of data, and can be 7500 SERIES
FOUR DIGITS OF PROGRAMMING
- An eight digit display of "Next Event" number, which accepts 8 digits.
- A four digit display of "Unit Event Time" when 780 or 782 is specified, and a two digit display when 782, 783, 784, 785, 786 is specified. A four digit display when 787 or 788 is specified.
- All displays are 3 inch red light emitting diodes.
- Controls, mounted below the displays, consisting of an "Active-Disable" switch used when it is necessary to preprogram the program temporarily.

Time Setting Controls: All recessed to avoid accidental bumping.

Memory: The displays can be accurately obtained by allowing the computer during a power-up. The unit will continue to operate, but the displays will be blanked to conserve battery energy.

Event Select: A decade thumbwheel chosen to the events number when entering or reading data in the memory.

Time Event Time: An eight to six or four decade thumbwheels used to enter the event time in the memory. The number of thumbwheels will be determined by the part number of the unit specified:
- "Enter":- this function is used to enter data into the equipment.
- "Run/Enter:"- a two position switch, placed in the "Run" position for normal operation, and in the "Read/Enter" position whenever entering data or reading data.

STANDARD UNITS:
- ESE 780-ES 781-784 and 789 Series have either 4 or 8 digits of time and 156 time Information:
- ESE 781-ES 782 and 783 Series have 4 or 8 digits of time and 156 time Information:
- ESE 784-ES 785 and 786 Series have 4 or 8 digits of time and 156 time Information:
- ESE 787-ES 788 and 789 Series have 4 or 8 digits of time and 156 time Information:

PRESETTABLE TAPE MENTERS
ES 1296 $195.00

For off-air timing, or operating tape recorders when nobody is there ESE has created ES 1296.

ES 1296 is a six digit, twelve hour clock with LED displays and a programmable, 500 watt, AC output on the rear. There are four push-button controls (Fast, Slow, Set and Reset) and a four position selector switch. The Fast and Slow controls are used to set the time of day and recorder start time. When setting the recorder start time, the Set control is used in addition to the Fast and Slow controls, to set the time to the nearest minute.

A rear-mounted four position switch is used to pre-set the time six months ahead or 96 hours. Once the rear outlet is activated, it will remain on for 96 minutes.

The Normal operation option allows the user to select one of the four time formats for recording. These time formats are "H" for 1:00, 36, 38 and 138 minutes, "138, 36, 38 and 138 minutes," or 138 minutes and 33 seconds. AC power is applied to outlet "0" 60 minutes after power has been applied to outlet "1" and remains on for 96 minutes and 53 seconds. Other specifications of the ES 1296 apply.
70 SERIES

CONSOLE MOUNT CLOCKS AND TIMERS

**ES 112** 6 DIGIT, 12 HOUR CLOCK: Three setting controls—Fast Advance, Slow Advance and Reset $156.00

**ES 370** FOUR DIGIT, ONE HUNDRED MINUTE UP/DOWN TIMER: Six controls—Count Up, Count Down, Stop, Minutes Advance, Seconds Advance, Reset $201.00

**ES 371** UP/DOWN TIMER: Similar to the ES 370 except with Lever-a-Matic preset capability for faster setting of the desired time $231.00

**ES 570** FOUR DIGIT, DIGIT 0 OR 60 MINUTE TIMER: Display 60 or 100 minute mode on rear connector. Start, Stop and Reset controls. Runs continuously unless stopped. Reset will return all displays to zero. Unit will run in forward or reverse counting, stop in 1/10 second $150.00

**ES 511** SIX DIGIT, 12 HOUR CLOCK OR TIMER: Five controls—Start, Stop, Reset, Fast Advance, Slow Advance. With run controls, the unit runs between 10, 59, 59 Advances to 100000 and continues as clock unless stopped or advanced $120.00

**ES 574** A 24 hour version of ES 172

**ES 575** Exactly as ES 570 with the addition of a freeze button. When the button is released, the display catches up with the correct elapsed time $192.00

**Dimensions:** 2 1/2 in. x 5 3/4 in. x 4 1/4 in.

**70 SERIES**

**ES 562/564** SIX DIGIT CLOCK/TIMER WITH MEMORY $131.00

**ES 983/984** is a combination six digit clock and 24 hour timer with memory, allowing the user to set the clock to the correct time of day, switch to timer mode, then switch back to time of day by pushing one button, time of day will be continuous, as in hours and minutes and seconds. Five pushbutton controls are mounted on the top of the timer near the top of the case.d. размер. When a panel mounting is specified they will be mounted on the front panel. Below the display, the controls may also be removed for rear-mounted five pin connectors (Option M or Option D). The controls are Clock, Fast Start, Slow Stop, Timer and Host. Displays, Six digits of Planar Gas Discharge Display

**ES 510L**

**FOUR DIGIT 60 MINUTE TIMER $118.00**

**ES 989** is a four digit, one minute timer (19591) with Start, Stop and Reset controls. If stopped displays will hold time reading and when released will continue with next count from last displayed figure. If reset while running, timer will continue to run. ES 510L can drive 80 Series and 90 Series Slaves

**Dimensions:** 2 in. x 6 in. x 6 in. Deep

**ES 280**

**SISO AUDIO TIME CODE GENERATOR/READER**

The ES 280 is a 10 digit Audio Time Code Generator/Reader, capable of being driven by a BOC time code on audio track or in the form of a pulses at 20 microsecond intervals on control line. It is intended for playback of Digital Time Code. The code has been designed so that it is not a standard code, such as SMPTE or I.E.B. The frequencies, used to produce the pulses, are generated by a pulse generator using 15/32 microsecond intervals with a digital and analog section module. Amplitude adjustment assures the right amount of signal for each particular machine being used

**ES 203/205**

**100 MINUTE UP/DOWN TIMERS**

**ES 203/205** is a 20 minute input Time Code Reader/Source Interface. It was designed to provide a simple means of connecting a variety of sources such as products and turntables to the remote output of ESE timers. The remote code in operation for this product is reseting timer will continue to run. ES 510L can drive 80 Series and 90 Series Slaves

**Dimensions:** 2 1/2 in. x 5 in. x 4 1/4 in.

**ES 206**

**VIDEO TIME CODE AND GENERATOR $175.00**

The ES 206 has been designed to allow the addition of Time Code through the Video signal. Two rear mounted video-socket plugging the video information through the 206 to add the data

**ES 100**

**VIDEO TIME CODE GENERATOR**

The ES 100 has been designed to allow the addition of time and date information to a video signal: two rear mounted video-socket plugging the video information through the 206 to add the data
**RE20**
Dynamic Cardioid

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 5,000 to 15,000 Hz range, the RE20 provides performance heretofore available only from the most expensive condenser microphones. **$445.00**

---

**RE18**
Shock-Mounted
Dynamic Cardioid

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. **$279.25**

---

**RE15**
Variable-D®
Dynamic Super-Cardioid

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. **$256.75**

---

**RE16**
Variable-D®
Dynamic Super-Cardioid

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 hand-held 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. **$269.50**

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**RE10**
Variable-D®
Dynamic Super-Cardioid

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. **$166.50**

---

**RE11**
Variable-D®
Dynamic Super-Cardioid

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. **$179.50**
CS15P
Phantom Powered
Single-D
Condenser Cardioid
The CS15P is a high-performance microphone for those recording, broadcast and sound reinforcement applications that demand a directional polar pattern as well as the wideband frequency response usually avoided in "general use" professional microphones. The distant response of the CS15P has been subtly shaped in a way that has been shown useful in the recording studio.

$283.00

DS35
Single-D
Dynamic Cardioid
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, hand-held applications.

$150.00

CO15P
Phantom Powered Condenser Omnidirectional
The CO15P is the finest omnidirectional microphone we manufacture. Its element is used in precision real-time acoustic analyzers. Response extends from below 20 to 20,000 Hz. Unlike typical "omnidirectional" microphones, the CO15P maintains true omnidirectional performance at the highest frequencies.

$283.25

RE55
Dynamic Omnidirectional
The RE55 has the widest frequency response of all E-V dynamic microphones, 40-20,000 Hz. A classic design, the RE55's heritage goes back over twenty-five years to the original 655 which changed the broadcast industry's idea of what a dynamic microphone could do.

$259.00

DO54
Dynamic Omnidirectional
Based on the RE55, the DO54 is a moderately priced microphone with essentially flat response over its rated frequency range of 50-18,000 Hz. It is useful in applications where the RE55 would excel but where the one-third-octave additional response below 50 Hz is not required, or where small microphone-to-microphone variation is acceptable.

$146.00

DO56
Shock-Mounted
Dynamic Omnidirectional
The DO56 is a shock-mounted omnidirectional microphone for hand-held broadcast and sound reinforcement applications. All handling noises and cord vibration are isolated from the microphone element.

$125.00
$141.00

Prices and Specifications Subject to Change Without Notice.
**RE50**

**Shockproof Dynamic Omnidirectional**

The RE50 was designed expressly for hand-held news-gathering work. It has the same tailored frequency response and high output level as the famous 635A. $146.50

**635A**

**Dynamic Omnidirectional**

The 635A is quite simply the most rugged, durable microphone we manufacture. The 635A's moderately high output level (55 dB) is appropriate for a broad range of studio and field applications. Its response has been specially shaped for up-close vocals. $92.00

**CL42S**

**Cardiline® Condenser Unidirectional**

The most directional shotgun microphone for its size ever made, the CL42S for the first time combines the best qualities of line and hyper-cardioid patterns. The CL42S reaches farther and rejects more ambient noise than other "shotguns," condenser or dynamic. The CL42S features an exclusive line-bypass port which produces the low frequency response ideal for boom use while maintaining a hyper-cardioid polar response at low frequencies. Unlike other shotguns which get very narrow at high frequencies, the CL42S retains its high frequency directivity through a series of diffraction vanes on the line tube. $660.00

**DL42**

**Cardiline® Dynamic Unidirectional**

The DL42 is state-of-the-art in super-directional dynamics. "Cardiline" is E-V's 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. $494.00

**CH15S**

**Condenser Single-D Hyper-cardioid**

The unique CH15S was developed particularly for boom and fishpole use in TV and motion picture studios where the need is great for light weight, small size and high directivity. The complete microphone and shock-mount system weighs just over 10 ounces. $607.80

**PROFESSIONAL MICROPHONES**

**Frequency Response:** 80-13,000 Hz

**Impedance:** 150 ohms

**Output:** 55 dB

**Diaphragm:** EV Acouslaloy®

**Case:** Steel

**Finish:** Fawn beige micomatte

**Size:**
- 116 mm (4 1/2 in) long
- 26.8 mm (1 1/16 in) largest diameter
- 16.8 mm (5/8 in) smallest diameter
- 46.9 grams (1.7 oz) complete
- 15 grams (1/2 oz) mike only

**Cable:** Special coiled cord from mic to shock mount
- 49 dB

**Element:** Condenser electret

**Maximum SPL for 1% THD:** 129 dB at
- 1000 Hz
- 1200 ohms

**Equivalent Noise Level:** Less than 14 dB SPL A weighted

**Power:** A-B (10-16V) phantom (9-50V)

**Case:** Steel & aluminum

**Finish:** Fawn beige micomatte

**Size:**
- 151 mm (5 15/32 in) long
- 36 mm (1 1/4 in) diameter
- 125 grams (4 3/8 oz) complete
- 44 grams (1 5/8 oz) mike only

**Cable:** Special coiled cord from mic to shock mount
- 50 dB

**Element:** Condenser electret

**Maximum SPL for 1% THD:** 136 dB at
- 1000 Hz
- 1200 ohms

**Equivalent Noise Level:** Less than 16 dB SPL A weighted

**Power:** A-B (10-16V) phantom (9-50V)

**Case:** Steel & aluminum

**Finish:** Fawn beige micomatte

**Size:**
- 255 mm (10 in) long
- 95 mm (3 3/4 in) max diameter
- 1.1 oz complete
- 38.9 grams (1.3 oz) complete
- 36.9 grams (1.3 oz) complete

**Cable:** Special coiled cord from mic to shock mount
- 40 dB

**Element:** Condenser electret

**Maximum SPL for 1% THD:** 136 dB at
- 1000 Hz
- 1200 ohms

**Equivalent Noise Level:** Less than 16 dB SPL A weighted

**Power:** A-B (10-16V) phantom (9-50V)

**Case:** Steel & aluminum

**Finish:** Fawn beige micomatte

**Size:**
- 99 mm (3 7/8 in) long
- 89 mm (3 5/8 in) widest
- 76 mm (3 1/2 in) high
- 292 grams (10 3/8 oz) complete
- 161 grams (5 7/8 oz) mike only

**Included:** Integral coiled cable

**Shock mount, windscreen, flex relief insert, metal carrying case**

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**Prices and Specifications Subject to Change Without Notice.**
CO90 and CO90E
Miniature Condenser Omnidirectional
Perfect for today's broadcasting and wide-range sound reinforcement systems. They are more reliable and more versatile than other condenser lavaliers. The two-conductor cable incorporates two nylon stay cords for high breaking strength. The cable-to-case interface is built to last. If there is an accident, the cable assembly is field replaceable.
The CO90 includes all components shown. The CO90E eliminates the battery/transformer housing, for direct interface with wireless transmitter, miniature recorder, etc.
CO90 $145.00 CO90E 98.00

CO90P
Miniature Condenser Omnidirectional
The CO90P is a phantom-powered version of the popular CO90, for no-battery-to-fail reliability.
$178.50

CO94
High-Performance Miniature
Condenser Omnidirectional
The CO94 does not have the limited dynamic range typical of miniature microphones powered by low-voltage batteries. A CO94 is typically 10 dB greater in sensitivity than conventional designs and will accept 20 dB greater input SPL before overload (141 dB).
Thus, the CO94 may be used where other miniature microphones are simply unacceptable. A high-pass filter cuts off unwanted noise below 80 Hz. The CO94 may be phantom or battery powered, including a dual-power mode where a battery ensures against loss of signal should the phantom power fail.
$225.00

RE85
Shock-Mounted Miniature
Dynamic Omnidirectional
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.
$139.75

CO85A
Condenser
Omnidirectional
Where is it? The CO85 will go unnoticed "on camera" because it is small, and is easily disguised as a tie tac, lapel pin, shirt button, brooch, etc. The electronics that hold the microphone in place are concealed. The CO85 is used normally with battery power, but it also may be powered by wireless transmitters and recorders without using the battery/transformer housing. Response is shaped for wide-range performance in the lavalier chest position.
$191.00

CO90

Frequency Response: 45-15,000 Hz
Impedance: 150 ohms
Output: 57 dB
Element: Condenser (electret)
Operating Voltage: 1-1.8V Battery
Mallory RM-625 or equivalent (not supplied)
Battery Life: Over 1000 hours
Case: Micro brass, electronics aluminum, battery transformer housing steel
Finish: Fawn beige micomatte
Mike Size: 21.6mm (85") long,
23mm (3") max diameter
Weight: 114 grams (4 oz) complete.
less battery, 23 grams (8 oz) less battery transformer housing & belt clip
Cable: Mike to battery housing, 1.83m (6')
Included: Tie claspl 385 windscreen, protective pouch, belt clip.

CO94

Frequency Response: 90-10,000 Hz
Impedance: 150 ohms
Output: 61 dB
Element: Condenser (electret)
Operating Voltage: 1-1.8V Battery
Mallory RM-625 or equivalent (not supplied)
Battery Life: Over 1000 hours
Case: Steel & high impact plastic
Finish: Fawn beige micomatte
Mike Size: 10.3mm (1/8") diameter
6.4mm (1/4") deep electronics 38.1mm (1 1/2") long
13.5mm (1") wide 9.5mm (3/8") deep
Weight: Mike 23 grams (8 oz)
Electronics 7.1 grams (1/4 oz)
Included: 385 windscreen belt clip tie clip adapter metal carrying case

CO85A

Frequency Response: 70-16,000 Hz
Impedance: 150 ohms
Output: 56 dB
Element: Condenser (electret)
Operating Voltage: 1.1-1.8V Battery
Mallory RM-625 or equivalent (not supplied)
Battery Life: Over 1000 hours
Case: Steel & high impact plastic
Finish: Fawn beige micomatte
Mike Size: 6.4mm (1/4") long
19mm (3") diameter
Weight: Mike 24 grams (1 oz)
Weight: Electronics 3.5 grams (1/16 oz)
Included: 385 windscreen, belt clip, tie clip adapter metal carrying case.

649B

Frequency Response: 80-10,000 Hz
Impedance: 150 ohms
Output: 61 dB
Diaphragm: EV Acoustalloy
Case: Aluminum
Finish: Non-reflecting gray
Size: 57mm (2 1/4") long
19mm (3/4") diameter
Weight: 31 grams (1 1/2 oz)
Cable: 9.4m (30")
Included: Neck cord assembly, belt clip, protective pouch.

CO90P

649B

Frequency Response: 40-15,000 Hz
Impedance: 150 ohms
Output: 57 dB
Element: Condenser (electret)
Operating Voltage: 1.1-1.8V Battery
Mallory RM-625 or equivalent (not supplied)
Battery Life: Over 1000 hours
Mike Size: 21.6mm (85") long,
23mm (3") max diameter
Weight: 114 grams (4 oz) complete.
less battery, 23 grams (8 oz) less battery transformer housing & belt clip
Cable: Mike to battery housing, 1.83m (6')
Included: Tie claspl 385 windscreen, protective pouch, belt clip.

Prices and Specifications Subject to Change Without Notice.
Sentry IVB
Professional Loudspeaker System

The Electro-Voice Sentry IVB incorporates many new and innovative design ideas which represent a significant advance in state-of-the-art speaker design. The 3-way, all horn loaded system offers absolute minimum distortion through all frequencies while providing unequaled efficiency and uniformity over the entire frequency range. With high power handling capacity, extremely uniform and wide dispersion, and linear frequency response, the Sentry IVB offers versatility for applications in not only studio monitoring, but in high level sound reinforcement, high level playback systems, etc.

$1045.00

Sentry® III
Series II
Professional Monitor System

The Electro-Voice Model Sentry® III Series II is one of a generation of monitor loudspeaker systems resulting from creative engineering and critical listening by Electro-Voice product engineers and product managers. The Sentry III Series II is a direct descendant of the Sentry III and Sentry IVB, utilizing the well known and respected ST350A sectoral tweeter and SM120 sectoral mid-range horn. The vented low-frequency section, utilizing Thiele-Small vented enclosure technology, permits high efficiency and excellent low end performance in a moderate sized enclosure.

$1349.00

Sentry 100A
Professional Monitor

The Electro-Voice Sentry® 100 monitor speaker system is the direct result of "human engineering" with the broadcast/recording studio engineer in mind. Our product engineers' no-nonsense design efforts have culminated in a system that speaks to the needs of professionals with specific requirements: high efficiency with extended low-frequency response, high power capacity across the entire frequency range, uniform frequency response and dispersion, and all in a compact, no-frills package.

$220.00

SEQ Equalizer

The optional SEQ equalizer extends the low-frequency 3-dB-down point of the Sentry V from 45 Hz to 32 Hz, the Sentry III from 40 Hz to 28 Hz. Such extended low-frequency response is uncommon in the studio but is nonetheless useful where a true indication of low frequency program and noise is desired.

$110.00

Sentry IVB Components

HSFA—high frequency sub assembly with crossover

$430.00

SPECIFICATIONS

Frequency Response:
50 to 18,000 Hz
EIA Sensitivity (on axis measurements): 52 dB
Sound Pressure Level (4' on axis, 50 W):
117 dB
Impedance:
8 ohms nominal
Power Handling Capacity:
50 W
Finish:
Utility Black
Size:
70.5 cm (27 1/2") w. x 52.3 cm (20") d. x 129 cm (50") h. - in normal configuration
Weight:
67 Kg (148 pounds)

Frequency Response:
40 to 18,000 Hz
Normal Mode
Sound Pressure Level at 1 Meter, 50 Watts, 300-2,000 Hz
Average: 114 dB
EIA Sensitivity Rating (on axis measurements): 47 dB
Long-Term Average Power-Handling Capacity:
40 to 10 kHz
50 watts
Nominal Impedance
8 ohms
Size
Cabinet:
87.6 cm (34 5/8") high
72.4 cm (28 5/8") wide
52.0 cm (20 5/8") deep
Pedestal:
3.8 cm (1 1/2") high
Weight:
70.8 kg (156 lbs)

Frequency Response:
45 to 18,000 Hz
EIA Sensitivity (on axis measurements):
41.8 dB
Sound Pressure Level (1 Meter, 1 W):
91 dB
Impedance:
6 ohms nominal
Power Handling Capacity:
30 W
Size:
30.5 cm (12.00") wide
28.2 cm (11.25") deep
43.8 cm (17.25") high
Weight:
12.7 Kg (28 lbs.)

Total Harmonic Distortion: Less than 0.1%, 1 V RMS input, 20-20,000 Hz
Intermodulation Distortion: 0.05%, 1.5 V RMS equivalent sine wave input
Maximum Input Signal: 7 V RMS sine wave, midband
Noise Output: 80 dB below 200 mV, 20-20,000 Hz bandwidth
Controls: High Frequency Slope (Power Off, 0 dB, -3 dB, -6 dB at 10,000 Hz), Tape-Source
Power Requirement: 110/120 V, 50/60 Hz, 3 watts
AC Accessory Outlet: 200 watts, unswitched
Dimensions: 5.1 cm (2") high; 20.3 (8") wide; 17.8 (8") deep

Prices and Specifications Subject to Change Without Notice.
### MICROPHONE ACCESSORIES

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>1&quot; Clamp, black (670)</td>
<td>$7.80</td>
</tr>
<tr>
<td>301A</td>
<td>1&quot; Clamp, gray</td>
<td>$7.80</td>
</tr>
<tr>
<td>304A</td>
<td>Shock mount for SE15B</td>
<td>$34.05</td>
</tr>
<tr>
<td>307</td>
<td>Shock mount for ¾” dia. microphones</td>
<td>$45.15</td>
</tr>
<tr>
<td>309</td>
<td>Shock mount for RE20 and SE15B</td>
<td>$61.35</td>
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<tr>
<td>310A</td>
<td>¾” Clamp, gray (same applications as 310)</td>
<td>$7.80</td>
</tr>
<tr>
<td>312</td>
<td>¾” Snap-out Clamp, black (same applcs. as 310)</td>
<td>$7.80</td>
</tr>
<tr>
<td>312A</td>
<td>¾” Snap-out Clamp, gray (same applcs. as 310)</td>
<td>$7.80</td>
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<tr>
<td>312B</td>
<td>¾” Snap-out Clamp, beige (DO56, RE18)</td>
<td>$7.80</td>
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<tr>
<td>313A</td>
<td>Shock mount for ¾” diameter microphone</td>
<td>$26.40</td>
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<tr>
<td>314</td>
<td>Windscreen (RE10, RE15)</td>
<td>$14.55</td>
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<tr>
<td>314E</td>
<td>Windscreen (635A)</td>
<td>$7.80</td>
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<tr>
<td>315A</td>
<td>Windscreens (foam — CH15E, C015E, CS15E)</td>
<td>$7.80</td>
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<tr>
<td>317</td>
<td>Windscreen for CH15S (requires 304A)</td>
<td>$16.95</td>
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<tr>
<td>335A</td>
<td>Windscreen (630, 634)</td>
<td>$17.25</td>
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<tr>
<td>337</td>
<td>Windscreen (626, 627)</td>
<td>$8.50</td>
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<tr>
<td>340</td>
<td>Security Clamp — ¾” dia. mikes</td>
<td>$17.40</td>
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<tr>
<td>342</td>
<td>Stud Mount Adapter w/on-off switch</td>
<td>$33.50</td>
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<tr>
<td>343</td>
<td>Windscreen (CL42E, DL42)</td>
<td>$33.45</td>
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<tr>
<td>351</td>
<td>Windscreen (DO56), Popfilter (RE18)</td>
<td>$7.80</td>
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<tr>
<td>355A</td>
<td>Windscreen (RE55, DO54, 654A, 655C)</td>
<td>$7.80</td>
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<tr>
<td>358</td>
<td>Stand Clamp, tapered (660, 671)</td>
<td>$7.80</td>
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<tr>
<td>360</td>
<td>Windscreen (660, 661, 664)</td>
<td>$14.15</td>
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<tr>
<td>368</td>
<td>Windscreens for 667A, 668, 307, 309</td>
<td>$110.00</td>
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<tr>
<td>376</td>
<td>Windscreen (DS35), Popfilter (RE11, RE16)</td>
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<tr>
<td>380</td>
<td>10 dB Attenuator</td>
<td>$32.25</td>
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<tr>
<td>381</td>
<td>Switch / Connector Cable 15&quot;</td>
<td>$33.50</td>
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<tr>
<td>390</td>
<td>Dual microphone tie clasp (C090, C090P, C094)</td>
<td>$6.00</td>
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<tr>
<td>400</td>
<td>Desk Stand, for all stud or clamp-type mikes</td>
<td>$17.70</td>
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<tr>
<td>411</td>
<td>Stage Mike Mount</td>
<td>$16.20</td>
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<tr>
<td>423A</td>
<td>Desk Stand, 5/8&quot; — 27 threaded 5&quot; riser</td>
<td>$15.50</td>
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<tr>
<td>4288</td>
<td>Touch-to-Talk Stand DPDT, 5/8&quot; — 27 thread</td>
<td>$46.00</td>
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<tr>
<td>456</td>
<td>Single Carrying Case (Universal: fits all variations of 626, 627, 631, 660, 661, 664, 670, 671, 672)</td>
<td>$17.75</td>
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<tr>
<td>502C</td>
<td>Matching Transformer, Lo to Hi-Z, inline</td>
<td>$30.00</td>
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<tr>
<td>502CP</td>
<td>Matching Transformer, Lo to Hi-Z, w/plug</td>
<td>$30.00</td>
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<tr>
<td>506A</td>
<td>Adaptor (converts 1776A to phantom powerable)</td>
<td>$17.25</td>
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<tr>
<td>502CP</td>
<td>Matching Transformer, Lo to Hi-Z, w/plug</td>
<td>$30.00</td>
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<tr>
<td>513A</td>
<td>100 Hz Cutoff Filter</td>
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<td>520</td>
<td>15&quot; Cable — ¼&quot; Phone Plug, equipment end with Professional 3-Pin Connectors, microphone end</td>
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<td>521</td>
<td>25&quot; Professional Cable, with Professional 3-Pin Connectors, both ends</td>
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<tr>
<td>523</td>
<td>4.5 V Alkaline battery — 1776 (12 per box)</td>
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<tr>
<td>524A</td>
<td>Windscreen (664)</td>
<td>$14.15</td>
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<tr>
<td>541</td>
<td>25&quot; professional cable A3F mike end</td>
<td>$24.50</td>
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<tr>
<td>542</td>
<td>25&quot; professional cable A3F and A3M connectors</td>
<td>$28.00</td>
</tr>
<tr>
<td>543</td>
<td>25&quot; professional cable with switch connector mike end</td>
<td>$37.00</td>
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<td>544</td>
<td>50&quot; professional cable A3F and A3M connectors</td>
<td>$43.50</td>
</tr>
<tr>
<td>553M</td>
<td>Remote AC power supply for condenser microphones</td>
<td>$114.50</td>
</tr>
<tr>
<td>521</td>
<td>25&quot; Professional Cable, with Professional 3-Pin Connectors, both ends</td>
<td>$31.50</td>
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<tr>
<td>523</td>
<td>4.5 V Alkaline battery — 1776 (12 per box)</td>
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<td>523</td>
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</tr>
<tr>
<td>523</td>
<td>4.5 V Alkaline battery — 1776 (12 per box)</td>
<td>$35.00</td>
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<tr>
<td>524A</td>
<td>Windscreen (664)</td>
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</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
**Automax**

**TCS-1 Machine Control System**
- Controls up to 100 VTR’s/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:
  - Each studio control panel can operate up to four VTR’s and three film chains simultaneously; each includes a “Gang-Start” switch.
  - Each machine control multiplexer can accommodate up to 30 MC-24 control panels
- 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 TeleMation® TVS/TAS-1000 Distribution Switcher to provide dynamic machine selection

*TeleMation is a trademark of Fernseh Inc.*

The TCS-1 is a microprocessor/software based machine control system designed to operate up to 100 videotape recorders and/or telecine film chains. It eliminates patch panels or complex relay switching systems where it is desirable to delegate control of machines to various points. Connection between the control panels and the VTR’s/film chains is accomplished with dual twisted pair audio-type wiring, rather than the multiple-conductor cabling normally used with remote controls. The system includes provisions for assigning specific machines to specific control panels, eliminating the possibility of conflicting or unauthorized control commands reaching the same machine from different control stations.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI-8</td>
<td>8 Function Machine Interface</td>
<td>$1675.00</td>
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<tr>
<td>MI-24</td>
<td>24-Function Machine Interface</td>
<td>$2095.00</td>
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<tr>
<td>MD-8</td>
<td>Machine Delegate Panel</td>
<td>$290.00</td>
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<tr>
<td>MC-200</td>
<td>Studio Control Panel</td>
<td>$6950.00</td>
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<tr>
<td>MC-24</td>
<td>Single-machine Control Panel, requires MCM-1000: Includes space for one CP-1200A or BP-1200</td>
<td>$1350.00</td>
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<tr>
<td>MCM-1000</td>
<td>Machine Control Multiplexer, connects with up to 30 MC-24's</td>
<td>$1050.00</td>
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<tr>
<td>DC-1</td>
<td>Dynamic Machine Selector, connects with up to 6 MD-8's and 30 MI-8/24's (must be used in connection with Fernseh Inc. TVS/TAS-1000 Distribution Switcher)</td>
<td>$1780.00</td>
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<tr>
<td>CP-1200A</td>
<td>Single-bus Control Panel, with audio breakaway, mounts in MC-24</td>
<td>$550.00</td>
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</tbody>
</table>

**Automax Machine Control and Switching System**
- Programmable, Real-time Clock Control of VTR’s and Program Distribution
- CRT Terminal for Event Entry and Editing
- System Memory Contains up to 1000 Events (Expanded Memory Also Available)
- Programmable Events Include: Event Number; Day and Time of Event; VTR Play, Record, and Rewind Instructions; Source and Destination Program Switching Instructions; Printout of Events for the Day
- Automatic Control Continues During Event Entry/Edit
- Automatic Look-ahead Display of Upcoming Events
- Manual Control of Events via CRT Terminal or Standard VTR/ Switcher Control Panels
- Automatic, Printed Log of Programmed and Manual Events

The Automax Machine Control and Switching System employs microprocessor electronics, machine control interfaces, audio/video switching equipment, a high-speed printer, and a CRT data entry terminal to provide programmable, real-time clock control of videotape recorders and program distribution. As a software-based system, Automax can be custom configured for a wide range of machine control and switching applications, including automation of educational networks and cable television systems. The system combines microprocessor control with hardware and software technology previously developed for the Fernseh Inc. TVS/TAS-1000 Video/Audio Distribution Switcher and TCS-1 Machine Control System.

**AUTOMAX™ MACHINE CONTROL AND SWITCHING SYSTEM**
Call for custom quote on Automax systems.
TMP-2400C Digital Electronic Programmer

Features
- Solid-state RAM memory
- High capacity — up to 2,800 events weekly
- 13-channel control capability
- Simplified programming
- "Minute" programming standard
- Real-time switching
- Solid-state reliability
- Automatic changeover to battery standby
- Built-in charger for standby battery
- Compact — only 7" vertical rack space

The TMP-2400C Digital Electronic Programmer has been designed primarily for controlling CATV non-duplication switching, but may also be used in a variety of industrial control applications. The TMP-2400C is self-contained, solid-state, and capable of handling up to thirteen separate output channels. The unit operates on a real-time basis, and 400 separate events can be programmed for a 24-hour period, allowing for up to 2,800 events weekly.

Digital Electronic Programmer

TMP-2400C Digital Electronic Programmer, provides 13-channel control with logic-level outputs

Accessories

Si-2400A Switcher Control Unit, converts logic levels to 24 volt DC coil voltage

TCT-150 Control Transmitter, 15-channel input, accepts logic level inputs and provides RS-232 output

CT-150 Originate Modem, plugs into TCT-150

TCR-150 Control Receiver, 15-channel output. Accepts RS-232 input and provides logic-level outputs

RL-105 Relay Module, provides 15 form "C" contact closures, plugs into TCR-150

CR-150 Answer Modem, plugs into TCR-150

CC-1215 Cable Assembly, TCR-150 to SI-2400

CC-1216 Cable Assembly, TCT-150 to TMP-2400C

CN-506 Connector, 9-pin data in, TCR-150

CN-507 Connector, 25-pin, switch-control input and output, TCT/TCR-150

Prices and Specifications Subject to Change Without Notice.

TMP-1000 Digital Electronic Programmer/Switcher

Features
- Simplified programming
- Totally solid-state — no moving parts
- Minute accuracy programming
- Time coincidence switching
- Video and control switching circuitry included
- Provides switched output to control external devices
- Plug-in program cards control event "start" and "stop"
- Events may be repeated up to seven days per week
- Building block system — channel and event capacity may be expanded to meet requirements
- Choice of 2-input/1-output, 3-input/1-output switching
- Ideal for CATV non-duplication
- Suitable for industrial control applications

The TMP-1000 solid-state, digital programmer provides accurate and reliable switching of events in increments as small as one minute. The system accommodates CATV non-duplication switching and industrial apparatus control requirements and is built on a building block approach, allowing a TMP-1000 system to be tailored to any specific user application. Channel and event capacity may be specified to meet immediate requirements, yet allow for true "add-on" system expansion.

Digital Electronic Programmer/Switcher

MS-6999 TMP-1000 Digital Electronic Programmer/Switcher. Includes: MC-1000 Digital Master Clock. OC-1000 Output Control Chassis, each chassis provides control for 2 additional channels provides 2-channel control, will accept up to 12 program cards

Accessories

EE-1000 Event Expander Chassis, accommodates up to 15 program cards

OC-1000 Output Control Chassis, each chassis provides control for 2 additional channels

PC-1000 Program Card, one required for each event

SP-1000 Standby Power Source, requires external 12-volt lead acid or gel cell batteries

TCT-150 Control Transmitter, 15-channel, accepts contact closure inputs and provides RS-232 output

CT-150 Originate Modem, plugs into TCT-150

CC-1215 Cable Assembly, TCR-150 to TMP-2400C

CC-1216 Cable Assembly, TCT-150 to TMP-2400C

CN-506 Connector, 9-pin data in, TCR-150

CN-507 Connector, 25-pin, switch-control input and output, TCT/TCR-150

Prices and Specifications Subject to Change Without Notice.
### SWITCHING EQUIPMENT

**Matrix MSO Series**

Please contact the factory for a special quotation for switchers with 50 or more inputs.

#### Options

- Audio source termination resistors, factory installed, specify value. Price shown is per audio output decade
  - $40.00

#### Accessories

- EX-976 Module extender, for servicing circuit cards or power supply  
  - $160.00
- EX-976 Output bus extender for CAV series, permits servicing of crosspoints and output cards, requires EX-976  
  - $120.00
- PS-1000A Spare power supply  
  - $675.00
- PS-1000RX Power-1000  
  - $85.00
- TVU-175 Ventilation unit, 117 V  
  - $250.00
- TVU-176 Ventilation unit for 234 V  
  - $275.00

#### Digital Control Panels

- CP-1001 Switcher control and Status Monitor, deskmount, requires RM-1001 for status monitor function  
  - $1,200.00
- CP-1002 Switcher control and Status Monitor, rackmount, requires RM-1001 for status monitor function  
  - $1,200.00
- CP-1006 Six-bus switcher control panel  
  - $1,590.00

#### CP-1500 Series

- CP-1500/1 Alphanumeric Switcher Control and Status Monitor, single rackmount  
  - $1,500.00
- CP-1500/2 Alphanumeric Switcher Control and Status Monitor, dual rackmount  
  - $2,850.00
- CP-1500D Alphanumeric Switcher Control and Status Monitor, desktop  
  - $1,500.00
- CP-1550 Alphanumeric Lever Wheel Control and Status Monitor, rackmount  
  - $1,950.00

#### RM-1001

- Refresh memory, required for status monitoring function of CP-1001/1002  
  - $810.00

#### BCD Control Panels

**NOTE:** BCD Control Panel Interface to switching matrix is via CM-1020 or CM-1200 Control Multiplexers. However, if true status indication is required, or if multiple audio-only and video-only bus controls are required, specify CM-1200.

- CP-1004A/1 Single-bus Control Panel, rackmount, requires CC-1010 Cable  
  - $1,590.00
- CP-1004A/2 Dual-bus Control Remote Control Panel, rackmount, requires two CC-1010 Cables  
  - $2,700.00
- CP-1004A/3 Tri-bus Control Remote Control Panel, rackmount, requires three CC-1010 Cables  
  - $3,700.00
- CP-1005A/1 Deskmount Lever Switch Remote Control Panel, requires CC-1010 Cable  
  - $1,590.00
- CP-1005A/2 Dual Lever Switch Remote Control Panel, rackmount, requires CC-1010 Cable  
  - $2,850.00

#### Switching Systems

- **Features**
  - Compact — up to 1000 crosspoints per 8” chassis
  - Solid-state crosspoints with vertical interval switching
  - Single-Cox “Party-Line” control
  - Wide selection of bus controls and status monitors
  - Microprocessor/computer control
  - Can be interfaced with Fernseh TCS-1 Machine control system
  - Excellent long- and near-term transfer characteristics
  - Automatic restoration after power failure, with refresh memory option
  - Dual video outputs
  - Standard, multiple-sourced components — no custom hybrids
  - Automatic system testing of all circuit parameters through all possible signal paths — hard copy results supplied

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### MATRIX - CAV SERIES

**TVS/TAS-1000 Video/Audio Distribution Switching Systems**

- **Features**
  - Compact — up to 1000 crosspoints per 8” chassis
  - Solid-state crosspoints with vertical interval switching
  - Single-Cox “Party-Line” control
  - Wide selection of bus controls and status monitors
  - Microprocessor/computer control
  - Can be interfaced with Fernseh TCS-1 Machine control system
  - Excellent long- and near-term transfer characteristics
  - Automatic restoration after power failure, with refresh memory option
  - Dual video outputs
  - Standard, multiple-sourced components — no custom hybrids
  - Automatic system testing of all circuit parameters through all possible signal paths — hard copy results supplied

<table>
<thead>
<tr>
<th>MATRIX SIZE</th>
<th>VIDEO ONLY LIST</th>
<th>AUDIO ONLY LIST</th>
<th>COMBINED LIST</th>
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<tr>
<td>10 x 10</td>
<td>$4,710.00</td>
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<td>20 x 50</td>
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<td>40 x 50</td>
<td>$55,515.00</td>
<td>$45,310.00</td>
<td>$100,825.00</td>
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</tbody>
</table>

**12-Input Passive Switchers**

TVS-12X1T 12X1 terminating switcher  

- $205.00

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**Prices and Specifications Subject to Change Without Notice.**
TSG-3000 GL* Broadcast Color Synchronizing Generator

Features
- All-digital circuitry
- Two modes of digital-stability genlock operator-controlled choice of:
  - INSTANLOCK - Instantaneous Lock-Up
  - RATELOCK - Uniform-Rate Lock-Up
- Ultra-stable pulses and color subcarrier
- All pulse widths programmable
- Bar-dot generator standard equipment
- Built-in black burst generator standard
- Front-panel test points provided
- Mounts in 1-3/4" vertical rack space

*TG-3000GL NTSC Broadcast Sync Generator with Built-in Bar Dot and Blackburst Generators and Digital Genlock

TSG-4000 RS-170A Sync Generator, NTSC

Features
- All Digital • Color Field Identification • Multi-Mode Genlock • Automatic SC/H Phasing • Built-In Reference Blackburst • Genlock Input SC/H Status Monitor • LED Display of Operating Mode • All Pulse Widths Programmable • Front-Panel Test Point for SC/H Phase Verification • Mounts in 1¾" Vertical Rack Space

The TSG-4000 is a full-feature master sync generator with all operations fully compatible with the new EIA standard RS-170A.

RS-170A is a revised standard for synchronizing pulse waveforms for broadcast television. The primary revision deals with the phase relationship between the sync pulse and the color subcarrier. In the previous standard RS-170, this relationship was somewhat ambiguous, leading to problems in program interchange and editing.

In addition to accommodating the requirements of RS-170A, the TSG-4000 incorporates a new frame I.D. pulse system which uses a color subcarrier burst on a designated line in the vertical blanking interval. This system provides for positive identification of one field in the four-field sequence, permitting accurate synchronization of equipment, especially in editing systems where color framing accuracy is critically important in producing clean tapes for broadcast.

TSG-4000 RS-170A Sync Generator

$2,620.00

TSG-3000 GL* Broadcast Color Synchronizing Generator

$2,330.00

PAL Sync Generators — 625-Line/50 Hz PAL

TSG-2001B PAL-I Sync Pulse Generator

TSG-2001B-1 PAL-B,-G and -H Sync Pulse Generator

$3,200.00

$3,200.00

Accessories

GL-2001B PAL Color Genlock

BD-2001/2B Bar Dot Generator

$975.00

$225.00

PAL-M Sync Generator

TSG-2002B PAL-M Sync Generator

$3,200.00

Accessories

GL-2002B PAL-M Color Genlock

BD-2001/2B Bar Dot Generator

$975.00

$225.00

Hum Eliminator

THE-100 Hum Eliminator

$125.00

"551" Series Terminal Equipment

NOTE: This equipment mounts in an RF-551 Rack Frame or MB-551 Mounting Box.

TMV-551 Video Distribution Amplifier

TPA-551 Pulse Distribution Amplifier

RF-551 Rack Frame

MB-551 Mounting Box

BP-551 Blank Panel

$275.00

$275.00

$80.00

$50.00

$25.00

Prices and Specifications Subject to Change Without Notice.

THE-100 Hum Eliminator

FEATURES
- For use in color and monochrome systems
- Greatly reduces common mode power line hum in video circuits
- Passive, failure-free
- Compact
- Flat frequency response
- No differential phase or gain distortion

The TeleMation** THE-100 greatly reduces common mode hum caused by differences in ground potential as frequently encountered in installations with long video cables, incoming and outgoing lines, or separate power distribution systems.

**TeleMation is a trademark of Fernseh Inc.
The TeleMation TCE-3000 Digital Color Encoder produces NTSC encoded color signals and is designed for use with both live and film cameras, three- or four-tube types. All video inputs to the Encoder are compensated, bridging inputs, with excellent return loss characteristics.

Provision is made to allow rewiring of the Y (luminance) input to be a "derived" luminance output, for ready integration of vertical aperture equalizers or contour enhancers requiring this signal with three-tube camera systems. In three-tube camera operation, enhancement may be either Mixed Highs from Green (high frequency information from the green channel), or Green Luminance mode (Green = Luminance). The Green Highs mode is especially useful to provide a "crisped" horizontally enhanced signal that is frequently desired with three-tube cameras. The Green Luminance mode provides a suitable means to lessen the possibility of gross misregistration, and is also ideal in outdoor operation to increase contrast against the sky as light conditions change (darkens blue).

A notch filter, centered at the subcarrier frequency (3.58 MHz) is front panel switchable. Monochrome outputs are provided with or without burst. A Green Tie mode may be selected where green video is routed to the blue and red inputs to allow for proper monochrome outputs in the event of a failure of either the red or blue camera tube. The TCE-3000 Encoder, when operated in the four-tube (RGBY) mode, provides adjustable Livingston Error Compensation to allow tailoring of the Y channel to provide correct luminance levels for all colors. This is accomplished by allowing the correct amount of the matrixed Y signal to be added to the separate luminance input signal. Separate output amplifiers are provided for the program and monitor outputs.

The TCE-3000 Encoder provides up to 10 dB of aperture correction at 4.0 MHz. Aperture correction is proportional, level dependent, with aperture threshold adjustable and aperture boost adjustable to 12 dB. Prices and specifications subject to change without notice.
## "525" Series NTSC Sync Generator Modules

NOTE: Modules may be installed in RF-525 or RF-175 Rack Frames. Please specify with order.

<table>
<thead>
<tr>
<th>Module</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSG-525 Sync Generator</td>
<td>$505.00</td>
</tr>
<tr>
<td>GL-525 Genlock Accessory</td>
<td>$565.00</td>
</tr>
<tr>
<td>CO-525 Sync Changeover Accessory</td>
<td>$425.00</td>
</tr>
<tr>
<td>BD-525 Bar Dot Accessory</td>
<td>$375.00</td>
</tr>
</tbody>
</table>

## ACCESSORIES

### Connecting Panels for "525" Sync Generator Systems

<table>
<thead>
<tr>
<th>Panel Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP-1</td>
<td>Connecting panel and Card connector for mounting TSG-525 in RF-175 or RF-525 rack frames. Required only where TSG-525 is to be used without GL, CO, or BD accessories.</td>
<td>$155.00</td>
</tr>
<tr>
<td>IP-2</td>
<td>Connecting panel and Motherboard for mounting TSG-525 and GL-525. Occupies two frame spaces.</td>
<td>$165.00</td>
</tr>
<tr>
<td>IP-3</td>
<td>Connecting panel and Motherboard for mounting TSG-525, GL-525, and BD-525 in RF-525 rack frame. Occupies three frame spaces.</td>
<td>$210.00</td>
</tr>
<tr>
<td>IP-6</td>
<td>Connecting panel and Motherboard for mounting one CO-525, two TSG-525's, two GL-525's and one BD-525 in RF-525 rack frame. Occupies six frame spaces.</td>
<td>$300.00</td>
</tr>
</tbody>
</table>

## "525" Series Equipment

NOTE: Modules may be installed in RF-525 or RF-175 Rack Frames. Please specify with order.

### Blackburst Generators

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBB-525</td>
<td>Blackburst Generator</td>
<td>$700.00</td>
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</tbody>
</table>

### Distribution Amplifiers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAA-524</td>
<td>Audio Distribution Amplifier</td>
<td>$280.00</td>
</tr>
<tr>
<td>TAA-525</td>
<td>Audio Distribution Amplifier, transformer outputs</td>
<td>$450.00</td>
</tr>
</tbody>
</table>

## Source Identifier

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCG-4</td>
<td>Dual source identifier, 1&quot; mounts in RF-525. Only one unit can be mounted in an RF-175</td>
<td>$480.00</td>
</tr>
</tbody>
</table>

## Audio Distribution and Monitor Amplifiers

NOTE: Modules may be installed in RF-525 Rack Frames. Please specify with order

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAA-524</td>
<td>Audio Distribution Amplifier</td>
<td>$280.00</td>
</tr>
<tr>
<td>TAA-525</td>
<td>Audio Distribution Amplifier, transformer outputs</td>
<td>$450.00</td>
</tr>
<tr>
<td>TMA-525</td>
<td>Audio Monitor Amplifier</td>
<td>$300.00</td>
</tr>
</tbody>
</table>

## "525" Series Modular Video and Audio Switchers

NOTE: 1. Each TVS/TAS-525 mounts in a RF-525 Rack Frame. Specify factory installation with the order if desired. 2. Any audio or video switcher larger than 10 x 1 requires a factory quotation for price.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TVS-525</td>
<td>5 x 1 Video switcher module</td>
<td>$430.00</td>
</tr>
<tr>
<td>TAS-525</td>
<td>5 x 1 Audio switcher module</td>
<td>$450.00</td>
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</table>

## Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC-5</td>
<td>5-pushbutton remote control panel, mounts in RP-203</td>
<td>$175.00</td>
</tr>
<tr>
<td>RP-203</td>
<td>Rack panel for up to three remote control panels</td>
<td>$75.00</td>
</tr>
<tr>
<td>CC-5/25</td>
<td>Connecting cable, 25 ft</td>
<td>$55.00</td>
</tr>
<tr>
<td>CC-5/50</td>
<td>Connecting cable, 50 ft</td>
<td>$65.00</td>
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## Rack Frames and Power Supplies

NOTE: A PS-525 Power Supply must be ordered with each RF-525 Rack Frame. The RF-175 Rack Frame contains a built-in power supply; therefore, a PS-525 is not required.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF-525</td>
<td>5-1/8&quot; Rack frame and power supply</td>
<td>$200.00</td>
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<tr>
<td>PS-525</td>
<td>Power supply</td>
<td>$335.00</td>
</tr>
<tr>
<td>PS-525RK</td>
<td>Power supply Redundancy kit, two required</td>
<td>$430.00</td>
</tr>
<tr>
<td>EX-526</td>
<td>Module extender</td>
<td>$125.00</td>
</tr>
<tr>
<td>RP-203</td>
<td>Rack panel for remote control modules, accommodates up to three modules</td>
<td>$75.00</td>
</tr>
<tr>
<td>BP-203</td>
<td>Rack panel for RP-203</td>
<td>$25.00</td>
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## Blank Filler Panels

<table>
<thead>
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<th>Description</th>
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<tr>
<td>BP-1</td>
<td>1 3/8&quot; x 19&quot;</td>
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<td>BP-2</td>
<td>3 3/8&quot; x 19&quot;</td>
<td>$15.00</td>
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<tr>
<td>BP-3</td>
<td>5 3/8&quot; x 19&quot;</td>
<td>$20.00</td>
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<td>BP-4</td>
<td>7 3/8&quot; x 19&quot;</td>
<td>$25.00</td>
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<tr>
<td>BP-5</td>
<td>9 3/8&quot; x 19&quot;</td>
<td>$30.00</td>
</tr>
<tr>
<td>BP-6</td>
<td>10 3/8&quot; x 19&quot;</td>
<td>$35.00</td>
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## Ventilation Units

<table>
<thead>
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<th>Description</th>
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<tbody>
<tr>
<td>TVU-175</td>
<td>Ventilation Unit, 117 VAC</td>
<td>$250.00</td>
</tr>
<tr>
<td>TVU-176</td>
<td>Ventilation Unit, 234 VAC</td>
<td>$275.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
**FERNSEH INC.**

the Video Corporation of
Bell & Howell and Robert Bosch

---

**TDF-2 Digital Noise Filter**

**Features**
- Up to 18 dB broadband noise reduction (element-by-element)
- Custom-programmable filter formulas
- 4X subcarrier sampling rate — 477,750 samples per frame
- 3.2 megabit memory capacity
- Full RS-170A processing amplifier
- Self-test systems
- Internal genlock — no external drives required

The new TDF-2 Digital Noise Filter is designed to improve the signal-to-noise ratio of cameras, videotape recorders, and microwave, satellite links by as much as 18 dB. All forms of electronic noise—both high and low frequency—as well as film grain, dust, and dirt encountered during film transfers are dramatically reduced. The TDF-2 is especially useful for SNR improvement of multi-generation videotapes.

The unit is completely automatic, adjusting itself for high noise reduction on still portions of pictures and lowering the amount of noise reduction in those portions containing motion in order to avoid video lag.

The adjustment process is controlled by a programmable read-only memory (PROM) that can be custom-programmed according to your requirements.

As delivered, the TDF-2 is supplied with four standard PROM's, each corresponding to one of the filter switches on the front panel. The PROM parameters have been carefully optimized through computer simulation to provide high SNR improvement with minimum smear distortion of moving objects. After evaluating your program material at each of these settings, you can select the single best filter formula for your application; the TDF-2 can then be permanently installed on your program line and operated continuously without adjustment.

---

**TVP-1000 Video Processing Amplifier**

**Features**
- Full sync, blanking, burst regeneration
- Includes programmable pulse width digital sync generator with genlock
- Differential input rejects up to 30 V P-P Common Mode Hum
- Strappable for operation with helical scan and U-Matic format recorders
- Separate sync, luminance, chrominance and burst processing
- Fail-safe compensated metallic-contact bypass
- Full 360° subcarrier phasing
- Full remote control
- Reverts to monochrome black on incoming signal loss
- Luminance and chrominance AGC (optional)
- VIRS AGC Mode — Luminance/chrominance ratio maintained. Loss of VIRS causes reversion to burst AGC mode
- Available for NTSC, PAL, or PAL-M standards
- Selectable AGC responds to VIRS or burst for chroma gain — sync, VIRS or video for luminance gain

The TVP-1000 Video Processing Amplifier meets modern broadcast performance requirements with superior operating features and stability. Handling both color and monochrome signals, the TVP-1000 is designed to operate with quadruplex, helical scan or U-Matic format videotape recorders. Models are available for NTSC, PAL or PAL-M.

A differential amplifier at the processor input, together with an input clamp circuit, provides over 60 dB common mode hum rejection and over 35 dB reduction of single-ended hum. A wide dynamic range permits the circuit to effectively remove over 30 V P-P common mode hum from the incoming video.

---

**Prices and specifications subject to change without notice**
COLOR MONITORS

MC 37 BA Precision Color Monitor With 37-cm Screen Diagonal
Description
The MC 37 BA precision color monitor can be delivered as a table top unit with metal case or for mounting in racks or cabinets. Three looped through CCVS inputs are provided as well as RGB inputs. The monitor is equipped with a self converging in-line tube and has a screen size of 210 x 280 mm. The basic RGB version can be equipped for CCVS operation in all color systems by the addition of plug-in decoder cards. The monitor can display horizontal sync and the vertical interval as well as the ‘pulse cross.’ The color difference output signals R-Y and B-Y are independent of contrast and brightness adjustment. Signal input selection, synchronizing mode as well as brightness, chroma, contrast and hue are remotely controllable.

Features
- 3 selectable CCVS inputs
- Inputs 1 + 3 can be added
- Separate RGB input for RGB and CCVS operation
- 1 output of selected signal
- R-Y, B-Y outputs
- Internally or externally synchronizable
- In-line tube, self converging
- Raster size switchable large/normal/small
- Remote control
- Blue only pushbutton
- PAL/PAL-Simple switchable
- Pulse cross

Application
The monitor meets broadcast requirements and has been specifically developed for quality monitoring in VTR systems. Due to its light weight and small dimensions it is particularly suitable for O.B. van installation.

$5,200.00

MC 37 BB High-Quality Color Monitor with 37-cm Screen Diagonal
Description
The monitor MC 37 BB is available as a table top unit with metal case or for mounting in cabinets or racks. The screen size is 210 x 280 mm. Input selection, synchronizing mode, brightness, chroma and contrast are remotely controllable.

Features
- 2 selectable inputs
- Internal and external synchronization
- RGB, PAL, PAL-M, NTSC or SECAM
- In-line tube, self converging
- Raster size switchable to “small”
- All color temperature switchable 6500/3200 K
- Remote control

Application
The monitor meets broadcast requirements and has been specifically developed for picture evaluation. Due to its light weight and minimal dimensions it is particularly suitable for O.B. van installation.

$4,000.00

MC 51 BB High-Quality Color Monitor with 51-cm Screen Diagonal
Description
The monitor MC 51 BB is available as a table top unit with metal case or for mounting in cabinets or racks. The screen size is 372 x 279 mm. Input selection, synchronizing mode, brightness, chroma and contrast are remotely controllable.

Features
- 1 RGB or 2 CCVS inputs for PAL, PAL-M, NTSC or SECAM
- Additional RGB input for RGB and CCVS operation (option)
- Internally and externally synchronizable
- Precision in-line tube, self converging
- Raster size switchable to “small”
- All second order controls in front draw
- Remote control

Application
The monitor meets broadcast requirements and has been specifically developed for picture evaluation. Due to its light weight and minimal dimensions it is particularly suitable for O.B. van installation.

$4,800.00

Prices and Specifications Subject to Change Without Notice.
## CHARACTER GENERATORS

### COMPOSITOR I* GRAPHICS SYSTEM
**FEATURES:**
- Adaptable to all alphabetic languages
- Multiple font capability
- Selectable-width border, shadow, and outline with four luminance levels
- High capacity rigid cartridge disk memory contains up to 999 full pages plus eight fonts and program storage
- Single button random page selection
- TED-1 automated election reporting system available as option
- Software-based system facilitates future expansion
- Space provided for plug-in of second character generator permits simultaneous composition and display, dual independent display, or page preview
- Rapid submitting capability
- Graphics compose/animation option

### COMPOSITOR I DUAL CG DUAL DISK GRAPHICS COMPOSE SYSTEM
**Includes:**
- Compositor I Basic Single System, Second Channel Add-On, CC-1506/200, MS-5051, MS-5059, 2 ea. EO-3001 (or EO-3001/1), 2 ea. CM-3002, Requires Sola Transformer, Order MS Number below
- MS-5016 NTSC or PAL-M ........................................ $87,900.00
- MS-5018 PAL-I, -G, -B, -H ...................................... $89,000.00
- MS-5019 625/50 RGB ............................................. $89,000.00

### COMPOSITOR I BASIC SINGLE SYSTEM
**Includes:**
- 32K font memory (space for 1 ea 24-line, 2 ea 32-line and 2 ea 56-line fonts); 24 line character generator with choice from standard font library; Roll and Crawl, Character edging (2-line border/outline, 2- or 4-line shadow; luminance levels; Keyboard, TKB-3000 with 100 ft. cable; Rigd cartridge disk drive, with 1 ea cartridge; System terminal; Paper tape reader; Standard system software. One year software update; Connecting cables, mounting hardware and module extenders; On-site installation; Factory production training.

### COMPOSITOR I DUAL DISK DRIVE ADD-ON
**Includes:**
- Rigid cartridge disk drive, with 1 ea. cartridge, Mounting Hardware, Connecting cables; Order MS Number below
- MS-5050 NTSC or PAL-M ........................................ $46,000.00
- MS-5052 PAL-I, -G, -B, -H ................................. $46,000.00
- MS-5057 Digital Interface Chassis with Power Supply ..................................................... $47,300.00

### SECOND CHANNEL ADD-ON
**Includes:**
- 32K font memory (space for 1 ea 24-line, 2 ea 32-line and 2 ea 56-line fonts), Roll and Crawl, Character edging (2-line border/outline, 2- or 4-line shadow; luminance levels; Keyboard, TKB-3000 with 100 ft. cable; Connecting cable, Order MS Number below
- MS-5011 NTSC or PAL-M ........................................ $12,500.00
- MS-5013 PAL-I, -G, -B, -H ...................................... $13,650.00
- MS-5012 625/50 RGB ............................................. $13,650.00

### SECOND DISK DRIVE ADD-ON
**Includes:**
- Rigid cartridge disk drive, with 1 ea. cartridge, Mounting-Hardwa, Connecting cables; Order MS Number below
- MS-5055 includes MS-5050 and MS-5058 .......................... $82,000.00
- MS-5060 includes MS-5051 and MS-5058 .......................... $82,000.00

### CARTRIDGE DRIVE DISK (D-31) REPLACEMENT
**For fixed drive (use with systems presently with fixed cartridge drive (D-31))**
- MS-5061 includes MS-5050 and MS-5058 .......................... $82,000.00

### DIGITAL INTERFACES
**Includes:**
- Sola transformer, Order MS Number below
- CC-1507/200 Cable, 200 ft ..................................... $50.00
- CC-1506/200 Cable, 200 ft ..................................... $50.00
- CM-3002 Font Memory Expansion to 64K, 8 Fonts Max. .................................................. $4300.00
- DI-5001 PAL-I, -G, -B, -H or RGB 625/50 Basic Edging (2-line border/outline, 2- or 4-line shadow; 4 luminance levels) .................................................. $1230.00
- EO-3001 NTSC, PAL-M, or RGB 525/60 Extended Edging (Up to 6-line border/outline and 12-line shadow) .................................................. $1400.00
- EO-3001 PAL-I, -G, -B, -H or RGB 625/50 Extended Edging (Up to 6-line border/outline and 12-line shadow) .................................................. $1400.00
- DI-5004 PAL-I, -G, -B, -H or RGB 625/50 Extended Edging (Up to 6-line border/outline and 12-line shadow) .................................................. $400.00
- CM-3002 Font Memory Expansion to 64K, 8 Fonts Max. .................................................. $4300.00

### SPARE PARTS
**Includes:**
- DI-5000A Data Interface, Disk .................................. $1000.00
- DI-3000 Data Interface ........................................... $1000.00
- TC-3000 CPU .................................................. $1000.00
- TC-30000 Parts Kit .................................................. $1200.00

### TRAINING
**Includes:**
- One place in any Compositor training class (no travel expenses paid by Fernseh) $450.00

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*Registered trademark of Polaroid Corp*
The TCF-3000 System, includes:

- Prism optical system — Ghost free, precision color separation, high sensitivity, dust sealed.
- Color masking amplifier — Precise colorimetry control, camera matching, compensates for projector errors.
- Six vector color corrector — Compensates for film errors, allows selection among 3 preset and 1 manual color correction settings — optional.
- Built-in image enhancer — Full bandwidth horizontal contouring with noise coring; plug-in vertical contouring with comb filter optional.
- True film gamma correction — Reproduces 250:1 film contrast — exclusive low frequency gamma processing for optimum signal-to-noise.
- Automatic gain stabilization — White reference pulse control from pre-amp input to channel output.
- Automatic white level — Built-in fast attack N.D. wheel.
- Automatic black level — Maintains black at selected level; small area sampling circuit assures reproduction of detail near black.
- Video reversal — Permits use of economical color negative film.
- Built-in optical diplexer — Two projector inputs without external multiplexer — optional.
- Multiple input port positions — Flexible floor plan permits interface with existing film islands.
- Self-contained set-up — Provides fast control panel with video controls.

The TCF-3000 is designed to accept any of the following waveform monitors as an input to channel output:

- Tektronix PAL -1, -B, -G, -H Waveform Monitor
- Tektronix NTSC Waveform Monitor
- Tektronix PAL/NTSC Waveform Monitor
- Tektronix PAL + NTSC Waveform Monitor

ACCESSORIES

- Transformer, converts TCF-3000 to 208/220 VAC, 50/60 Hz
- Pulse Delay Module for TCE-2000N / M / P Encoders

VIDEO MONITORS and HOUSINGS FOR TCF-3000

- Tektronix PAL -1, -B, -G, -H Waveform Monitor
- Tektronix NTSC Waveform Monitor
- Tektronix PAL/NTSC Waveform Monitor

CONSOLE and ACCESSORIES FOR TCF-3000

- Equipment Console. Specify 10.5, 14, 17.5, or 21-inch writing arm
- Rotating Monitor Tray, accepts FMM-1211, SNA-14C, or MC-37 Monitor, Rackmount

BROADCAST COLOR FILM CAMERA

Features

- Prism optical system — Ghost free, precision color separation, high sensitivity, dust sealed.
- Color masking amplifier — Precise colorimetry control, camera matching, compensates for projector errors.
- Six vector color corrector — Compensates for film errors, allows selection among 3 preset and 1 manual color correction settings — optional.
- Built-in image enhancer — Full bandwidth horizontal contouring with noise coring; plug-in vertical contouring with comb filter optional.
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- Multiple input port positions — Flexible floor plan permits interface with existing film islands.
- Self-contained set-up — Provides fast control panel with video controls.

Prices and Specifications Subject to Change Without Notice.
EQUIPMENT CASES

**Padded Adjustable Cases**
Quick, easy, do-it-yourself partitioning methods to fit your particular needs for carrying or shipping cases.

**Padded Partitions**
A patented system of thickly padded partitions interlock with each other and with the padded sidewalls of the case by means of the tongue-and-groove principle. Slots spaced 1” apart in the padding of the partitions and sidewalls provide for any compartment arrangement to cushion your equipment perfectly with shock absorbing foam padding. The partitions can be rearranged or added to at any time and the case is fully insulated against heat, cold and dust.

**Diced Foam**
Diced foam full depth padding “picks out” to provide any shape or size cavity for the ultimate in equipment protection.

An ingenious and very practical new Adapt-A-Case concept lets you “pick out” the contour areas you need from the one-inch thick layers of grid pattern, partially-cut-through foam. The Adapt-A-Case way to provide snug-fit protection for the most delicate equipment.

**Sales Aid Cases**
Fiberbilt’s design and manufacturing expertise can help you achieve the perfect case to display and protect your product so that it remains in tip top condition.

Our stock cases are designed to display specific products to maximum advantage. Our individually designed cases can do the same job for your product no matter what it is.

Just send us your samples, and we will submit a sketch or layout without charge. Cost estimates also submitted on any quantity — whether a single case or thousands. Whatever the product, we have the experience to custom design a case to your exact specifications.

**Protective Carrying Cases**
Your product, no matter how delicate, is protected by these strong, attractive, and lightweight carrying cases.

Our stock styles can be obtained with either specially die-cut foam inserts and partitions, or with our patented adjustable partitions.

Special cases in any style or size can be manufactured and customized to your specific needs... economically, even in small quantities.

**Protective Shipping Cases**
Your product is protected when shipped by land, sea, or air in one of Fiberbilt’s many distinctive and protective shipping cases... rugged, durable, lightweight.

Pick your exterior: Aluminum, Fiberglass, or Fibre bonded to plywood — to give a lightweight, yet tremendously rigid and durable shell. Or, for lower weight and cost, choose a high density polyethylene case. No matter which you select, you’ve got a rugged exterior designed for heavy cameras, TV monitors and other delicate equipment that you want to travel safely.

Inside choose special padding, contoured foam, partitions or trays, designed by our engineers to cushion your equipment to take the roughest knocks.

**Computer Hardware Cases**
Fiberbilt manufactures a complete line of cases for shipping and carrying computer equipment. Call for details on a case for your particular piece of equipment.

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Prices and Specifications Subject to Change Without Notice.
VIDEO TYPEWRITERS

VTW-200
Features:
- Types both upper and lower case characters
- Professional 7 x 9 dot matrix display format
- Up to 32 characters x 8 lines per page, with total of 4 pages
- Eye catching flicker mode
- Line printer and other options available

The VTW-200 provides an easily operated and reliable means to superimpose types information onto the picture in a television system. By simply operating the keyboard, which resembles that of a familiar electric typewriter, desired information becomes typed into the television scene.

Both upper and lower case alphabetical characters can be typed, while display is an attractive 7 x 9 dot matrix. Up to 8 lines of 32 characters each can be displayed per page and a total of 4 pages is provided.

VTW-320
Features:
- Advanced version video typewriter
- Built-in 4 page memory (expandable up to 8 pages)
- Professional 7 x 9 dot matrix character format
- Two step rollup functions
- Optional line printer available

The VTW-320 is an advanced version Video Typewriter developed in response to demands for increased sophistication and expanded functions. A 4-page memory (expandable to 8-pages) is incorporated which allows pretyped data to be instantly switched in and out of the picture, in addition to real-time display of data as it is being typed.

Appearance of the alphanumeric and typographical symbols is more attractive and professional by employing a 7 x 9 dot matrix character format. Up to 8 lines can be displayed at one time (internally switchable to 15 lines) with front panel selection of 16 or 32 character units per line.

Two step rollup functions are included, increasing the flexibility for program and video tape production. An optional line printer is also available to provide paper type-out for convenient indexing and filing.

VTW-500
Features:
- Superimposes typed information in both line and preview monitors
- Includes 4 display modes — normal, roll, crawl and wipe
- Built-in 8-page memory
- Switchable edged characters
- Sequential change of selected page automatically or manually
- Professional 7 x 9 dot matrix display format in the preview monitor and professional 16 display format in the line monitor

This advance version of the VTW-500 has been developed to provide broadcasting quality. It can superimpose typed information onto either blank or picture backgrounds in the line and preview monitors, simultaneously or separately. New information can be typed into the preview monitor while programmed information is displayed in the line monitor. Various expanded functions, such as normal, roll, crawl, wipe modes, line quantity control, mode start-time control, flickering, vertical position setting, page-to-page line jumping, matting control, automatic/manual operation, and sequential change of selected page, are all included in the system with easy operation.

Each page of the built-in 8-page memory can contain a maximum of 16 lines of 32 characters (professional 7 x 9 dot matrix character) in the preview monitor and 12 lines of 32 characters (professional 16 by 21 dot matrix character) in the line monitor. For better legibility, each alphanumeric character has an edge (black outline around character) which is switched on/off by the matting control. Character size function allows each character to change its size horizontally or vertically. Up to 128 characters are available for use in the keyboard layout by using the first and second shift keys.

Prices and specifications subject to change without notice.
FOOTEL

VIDEO TIME BASE CORRECTOR

ccd-1h
- Signal-to-Noise: 60db NTSC
- Differential Phase — 1%
- Differential Gain — 2%
- Window of Correction — 1H
- Affordable Price
- NTSC or PAL

The ccd-1h is ideal for all heterodyne VTR users, including educational, industrial, cable TV, hotel and motel movie channels, and broadcasters where in their editing stations they will be able to remove the multi-generation error build-up.

The ccd-1h Video Time Base Corrector offers high quality and simplicity in operations at a very economical price. We are using the latest technology in charge-couple-device memory which enables us to remove skew and jitter distortions from your picture at a reasonable price.

The ccd-1h has a correction window of one horizontal line (1H) with a floating window that tracks the recorder. By tracking the recorder we can remove your multi-line errors and a special anti-break-up circuit ensures the window will always track at the right rate. It tracks slowly with good tapes removing even low frequency error. The rate of tracking gradually changes as errors increase and become abrupt at the edges of the window so the skew can still be removed on very poor quality tapes.

The ccd-1h strips off your old sync, cleans it up and reinserts new sync and burst with proper rise and fall times. Interface and non interference sync are processed automatically.

Color and monochrome selection is also automatically determined by the ccd-1h.

The ccd-1h has an automatic bypass relay which is energized when the power on switch is in the off position. It is also automatically energized in the event of a power failure. On the front panel, the Video Gain Control has a range of + /- 40%. The Set-Up Control has a range of + /- 15 IRE. The Chroma Gain Control has a range of + /- 40%. The range of the Hue Control is + /- 30°.

ccd-2h
- Noise Reduction up to 10db
- Image Enhancement
- Gen-Lock Sync Generator
- Affordable Price

The ccd-2h is ideal for all heterodyne VTR studios. With noise reduction, image enhancement, system gen-lock and a window of correction of two horizontal lines (2H), no application is too demanding. We are using the latest technology in charge-couple-device analog memory. We have also made needed features standard rather than options. This gives you high performance at a very competitive price.

PROCESSING AMPLIFIER ccd 2h-1
New sync, burst, and blanking are added to the processed video. Advanced servo-controlled sync and phased subcarrier are available to drive your VTR. A white and a black clipper are standard.

SYNC GENERATOR ccd 2h-2
The color gen-lock sync generator meets RS-170A standards and has an oven-controlled crystal oscillator. The blanking widths on your processed video are adjustable. Sync and subcarrier timing are adjustable, enabling you to easily phase your studio.

NOISE REDUCTION ccd 2h-3
The ccd-2h can reduce your chrominance noise up to 10 db and reduce the luminance noise up to 7 db. By using a combination of combing and coring, we can improve your signal-to-noise ratio greatly without causing any picture smear.

IMAGE ENHANCEMENT ccd 2h-4
The ccd-2h uses both horizontal and vertical enhancement to give a well-defined, sharp picture. We core the enhancement frequencies before we add them back to the luminance. This gives a sharp picture without causing additional noise normally associated with enhancement.

ccd1h
NTSC Time Base Corrector ................................. $ 3,950.00
ccd-1h PAL
PAL Time Base Corrector ................................. 4,200.00
ccd2h-1
NTSC Time Base Corrector ................................. 6,250.00
PAL Time Base Corrector ................................. 6,650.00
ccd2h-2
NTSC Time Base Corrector ................................. 7,950.00
PAL Time Base Corrector ................................. 8,450.00
ccd2h-3
NTSC Time Base Corrector ................................. 8,250.00
PAL Time Base Corrector ................................. 8,750.00
ccd2h-4
NTSC Time Base Corrector ................................. 9,950.00
PAL Time Base Corrector ................................. 10,550.00

Prices and Specifications Subject to Change Without Notice.
Model 500
Headphone Monitor Amplifier
$69.50
A high quality all integrated circuit amplifier, widely used by broadcast engineers on remotes and motion picture sound men on location, it features two output phone jacks and a belt clip for the convenience of the operator. It comes with battery and leatherette pouch. * Input 1 K ohms * Output 8 ohms * Power output 350 mW * Power requirement: 9 V. battery * Dimensions: 4-1/4"H x 2-1/4"W x 1-1/4"D. Also available in 600 ohms output — Model 500H.

Mic-Line Amplifier
Model 100
Model 130
$
119.50
This amplifier is designed for the broadcast engineer who desires versatility, compactness and reliability. Ideal for use with long cables from mic to mixer, from mic to telephone line or from mic to microwave system. An internal Helipot is provided to adjust mic pre-amp output to any desired level. It comes with belt clip, battery and leatherette pouch. * Low impedance mic input female XLR - 600 ohms balanced line output * Power requirement: 9 V. battery * Dimensions: 4-1/4"H x 2-1/4"W x 1-1/4"D.

Phantom Powered Microphone Amplifier
Tele-Coup (Model 200)
$69.50
For use in telephone systems. The entire Amp. is constructed inside the Switchcraft T3F connector. By inserting it into any professional microphone whether of the dynamic or the condenser type having a 200 ohms impedance and a sensitivity of 100 microvolt, and connecting the other side of cable with the alligator clips to the telephone transmitter contacts, directly replaces the carbon microphone.

Monitor Amplifier Speaker
Model 700
$99.50
All integrated circuit amplifier, primarily designed for ENG applications and it has many other uses in the broadcast industry. It can be used as a speaker amplifier, speaker headphone amplifier, or strictly as a headphone monitor amplifier. It comes with a belt clip, 9 V. battery and leatherette pouch. * Input 1 K ohms * Output 8 ohms * Dimensions: 4-1/4"H x 2-1/4"W x 1-1/4"D.

Model 700
Monitor Amplifier
Speaker

Universal Micro Mixer
Model MA4
Compatible with all Mini-Cam recorders
$475.00
All integrated circuits, low noise, wide flat frequency response. * Four low impedance balanced microphone inputs female XLR-3-31 * High level line input * Microphone level output (adjustable through an internal control) * 800 ohms balanced line output at 0 level * Monitor headphone jack * Standard ¼” VU meter * Derives power from enclosed standard 9 V. alkaline battery * External power input jack for battery or well filtered DC power supply up to 12 V. * All connectors are American standard * Die cast aluminum body with black-texture finish * Dimensions: 5-1/4"W x 4-3/4"H x 2-3/8"D. Weight: 1-1/2 lbs.
By combining the technologies of computers with television, you now have the ability to enhance learning to an extent never before possible. CIT (Computerized Interactive Television) offers:

- Active learner involvement and participation
- Individualized instruction
- Incremental learning
- Repetition and review
- Reinforcement and motivation
- Assessment of student learning
- Storage of retrieval of assessments

GenTech provides everything necessary to help you make CIT reach its full potential! In addition to sophisticated state-of-the-art CIT hardware, only GenTech offers expertise in all areas necessary to make CIT work for you:

- Research of communications problems
- Definition of learning objectives
- Instructional design
- Concept and video script development
- TV production and editing
- Software programming
- Computer course authoring
- Video meetings
- Supplemental media production
- Engineering back-up and maintenance
- Special hardware design and manufacturing

ETS-2000 Interactive Television System
The ETS-2000 Video Controller enables a microcomputer to precisely control a video player, allowing the interlacing of educational television segments with computer assisted instruction and testing modules. Components include interface card, connecting cables, operator's manual and diskette containing operation and demonstration software.

ETS-2000 Authoring System, 2.0
This software system, on diskette, makes the authoring of complicated CIT programs easy and fun, even for people without computer programming experience. Features include a question-answer format of authoring, menu-oriented selections, multiple review modes and response options. Package includes diskette and instruction manual.

ETS-2000 Videotape Logging System
A software system anyone can use to automatically, quickly and accurately locate any scene on a video tape. Use the ETS-2000 Interactive Controller, microcomputer and video player to solve costly, time-wasting searches for specific scenes. Components include the diskette and instruction manual.

MTS-3000 MultiTerm System
This system allows the expansion of the ETS-2000 system from a one-on-one mode to a classroom or similar mode in which up to 128 individuals may interact simultaneously. The system can be used with or without television for group interaction with live lecture or demonstration...to instruct, test, perform, research, develop marketing and management data, and many other functions.

MultiTerm Starter Package
With MultiResponse Card, MultiLink Unit, 8 MultiTerms (response units), MultiTerm Handler Software Package, Instruction Manual, 50' Cable.

MultiTerm Expansion Package
(up to 15 of these may be used for a maximum system capacity of 128 MultiTerms); with MultiLink Unit, 8 MultiTerms (response units) with 10' Cable.
VIDEO PROCESSING SYSTEMS

3252A Series Sync Generator Systems

3252A-SG1 Dual Sync System consisting of two 3252A Sync Generators with power supplies and Pulse DA-1, 3257A Changeover with power supply, module extender, remote connectors and two instruction manuals.

3252A-SG2 Dual Sync System consisting of two 3252A Sync Generators with power supplies and Pulse DA-2, 3257A Changeover with power supply, module extender, remote connectors and two instruction manuals.

3256A Series Sync Generator

3256A Slave Sync Generator without Pulse Distribution Amplifier (Option -201 or -202 must be ordered), power supply, module extender and two instruction manuals.

3256A-SG1 Dual Sync System consisting of two 3256A Slave Sync Generators with power supplies and Pulse DA-1, 3257A Changeover with power supply, module extender, remote connectors and two instruction manuals.

3260 Series Sync Generator Systems

3260-SG1 Dual Sync System consisting of two 3260 Sync Generators with power supplies and Pulse DA-1, 3257A Changeover with power supply, module extender, remote connectors and two instruction manuals.

3260-SG2 Dual Sync System consisting of two 3260 Sync Generators with power supplies and Pulse DA-2, 3257A Changeover with power supply, module extender, remote connectors and two instruction manuals.

3257A Automatic Changeover Switch

3257A Automatic Changeover Switch is an automatic transfer device for use with synchronizing generators. Switching can be initiated either in a manual or an automatic basis.

The 3257A contains eight detectors which provide sensing for eight of the nine output lines. All detectors are adjustable to operate with either 2 volt or 4 volt pulses and 1 volt or 2 volt subcarrier signals. One detector has increased gain to permit sensing of a low-level, steady state signal such as color black or encoded pulse reference.

The switch is applicable to all types of synchronizing generators as well as all television standards - NTSC, PAL, PAL-M and SECAM.

3260 Series Video Processing Systems

3240 Series Video Processing Systems

3240-10 Basic Video Processing System 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 plug-in modules. Conservatism rating, and a sealed air design that keeps contamination out, will assure years of trouble free service. MTBF is projected to 20,000 hours, or about four years of normal service.

The 3240-10 System comprises: (1) 06637 Video input module, (1) 066341 Sync generator module, (1) 066339 Color lock module, (1) 061057 Power supply, (1) Mounting tray (1-1/4 x 19" rack mount), (2) Module extender, (2) Instruction manuals. Note: The basic system above does not allow for fitting of all optional items. Some options require the 3240-20 system listed below.

3240-20 Basic Video Processing System 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. Current accessories are available and future options will be designed to fit the existing two-RU frame.

The 3240-20 system comprises: (1) 066337 Video input module, (1) 066341 Sync generator module, (1) 066339 Color lock module, (1) 061057 Power supply, (1) Mounting tray (3-1/4 x 19" rack mount), (2) Module extender, (2) Instruction manuals. Note: 3240-20 systems may be used with all the basic options available for the video processing systems.

Prices and Specifications Subject to Change Without Notice.
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 the AC adapters and battery packs. Addition of the elevator column and friction, cam or fluid head converts the ENG-1 into the most versatile production tool available. ENG-1 folds to a slim 12 inches for transportation and storage.

Wheelit Indoor/Outdoor Slim Line Folding Video Cassette Table, 4118: Designed for indoor/outdoor transportation of video recorder and monitor Model 4118 Wheelit Slim Line pivots to collapse to an incredibly thin 12 inch profile. In the trunk of your automobile or stored in a closet, there is room to spare. Platforms lock into the upright position with positive assurance.

The folding Wheelit model C-402 is an all purpose utility vehicle designed for transportation of video tape equipment, audio-visual equipment, photography equipment, and business machines. Construction of Wheelits 68-402P and 69-22-VTR is similar, however, basic differences will be found in the length of the wheel bases and the dimensions of the platforms.
1" VIDEO TAPE RECORDER

HR-100
PORTABLE 1-INCH HELICAL VTR

The Hitachi HR-100 is a portable video tape recorder designed in accordance with the SMPTE Type C Standard. In addition to tape interchangeability with the table model HR-200, the HR-100 offers interchangeability with other 1-inch, C-standard helical video tape recorders. While it is simple to operate, the HR-100 delivers all the required functions for professional use. Its small size, light weight and rugged construction provide excellent reliability, and it is ideal for ENG and EFP application.

- A Portable VTR, Meeting SMPTE Type C Standard
The HR-100 is completely interchangeable with the table model HR-200. Tapes recorded by the HR-100 can be reproduced by other 1-inch C-standard tape recorders.

- Small in Size, Light in Weight
The tape transport of uniblock construction, the housing of one-piece construction and printed circuit board holder combine to make the HR-100 sturdy, small in size, and light in weight.

- Low Power Consumption
Switching-type motor drive amplifiers for the drum, capstan and reels are provided for improved efficiency. In addition, switching regulators and the extensive use of C-MOS ICs help to reduce power consumption.

- Excellent Environmental Characteristics
  a) No parts except the heads contact the magnetic surface of the tape—sharply reducing the possibility of dropouts.
  b) Small overall wrap angle in the tape path for smooth tape movements.
  c) A digital servo circuit which is resistant to temperature and aging.
  d) An FM modulator with an AFC circuit.

- Automatic Assemble-Edit Function
The HR-100 has a built-in automatic assemble-edit function which automatically rewinds the tape at the end of recording, and gives it a correct backspace. This feature permits complete assemble-editing merely by repeated REC button operation at the camera.

- 60-Minute Operation from Built-in Battery
The HR-100 can operate on a nickel cadmium battery (12V, 6AH) for over 60 minutes. Battery operation allows for complete mobility in field production. The HR-100 also operates on an external DC power supply.

- Video Confidence
Video signals can be simultaneously monitored during recording so that you can ascertain that you are actually recording the signals you want.

- Built-in Time Code Generator
Built-in SMPTE time code generator permits to record hours, minutes, seconds and the number of frames established previously.

HR-100. Portable Model Type "C" Recorder. Portable Battery operated Recorder conforms to all SMPTE Type "C" standards. Features Video Confidence Head, Sync Head, Built-in Time Code Generator, Back Space Editor and Digital Servo System. .. $34,500 Including: Take-up Reel, Operation/Service Manuals, Set of Extender Cards.

Accessories:
- AP-10 AC Adaptor ................................................................. $500.00
- BT-10 1 Hour Plug-in Battery ........................................... 500.00
- BU-10 Battery Unit (1 or 2 Batteries additional) .................. 1200.00
- BC-10 1 Hour Quick Charger .............................................. 500.00
- BC-10/2 1 Hour Dual Quick Charger ................................ 850.00
- CP-11 Color Playback Stabilizer ........................................ 2300.00
- RB-10 Remote Control Unit With Combination Jog/Shuttle LED Display, Edit Controls, Standby and Power Switch 500.00
- WC-10 Winter Heating Cover ............................................... 490.00
- CL-10 Carrying Case ......................................................... 317.00
- VH-10 Spare Video Head Assembly ................................. 317.00
- SPK-10 Spare Parts Kit ....................................................... 1150.00
- AL-21 Alignment Tape ........................................................ 500.00
- HH-21 Video Head Chip Height ......................................... 360.00
- SVM-HR-100 Service Manual (Spare) .................................. 60.00
- SVM-TC-200B Service Manual (Spare) ............................. 60.00

Prices and Specifications Subject to Change Without Notice.
HR-200B
1-Inch Helical VTR

- High-performance conforming to broadcast standards
- In accordance with the SMPTE Type C Standard
- Rugged construction and excellent reliability
- Ease of maintenance and service

The HR-200B design concept makes it superior professional video tape recorder which features greater durability and easy operation.

The HR-200B provides the economy of helical scan, the editing ease of film and the advantages of quadruplex.

Features
- Picture quality of broadcast standards: High-quality high band recording and reproducing systems are featured.
- Tape interchangeability: The HR-200B is completely interchangeable with 1-inch helical video tape recorders which meet the SMPTE Type C Standard.
- Rugged construction and greater reliability: The precision-cast tape transport and control block are rugged, accurate and simple in construction. Consequently, the HR-200B is highly reliable and capable of withstanding rough operating conditions.
- Improved operation with non-contact drum: since there is no contact between the video head and the tape during standby, fast forward and rewind, the lives of the heads and the tape are extended and many other operational advantages are involved.

Minimum dropouts: All parts along the tape path, except the heads, do not contact with the magnetic surface of the tape. As a result, the possibility of dropouts is reduced to a minimum.

- Easy tape loading by movable guide: An important condition to realize easy tape loading in Type C video tape recorders is acquired by the adoption of a movable guidepost.
- Steady tape travel by air guide: The air tape guides at tape entrance and exit assure steady tape travel in spite of humidity and other environmental variations. Additionally, the time necessary to get 50X-speed is reduced in shuttle mode.
- DC motors with excellent response: The drum, capstan, reels, etc. are all driven by DC motors, which combine with the air-guide effect to assure high efficiency and quick start. In the shuttle mode, the tape reaches 50 times the normal speed within only 10 seconds.

Front-access circuit boards: Most of the circuit boards can be accessed from the front for easy maintenance and adjustments. The controls which require no daily adjustment are mounted on the circuit boards. This makes a main control panel very simple.

- Easy replacement of heads: The video heads can be replaced together with the upper drum without need for adjustments and soldering.
- Video and audio confidence: Video and audio signals can be simultaneously monitored during recording so that you can ascertain that you are actually recording the signal you want. Also, optimum recording current and bias current can easily be set.
- Various controls by built-in microcomputer: Tape timer function, electronic editing function, automatic tape drive to starting position, etc. are processed by the built-in microcomputer for maximum ease of operation. In addition, the automatic editing functions can easily be expanded by the addition of an external editing console.

HR-200B
Studio Model Recorder/Reproducer
Conforms to SMPTE Type "C" Standards Includes Standard Video and Audio Confidence Heads, "Pro" Tape Path, Jog/Shuttle Control, Less Monitoring
$44,200.00

Optional Accessories
- TC-200B Digital Time Base Corrector Features 10H window, Dropout Compensation, Velocity Error Corrector, Service Manuals, Extender Cards $18,900.00
- TR-20 Time Code Reader $1,450.00
- TG-20 Color Playback Stabilizer $1,990.00
- CP-20 Remote Control Unit with Combination Jog/Shuttle, LED Display, Edit Control, Standby and Power Switch $4,850.00

HR-200B Studio Systems

HR-200B2 Studio Model Recorder/Reproducer
Conforms to SMPTE Type "C" Standards Excludes Console. Standard features are Video and Audio Confidence Heads, "Pro" Tape Path, Slow Motion, Jog/Shuttle Control, Less Monitors
$70,500.00

Includes
- HR-200B...Transport
- TC-200B...Digital TBC
- SL-20......Slow Motion
- Take-up Reel and Set of Extender Cards
- Operations/Service Manual

HR-200B3 Studio Console System
Studio Console System Model Recorder/Reproducer Conforms to SMPTE Type "C" Standards Includes Standard Console Excludes SL-20
$69,500.00

Includes
- HR-200B.....Transport
- TC-200B.....Digital TBC
- CN-200B......Studio Console
- Take-up Reel
- Operations/Service Manual

HR-200B4 Studio Console System
Studio Console System Model Recorder/Reproducer Conforms to SMPTE Type "C" Standards Includes Standard Console, Video and Audio Confidence Heads, "Pro" Tape Path, Slow Motion, Jog/Shuttle Control and Monitoring Bridge, Less Monitors
$77,000.00

Includes
- HR-200B.....Transport
- TC-200B.....Digital TBC
- CN-200B......Studio Console
- SL-20......Slow Motion
- Take-up Reel
- Operations/Service Manual
HR-210 1-INCH HELICAL VTR

Broadcast 1" VTR designed for mastering and post production houses and high-end industrial applications

Features
- Retracting entrance guide system greatly reduces tape loading difficulties
- Air support tape guide system prevents the tape from contact with the heads
- No-contact head drum extends the usable life of tape and heads, effectively preventing head clogging
- "PRO" tape path serves to reduce tape dropouts ("PRO" Protective Reverse Oxide)
- Adjustment-free head replacement no need for any special gauges, soldering or adjustments
- Optional HST (Head Scan Tracking) system for variable speed playback from 1/4 to 1-1/2X play speed.
- Both video and audio confidence
- Protection cover for tape transport
- Built-in cable compensator
- Optional dual tape timer
- Accurate and easy-to-operate editing system
  - Color framing
  - Cue shift
  - Split edit
  - Insert/assemble editing
- Autochroma standard
- Deviation marker for accurate and easy modulation setting
- Built-in color processor (option)
- Common head for PB/REC
- Video sync heads standard
- Audio spot erase
- Optional 4th audio track (EBU Type "C")
- Fully servo-controlled tape tension system with direct drive DC reel motors
- Reel brake release button (foot switch is option)
- Tape speed override for editing or network delay sync
- Spot reel capability with no switch operation
- Remote control of TBC (TC-200B) on the VTR operation panel
- Shuttle/Jog combination knob
- Tape transport light to make tape threading made easier in a darkened room
- Front access circuit modules for easy maintenance and adjustment
- Rugged tape transport of a precision aluminum alloy casting

HR-210 $80,400.00

Hitachi Production Console (HPC) System. Studio Console System Model Recorder/Reproducer Conforms to SMPTE Type "C" Standards. Standard Features are Slow Motion, Video and Audio confidence, Edit Frame Shift, Full TBC Controls on Console, Three Selectable Remote Control Parts and Monitoring Bridge, Less Monitors

Includes:
- HR-200B .......................................................... Transport
- TC-200B .......................................................... Digital TBC
- CN-210 .......................................................... Production Console
- SL-20 .......................................................... Slow Motion
- Take-up Reel and Set of Extender Cards Operations/Service Manual

Prices and Specifications Subject to Change Without Notice.
HR-300 Three Hour Type "C" VTR
Designed for 3 hours of continuous record and playback, the HR-300 extends the Hitachi VTR line and opens new opportunities in videocassette duplication, delayed network feeds and film to tape transfer, to name just a few. Based on a new transport design to handle the rigors of larger 3 hour reels, it employs all of Hitachi's exclusive features including:

- Retracting Guide
- "PRO" Tape Path
- Non-Contact Drum
- Audio and Video Confidence
- Slow-Motion 1/4 Rev - 2X FWD

The HR-300 is not merely a specialty VTR, but rather, a full production and editing machine capable of all editing functions, allowing inserts, assemblies and split edits. Additionally, slow-motion, front access electronics and full transport cover are provided. Various reel sizes from 14" to 5" plastic spot reels may be used with no modifications, adding to the HR-300's versatility.

HR-300 HST System
Three hour studio model recorder/reproducer, conforms to SMPTE type "C" standards. Features HST, precision retracting guide system, non-contact air drum, sync head, jog/shuttle control, on-board editor, front access electronics and color framing. Console features; audio monitoring, video test switching and interconnect cables. $95,000.00

System Configuration
HR-300 3 hour type "C" VTR
TC-200 Digital Time Base Corrector
CN-300 HR-300 console with monitoring bridge, less monitors
HST Slow-Motion 1/4 Rev - 2X FWD
Take-up reel, operations/service manual, set of extender cards.

HR-300 System w/o HST $87,500.00

System Configuration
HR-300 3 hour type "C" VTR
TC-200 Digital Time Base Corrector
CN-300 HR-300 console with monitoring bridge, less monitors, take-up reel, operations/service manual, set of extender cards.

Prices and Specifications Subject to Change Without Notice.
COLOR CAMERAS

PORTABLE COLOR CAMERAS

FP-10UC Portable Color Camera
The Hitachi FP-10UC is a self-contained color camera with a new High Resolution tri-electrode 1-inch SATICON pickup tube, providing the best results ever attained from a single tube camera.

• Built-in Bias Light
• ABO (Automatic Beam Optimizer)
• Serial Data Transmission System
• Full Automatic Function
• +6 dB, +12 dB High Gain Switch
• Built-in Color Temperature Filters

FP-10UC Portable Color Camera
$3,700.00

FP-21UF Portable Color Camera
• Improved Prism Beam-splitter
• Excellent Operation even in low-light condition
• Crisp and Sharp Results
• ABO (Automatic Beam Optimizer)
• Portability

FP-21UF Portable Color Camera
$10,900.00

FP-22UD Portable Color Camera
The new Hitachi FP-22UD is a professional high quality camera ideal for ENG, EFP and studio production, providing superior performance and operational simplicity.

• Improved Prism Beam-splitter
• Excellent Operation even in low-light condition
• Crisp and Sharp Results
• ABO (Automatic Beam Optimizer)
• Portability

FP-22UD Portable Color Camera
$13,900.00

PROFESSIONAL COLOR TV CAMERAS

FP-50S Color Camera
The Hitachi FP-50S is a fully developed new generation color studio camera adopting highly efficient prism optics and three 2/3-inch SATICON pickup tubes. Features include superb resolution, signal-to-noise ratio and color fidelity even under low lighting conditions.

• Lightweight
• Excellent resolution
• High Sensitivity and low noise
• Low lag
• Shading correction
• 3 position filter wheel
• Auto white balance

FP-50S Color Camera
$13,900.00

FP-60S Studio Color TV Camera
The Hitachi FP-60S Color TV Camera adopts a newly developed prism optics and three 1-inch SATICON pickup tubes, and features superb resolution, signal-to-noise ratio and color rendition. The camera head is of a sturdy diecast aluminum construction and can be used in field applications under severe operating conditions as well as studio use.

• Prism optics and 1-inch SATICON tubes
• Built-in automatic beam optimizer
• Built-in bias light
• Built-in test signals
• Tiltible viewfinder
• Dual method for color temperature compensation
• Dimensions: 15.8" x 20" x 18" (WHDI)

FP-60S Studio Color TV Camera
$26,670.00

Prices and Specifications Subject to Change Without Notice.
The Hitachi SK-81 is a new generation, ultra-light, EFP portable color television camera that provides unusually superior performance and operational simplicity.

Weighing only 4.6 kg (10.1 lb) the camera sits balanced on the operator’s shoulder and provides the operator with full freedom to concentrate on picture composition.

The rugged magnesium alloy casting and excellent circuit stability make the camera withstand rough handling and extreme conditions of heat and cold. Built-in automatics for beam current, lens iris, white balance and black balance further make it possible for the camera to operate even under wide variations of lighting conditions.

Ample accessories are available for adding usefulness in ENG/EFP applications as well as in studio use.

The Hitachi SK-81 will work with professional results wherever you have the imagination and the physical courage to take it.

**FEATURES**

- **Ultra-Light and Rugged**
  Advanced design of the camera housing with magnesium alloy casting, new construction of the optical and mechanical sub-assemblies and careful selection of the electronic parts have realized the compact, ultra-light and rugged, self-contained, hand-held camera. It weighs only 4.6 kg (10.1 lb) including 1.5-inch viewfinder and withstands rough handling and environmental extremes.

- **Improved Prism Beam-splitter**
  A newly developed, high-speed (f1.4) prismatic beam-splitter, together with low-noise pre-amplifiers, provides high sensitivity and excellent signal-to-noise ratio. A deviation of optical registration due to temperature changes and a bias light shading of the prism are also improved substantially.

- **ABO (Automatic Beam Optimizer)**
  The Hitachi developed ABO circuit greatly extends dynamic range, reduces comet-tailing and thereby guarantees easy highlight handling.

- **Auto White Balance**
  White balance is achieved automatically in half a second by the “AUTO WHT” switch, if a white object is focused in the center of the picture. Digital memory retains the white balance even after the camera is turned to standby, or the power supply is disconnected.

- **Auto Black Balance**
  Black balance is also automatic by turning on the “AUTO BLK” switch, which closes the lens iris and sets up the video black level in each color channel. Digital memory is used also for this control.

- **Auto Iris**
  Automatic iris control by video level detection maintains constant video level under wide variations of lighting conditions.

- **Video Level Indicator**
  For manual iris operation of lenses, a signal level indication of tiger stripes is superimposed on the viewfinder display.

- **Low Power Consumption**
  The SK-81 may be powered from any of a conventional battery belt, an attachable battery pack, a car battery and an AC power adaptor. Low power consumption, at single +12V DC assures continuous operation in excess of two hours with the battery belt or one hour with the attachable battery pack.

- **Auto Iris Closure**
  A lens iris is automatically closed for protecting the camera tubes from possible damage due to highlight when the camera is turned to standby. It is also closed for 4 seconds after the “AUTO BLK” switch is turned on for setting up the video black level.

- **+9/ +18 dB High-Gain Switch**
  Master gain of +9/ +18 dB operates on the gain of all three color channels simultaneously and is quite useful for the camera operation under extremely low light levels. Usable pictures with acceptable signal-to-noise ratio is provided down to 20 lux (2 fc) scene illumination at +18 dB and f1.4.

**Prices and Specifications Subject to Change Without Notice.**
EFP Color TV Camera
SK-91. The Hitachi SK-91 is a new generation, ultra-light, EFP portable color television camera that provides unusually superior performance and provides simplicity. Weighing only 4.4 kg (9.7 lb), the camera sits balanced on the operator's shoulder and provides the operator with full freedom to concentrate on picture composition. The SK-91 offers a usable picture in 5 seconds and runs for over 2 hours on a rechargeable battery belt. The rugged magnesium alloy casting and excellent circuit stability make the camera withstand rough handling and extreme conditions of heat and cold. Built-in automatics for beam current, lens iris, white balance and black balance further make it possible for the camera to operate even under wide variations of lighting conditions. Simple accessories including the Operation Panel, Remote Operation Unit, Digital Command Unit, 5-inch Viewfinder, etc. are available for adding usefulness in ENG/EFP applications as well as in studio use. The Hitachi SK-91 will work with professional results wherever you have the imagination and the physical courage to take it.

- ULTRA-LIGHT AND RUGGED - Advanced design of the camera housing with magnesium alloy casting, new construction of the optical and mechanical sub-assemblies and careful selection of the electronic parts have realized the compact, ultra-light and rugged, self-contained, hand-held camera. It weighs only 4.4 kg (9.7 lb.) including a 1.5-inch viewfinder and withstands rough handling and environmental extremes.

- SHOCK- AND VIBRATION-FREE - A shock-mounted optical system, with prism, yokes and tubes packaged as a single assembly, assures registration stability and makes the camera virtually immune even to the most shock, vibrations and jolts encountered in transportation.

- RF INTERFERENCE-FREE - Improved shields for tubes, yokes and preamplifiers guarantee practically interference-free operation even in the 1206B electro-magnetic field from MF to UHF.

- IMPROVED PRISM BEAM-SPLITTER - A newly developed, high-speed (1/4) prismatic, beam-splitter, together with low-noise pre-amplifiers, provides high sensitivity and excellent signal-to-noise ratio. A deviation of optical registration due to temperature changes and a bias light shading of the prism are also improved substantially.

- ABO (AUTOMATIC BEAM OPTIMIZER) - The built-in ABO circuit greatly extends dynamic range, reduces comet-tailing and thereby guarantees easy highlight handling.

- SHADING CORRECTION - Adjustable H/V sawtooth, parabolic and portholing axis shading correction for each color channel, and also V sawtooth modulation shading correction are adopted to assure perfectly flat pictures.

- 2H CONTOUR CORRECTION - 2-line horizontal and vertical out-of-gain signals, level dependent with coring and comb-filtering, are added to R, G and B channels to ensure optimum picture sharpness with minimum noise contribution.

- GAMMA CORRECTION - Gamma correction is continuously adjustable in each color channel from 0.35 to 1, which permits easy matching to other cameras.

- LINEAR MATRIX MASKING - A linear matrix masking amplifier is built-in to high-fidelity color rendition and fine-tone-matching among the cameras.

- AUTO IRIS - Automatic iris control by video level detection maintains constant video level under wide variations of lighting conditions.

- AUTO WHITE BALANCE - White balance is achieved automatically in half a second by the "AUTO Whit" switch, if a white object is focused in the center of the picture. Digital memory retains the white balance semi-eternally even after the camera is turned off or to standby, or the power supply is disconnected.

- AUTO BLACK BALANCE - Black balance is also automatically by turning on the "AUTO BLK" switch, which closes the lens iris and sets up the video black level in each color channel. Digital memory is used also for this control.

- VIDEO LEVEL INDICATOR - For manual iris operation of lenses, an oversignal indication of tiger stripes is superimposed on the viewfinder display.

- AUTO IRIS CLOSURE - A lens iris is automatically closed for protecting the camera tubes from possible damage due to highlight when the camera is turned off or to standby, and for setting up the video black level when the "AUTO BLK" switch is turned off.

- 4-POSITION FILTER DISC - A filter disc includes 3200°K, 4700°K, 6000°K +50% ND, and 0% ND filters. These filters, together with the auto white balance and acto iris, provide sufficient color temperature compensation and scene illumination correction.

- POWER SUPPLY OPTIONS - The SK-91 may be powered from any of a conventional battery belt, an attachable battery pack, a car battery and an AC power adaptor. Low power consumption of mere 20W at single +12 V DC assures continuous operation in excess of two hours with the battery belt or one hour with the attachable battery pack.

- LOW BATTERY VOLTAGE WARNING - A flashing LED in the viewfinder alerts the cameraman to low battery voltage.

- STANDBY/OPERATE SWITCH - The camera draws only 5% of the normal power in the "STANDBY" mode. Return to the "OPERATE" mode is accomplished in a few seconds.

- +9/ +18dB HIGH-GAIN SWITCH - Master gain of +9/ +18dB operates on the gain of all three color channels simultaneously and is quite useful for the camera operation under extremely low light levels. Usable pictures with acceptable signal-to-noise ratio is provided down to 20 lux (2 fc) scene illumination at +18dB and +1.4 lux at +9dB.

- MASTER BLACK CONTROL - Master black level control is provided for brightness matching to other cameras.

- REGISTRATION CONTROLS - H/V centering trim pots in R and B channels and R, G, B-R, B-G monitor outputs are provided to check and control fine registration.

- SPLIT-FIELD COLOR BARS - A built-in color bar generator produces split white with 75% and 100% white as well as six hues and black. This makes it easy to set 100% modulation level in VTR recording.

- SEPARATE VIDEO OUTPUTS - In addition to the two isolated encoded video outputs for line and VTR, a separate monitor output is provided. This delivers R, G, B-R, B-G or encoded video signal by switch selection.

- RETURN VIDEO INPUT - An external synchronous or non-synchronous composite video signal may be switched in the viewfinder.

- GENLOCK INPUT - A built-in sync generator can be genlocked to an external color composite or black burst signal. Horizontal pulse timing and sub-carrier phase are adjustable. In a PAL model the genlock unit is externally attached to the camera.

- BLANKING WIDTH ADJUSTMENT - Both H and V blanking widths are adjustable over a wide range to compensate for the errors introduced into the recorded video signal in the recording/time base correction/aligning process.

- HIGH-RESOLUTION VIEWFINDER - A 1.5-inch, tiltable, high-brightness, high-resolution viewfinder with a magnifying eyepiece assures precise focusing and picture composition. A built-in peaking circuit further assists in obtaining sharp optical focusing of the lens. An optional 5-inch viewfinder is also available for studio use.

- VIEWFINDER INDICATORS - The 1.5-inch viewfinder includes the following indicators: tally, white balance, video level (tiger stripe), battery voltage and VTR record.

- HI-FI MICROPHONE AMPLIFIER - A built-in microphone amplifier accepts a mike having output level from -45 to -80dBm. Two-time-constant limiting amplifier assures natural sounds even when a sound level varies abruptly.

- VTR TRIGGER BUTTON - A trigger button is provided on the lens for remote control of a portable VTR. VTR record is indicated in the viewfinder with an LED.

Prices and Specifications Subject to Change Without Notice.
DK-5000 Series Super Small 3-Tube Color TV Camera for Medical or Laboratory Use

The Hitachi DK-5000 series is a complete system of 3-tube color television cameras for medical use including microscope systems. For surgical operation, medical research and education, microscopic inspection, and other applications, the camera views the image as the human eye does, and the pictures are displayed conveniently on color monitors.

For general medical applications, an optional 1.5-inch viewfinder attached to the camera head makes camera focusing and framing simple.

In microscope applications, when the camera head prevents you from viewing into the microscope eyepiece, you can choose the model, DK-5001, which is the same size as the DK-5000 but rotated 90° in mounting angle. Optional accessories, such as a microscope adaptor, automatic light control unit, etc., are available for microscope applications.

Dimensions and Weight

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions (W x H x D)</th>
<th>Weight</th>
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<tbody>
<tr>
<td>DK-5000 Camera Head</td>
<td>80mm x 258mm x 185mm</td>
<td>2.5 kg</td>
</tr>
<tr>
<td>DK-5001 Camera Head</td>
<td>258mm x 80mm x 185mm</td>
<td>2.5 kg</td>
</tr>
<tr>
<td>DE-5000 Def. Unit</td>
<td>433mm x 43.5mm x 252mm</td>
<td>3.5 kg</td>
</tr>
<tr>
<td>CU-5000 CCU</td>
<td>433mm x 132.5mm x 360mm</td>
<td>16 kg</td>
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</tbody>
</table>

FEATURES

- Faithful color fidelity. Separate R G and B video outputs are available at the rear of the CCU for use with an RGB color monitor. This method gives better resolution and eliminates phase errors in the color signal.
- Automatic white balance. Color balance of the R G and B channels is achieved automatically by pressing the "AUTO WHITE" button on the scene with white content. White balance is retained by an IC memory for over two days even with camera power off. Manual white balance is also available (optional module).
- Color tone control. Fine color tone matching between the monitor display and the object is adjusted by the "COLOR TONE" control. This does not affect the white balance.
- +6/ +12 dB high gain switch. Camera sensitivity can be increased by a factor of two (+6 dB) or four (+12 dB) as required for dark scenes by a convenient control on the CCU.
- Detail correction. The self-contained horizontal detail correction circuit ensures sharp pictures. An optional one-line vertical detail unit further adds picture contour sharpness.
- Multiple synchronization. Color sync generator (NTSC) is incorporated to permit completely independent camera operation. If the synchronous operation of more than one camera is desired for system integration, external drive or optional genlock synchronization is available. In the "EXT" mode of operation, the external drive pulses supplied to the respective inputs can drive the camera sync system. If an optional genlock unit is used, the camera sync generator can be locked to external color composite or black burst signal.
- Built-in color bar generator. A built-in full-field color bar signal generator facilitates the correct adjustment color monitors.
- Operational flexibility. The 19-inch rack-mountable camera control unit (CCU) can be separated from the camera head by up to 300 m (900 ft.) and has easy access to the "POWER", "AUTO WHITE" and "COLOR TONE" controls for routine operation. The camera deflection unit can also be mounted in the 19-inch rack and separated from the camera head by 20 m (60 ft.). It has all the controls necessary for the camera head.
- Prices available on request

*and** Trademark

Prices and Specifications Subject to Change Without Notice.
**SK-96**

**Studio/Field Hand-Held Convertible Color TV Camera**

In addition to being a convertible studio/field and hand-held camera, the SK-96 also has a complete Camera Control Unit (CCU). With the SK-96, you can produce programs anytime, anywhere with assurance of superior picture quality.

**FEATURES**

**Excellent Picture Quality**
- Three ½-inch SATICON* tubes (H8397A) and an extra-small, highly efficient beam-splitting prism provide 500-line horizontal resolution and a signal-to-noise ratio of more than 51dB.
- Built-in 2H contour corrector with comb filter guarantees sharp, crisp pictures.
- Built-in linear matrix masking amplifier gives high-fidelity color rendition.
- Standard I & Q encoder with switchable color bar generator produces full bandwidth signals.

<table>
<thead>
<tr>
<th>Package</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK-96</td>
<td>Convertible Studio/Portable 3 Tube Saticon or Plumbicon*, Camera with optional Triax available, Features ABO, 2 Line Enhancer 550 lines resolution</td>
<td>$44,975.00</td>
</tr>
<tr>
<td>PK-96</td>
<td>Portable Camera System</td>
<td>$5,000.00</td>
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<tr>
<td>SKP-96</td>
<td>Portable Camera System</td>
<td>$39,735.00</td>
</tr>
</tbody>
</table>

**Features**

- **Camera Head**
  - HP-96 Camera head
  - SP-60 Shoulder pad
  - VF-151 1.5" Viewfinder
- **Camera Control Unit (CCU)**
  - CU-96 Cam. control
  - MK-96 Maint. kit
- **Camera Cable**
  - C-050-UC 50" camera cable
  - C-100-UC 100" camera cable
  - C-200-UC 200" camera cable
  - C-300-UC 300" camera cable
  - C-600UC 600" camera cable
  - CMC-UC Mating connector to join cam. cables

**Accessories**

- WFM-96 RGB Sequence plug-in module
- OP-96 Operation panel

**Specifications**

- Digital Cable Adaptor (for studio) $21,500.00
- C-101UC Cable included $780.00
- H-8397A Spare Saticon $1,680.00
- BD-96 Battery pack w/ battery $780.00
- BB-96 Battery charger $750.00
- CLC-96 Carrying case for CCU $357.00
- CLS-96 Carrying case for studio head $357.00
- SPK-96 Spare parts kit $970.00
- SVM-96 Spare service manual $150.00
- TT-96 Training tape $75.00

**Lens Kit**

- A10X10RS Portable 10:1 10-100mm F1.9 $3,425.00
- A12X10RS Portable 12:1 10-120mm F1.9 $4,500.00
- A14X11AERS Portable 14:1 11-154mm F1.9w/2X $6,796.00
- A17X9AERM Portable 17:1 9-153mm F1.7w/2X $10,830.00
- A10X10.5RV Studio 10:1 10-105mm F1.4 $7,125.00
- A22X12.5ERV Studio 22:1 12.5-275mm F1.6w/2X $24,690.00
- AF6A Portable 6mm F1.4 $3,150.00

**Prices and specifications subject to change without notice**
CAMERA HEAD

• Highly efficient prism optics: A newly developed f.1.8 prism optics are used in conjunction with 1-1/4" Plumbicon tubes to provide a high signal-to-noise ratio of 54 dB at 2000 lux and f/5.6. The optical filters have been dust-proofed to virtually eliminate dust problems.

• Six-position ND and color filter discs: Two filter discs, one for ND filters and the other for color filters have been provided, with independent filter selection for each of the RCU and the SCU. The discs are servomotor driven and may be rotated in either direction.

• Image pickup: The compact design and optical axis accuracy: By using an independent four-corner adjustable dynamic registration compensation unit, compensation is achieved to within 0.05% over the entire picture area is possible. This can be achieved by means of either the auto-setup or the remote control from the SCU. The compensation data is stored in RAM memory with a back-up battery. The optics, coil assemblies and zoom lens are mounted as a unit to ensure that mechanical distortion does not affect the optical system or coil assemblies and to eliminate the effects of external mechanical stresses on registration and optical axis accuracy.

• Comet tails eliminated by ABO (Automatic Beam Optimizer): The Hitachi developed ABO circuit allows comet tails to be increased up to 16 times versus 4 times the normal setting for conventional systems, a limitation imposed by considerate picture quality. This means that comet tails can be eliminated without the usual accompanying misregistration, loss of resolution, and increase in dark current.

• High-performance viewfinder: A bright, high-resolution CRT has been used in the viewfinder to provide an easy-to-view image even for outdoor shooting. The viewfinder can be tilted from +25° to -45° and rotated ±90° to set it at any arbitrary angle.

• Easy-to-use video select button: R, G, B, minus G, and two return video signals (AUX-1 and AUX-2) can be switch-selected as the video select signal.

• Convenient monitor output on the camera head: A separate video output has been provided on the camera head to be used for floor monitors, etc.

• Red and green tally: The viewfinder is provided with both red and green tallies, the red one for live shooting and the green one used for VTR recording.

• Built-in microphone amplifier: The camera head is provided with a built-in microphone amplifier with limiter. The audio output is balanced to prevent the pickup of noise from the camera cable.

• Test signals provided to simplify setup: Test signals are used for easy calibration of the output of each amplifier stage. The test signals are applied in sequence, starting from the preamplifier and walking back until the preamplifier is calibrated. The test signals may be applied to the input of the preamplifier first stage, process amplifier-1 and process amplifier-2, and consist of a 100% and 200% level amplifier-first stage, process amplifier-1 and process amplifier-2, and consist of a 100% and 200% level sawtooth waveform which can be used for level calibration as well as verification of gamma, knee point, slope and clipping point.

• Design for easy servicing: The camera head and CCU PC boards are simple to remove and 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 to the dolly.

CCU

• Compact design: The CCU is designed as a dedicated camera control unit for computer controlled cameras. Both the video processing section and the computer section have been housed in one compact package.

• Linear matrix masking: A built-in linear matrix masking circuit is provided and ensures faithful color reproduction and easy tone matching among cameras.

• High-performance contour corrector: Compensation signals derived from the R and G channels provide clear, crisp images of even 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 have been provided to reduce 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: The pickup tube beams are switched on and the camera operates.

• Genlock: The SK-110 is genlocked to an external sync signal when composite sync and subcarrier signals are applied. Horizontal and subcarrier phases can be adjusted manually. If required, genlocking by means of a black burst signal can also be provided.

• 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.

• High-reliability LSI process amplifier: Camera picture quality is greatly affected by the stability of the process amplifiers used. LSI process amplifiers have been used in the SK-110 camera to provide stable operation with respect to temperature variations and eliminate variations between channels. They provide both picture quality and high reliability and represent the most advanced step in a camera of this class.

• 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. A circuit has been provided which can be used to provide swinging of horizontal deflection by means of an externally applied low 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.

• Iris: In the Auto Iris mode the lens iris is automatically adjusted according to subject illumination. In manual mode, the center value and adjustment range of the iris are set by the sense and range controls of the SCU or RCU. This feature makes operation in the studio where light variations are small extremely simple. The iris values are visible on the SCU and RCU LED display.

AUTOMATIC SETUP

• Zero method control: The zero method of control is capable of controlling the R, G, and B channels, thus eliminating the troubles and synchronization of the G channels required in the G channel reference method. The system has been completely automated, and a parallel control system can set up multiple cameras simultaneously in just 2 minutes.

• Control of multiple cameras: 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 up to 42 cameras using two SCUs, providing all the flexibility you will ever need.

• Automatic setup modes: Five automatic setup modes have been provided: full, registration, color balance, G-reference, and white balance. These can be selected from to suit the picture conditions at the time. In addition, manual control from either the SCU or RCU is possible, with all normal operational controls accessible manually.

• Data files: Five data files are provided except for the AUTO data file. Automatic setup data is automatically stored in the AUTO data file. It is possible to store or erase the manual setup data from the SCU in the five data files by operating the entry or reject switch.

• Fault diagnosis: Fault diagnosis of the camera video system, power supply and pulse system is performed automatically to detect failures. Diagnosed results are printed out on the typewriter. This system has greatly simplified camera maintenance by providing quick and accurate information on failures.

• Quick check: When the SCU Check switch is depressed, registration (G-reference) and color balance (G-reference) are automatically checked and, if the required accuracy is not being obtained, the readjustment is automatically made.

• Scroll display and automatic setup status display: The results of the fault diagnosis and the quick check are displayed on a scrolled picture monitor character display. The scrolling display may be stopped at any desired point for viewing. The status of the automatic setup function (controlled parameters and their status) may also be viewed on the picture monitor character display.

• Remote control: The SCU, TSU, DSU, and CCU may be connected with just three twisted-pair cables and be separated from one other by up to 1000m (3000 ft.). The CCU and RCU may be connected using one twisted-pair cable and separate up to 100m (300 ft.). If the power supply is provided externally to the RCU the distance to the CCU can be extended up to 1000m (3000 ft.).

COLOR TV CAMERA

SK-110 Broadcast Quality Camera

$78,000.00

Prices and Specifications Subject to Change Without Notice.
**GP-6M Saticon**
The Hitachi GP-6M color camera makes use of a 2/3" SATICON pickup tube employing a single-frequency separation system. It has a variety of useful features such as Auto-Iris and power zoom used with standard 6x zoom lens and is provided with a 1.5" tiltable electronic viewfinder, and a removable boom-type electret condenser microphone is also included making the GP-6M a full-feature shoulder-type camera.

**Features**
- Bright, sharp picture even at 50 lux using a high-sensitivity Saticon tube
- 6x power zoom lens with built-in Auto-Iris and exposure compensation functions
- A simple white balance control allows adjustment of color at any time to ensure beautiful color picture
- A Power-Save switch cuts the power-consumption of the GP-6M to 1/10 of normal power
- A unidirectional boom microphone picks up just the sound at which you are aiming
- An electronic viewfinder enables monitoring of recorded pictures
- Built-in Macro function adds a new dimension to video recording
- Designed-in ease-of-use. Both zoom and switches are one-hand operable

### VM-Series B/W Video Monitors

**Common Features**
- Reliability: Solid state circuitry using an IC and silicon transistors ensures high reliability
- Stable picture: Even played back pictures of VTR can be displayed without jittering
- Looping video input: Video input can be looped through with built-in termination switch
- External sync operation (available as option for U and C types)
- Front panel controls: Brightness, contrast, vertical hold, horizontal hold, power ON/OFF

### VM-910A 9" Monitor
The Hitachi VM-910 is a solid state black and white video monitor that displays video signals from Hitachi CCTV cameras, VTRs and other signal sources.

**Features**
- 500 lines horizontal resolution: Horizontal resolution in excess of 500 lines is achieved at picture center
- Compact construction: Two monitors are mountable side by side in a standard 19" rack
- Dimensions: 8.6"W x 8.6"H x 9.2"D (219 x 219 x 234mm)
- Weight: 13.2lb. (6 Kg.)

### VM-906A 9" Monitor
The VM-906 is an IC-incorporated, transistorized video monitor. It offers high resolution and high deflection linearity. This model is a high-grade video monitor capable of fulfilling all requirements.

**Features**
- 700 lines horizontal resolution: Horizontal resolution in excess of 700 lines is achieved at picture center
- Excellent linearity: Deflection linearity is less than 1%
- DC restoration switch
- Compact construction: Two monitors are mountable side by side in a standard 19" rack
- Dimensions: 8.6"W x 8.6"H x 9.2"D (219 x 219 x 234mm)
- Weight: 14.3lb. (6.5 Kg.)

### VM-129 12" Monitor
The Hitachi VM-129 is a solid state black and white video monitor that displays video signals from Hitachi CCTV cameras, VTRs and other signal sources.

**Features**
- 700 lines horizontal resolution: Horizontal resolution in excess of 700 lines is achieved at picture center
- Excellent linearity: Deflection linearity is less than 1%
- DC restoration switch
- Dimensions: 12.5"W x 11.2"H x 12.5"D (318 x 284 x 316mm)
- Weight: 22lb. (10 Kg.)

### VM-173 17" Monitor
The Hitachi VM-173 is a solid state black and white video monitor that displays video signals from Hitachi CCTV cameras, VTRs and other signal sources.

**Features**
- 700 lines horizontal resolution: Horizontal resolution in excess of 700 lines is achieved at picture center
- Excellent linearity: Deflection linearity is less than 2%
- DC restoration switch
- Dimensions: 16.1"W x 15.2"H x 13.3"D (408 x 386 x 337mm)
- Weight: 37.5 lb. (17 Kg.)

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*Prices and Specifications Subject to Change Without Notice.*
HITACHI
Hitachi Denshi, Ltd.

V-059B Portable Waveform Monitor/Oscilloscope With Battery

AD-058B
Model V-059B combines a TV waveform monitor and a single trace 7 MHz portable oscilloscope in a small, lightweight body (6.4 lbs.). Features include keyed DC restorer; TV Sync-separator with automatic LINE/FIELD rate triggering selection by Time/div control; and AC, DC or rechargeable battery powering capability. It is ideal for video equipment servicing applications and for monitoring TV waveforms in electronic field production. The V-059B has a 10 mv/div deflection factor at 2 MHz bandwidth. A 3-½ inch 8 x 10 div rectangular internal graticule CRT assures accurate and easy measurements. The V-059B has a battery protection circuit.

FEATURES
Small size and lightweight: 6.4 lbs.
AC, DC or battery powered
Sharp trace CRT with parallax-free internal graticule
Keyed DC Restorer for TV waveform monitoring application
TV Sync separator automatic LINE/FIELD rate triggering selection by time/div control switch
Selectable input impedance, 1M ohm/75 ohm
Low line/battery voltage warning indication and battery protection
All-solid-state reliability and easy maintenance
15-position carrying handle optimizes viewing angle
2V/2H sweep rate selectable
External Horizontal sweep mode provided
External -40, 0, 100 IRE Unit graticule on light filter
Charging indication by brightness of LED

COMPOSITION
1. V-059B oscilloscope .1
2. AD-058B battery pack .1
3. External graticule (attached to oscilloscope) .1
4. AT-10P1.5 probe .1
5. Protective cover .1
6. Alligator attachment .1
7. Screw driver for adjustment .1
8. Pincher tip .1
9. Viewing hood .1
10. Needle tip attachment .1
11. Ground lead .1
12. Alligator attachment .1

DIMENSIONS
Height ........................................... 85 mm - 3.35"
Width ........................................... 198 mm - 7.8"
Depth ........................................... 252 mm - 11.5"
Net Weight .................................... 2.9 kg - 6.4 lbs.

Prices and Specifications Subject to Change Without Notice.
BODY-PAC WIRELESS MICROPHONE SYSTEMS

SYSTEM 22 - WORKHORSE OF THE PROFESSIONAL LINE

Physically the same as the 22E but without Dynamic Expansion, the System 22 handles the full 95dB input range by the use of a fast attack, slow release soft compressor built in to the transmitter. The compressor function is adjustable to suit your preference, from 4:1 to hard limiting.

Included are all other outstanding features of the 22E.

The System 22 consists of a rugged pocket transmitter, for use with your own dynamic or electret microphone, and a broadband professional receiver. Both are packaged in a fitted road case.

The System 22E - WITH DYNAMIC EXPANSION

Incorporating HME’s Dynamic Expander circuits, the 22E allows an incredible 96 dB dynamic range without limiting.

The 22E consists of a rugged pocket transmitter, for use with your own dynamic or electret microphone, and a broadband professional receiver. Both are packaged in a fitted road case.

SYSTEM 24E - PROFESSIONAL UHF LO-BAND (400-470 MHz) WIRELESS MICROPHONE SYSTEM

The System 24E Professional UHF Microphone System is designed for applications requiring the highest quality in sound reproduction and reliability. The HME System uses the FM (frequency modulation) transmission method in the UHF band, plus an audio processing technique called Dynamic Expansion. By using HME Dynamic Expansion, the System 24E reproduces the input signal linearly up to 95 dB at the balanced audio output. In other words, a Dynamic Expansion receiver provides a balanced, 600 ohm line level or mic level output, plus a completely separate monitor output with independent front-panel level control. A power logic circuit provides automatic, transient-free selection of ac power, external battery and then internal battery for interruption-free programming (internal batteries are optional). A large meter face indicates audio and RL levels plus battery condition. Add an AD-5 or AD-10 antenna diversity system to insure dropout free reception.

SYSTEM 42M - READY-TO-USE II-BAND PERFORMANCE

The “Executive” System 42M is recommended for applications requiring high quality sound and minimal installation or adjustments. The transmitter comes complete with a small microphone and antenna permanently attached. All of the features and advantages of the WM 125 Professional transmitter, with the exception of audio limiting, are found in this system.

The matching receiver contains all of the fundamental qualities of the WM 125. It retains all of the radio frequency features, and may be operated 200 ft from the microphone under adverse conditions, or up to 1000 ft. line-of-sight. The full frequency response of the Executive system and the radio frequency advantages of Hi-Band makes it ideal for music as well as voice.

SYSTEM 42C - ADAPTABLE TO YOUR MICROPHONE

If you prefer to use your own microphone, including a hand-held mic, the Model 42C comes with a standard XL 3-pin connector on a four foot cable attached to the transmitter.

The advantages of a Diversity System (HME Models AD-5 or AD-10) can be utilized with the System 42.

SYSTEM 42E - HI-QUALITY PERFORMANCE FROM A LO-BAND SYSTEM

This easy-to-use wireless microphone system brings the freedom of cord-free performance to every user. The “Universal” System 42E is ideal for lectures, presentations, auctions and other activities not requiring professional sound performance. Using HME’s exclusive Dynamic Expansion, you won’t hear ignition noise interference, or annoying business radios. We’re also using newly created radio frequencies for Low Power Devices only. Other New Features: Battery Status Lite Indicator - Diversity Antenna reception - Balanced audio output option.

Three systems can be used simultaneously with an expected operating range of 50 feet under most conditions, or up to 150 feet line-of-sight. Both transmitter and receiver are crystal controlled for table operation. The matched receiver has a single-ended audio output that plugs right into an existing PA system or other amplifier.

BODY-PAC WIRELESS MICROPHONE SYSTEMS

SYSTEM 49MHz CAT. NO. 150-174MHz CAT. NO. 174-216MHz CAT. NO. 400-470MHz CAT. NO. PRO NET

22 3501-01 3501-02 $1,945.00
22E 3501-03 3501-04 $2,195.00
22F 3501-11 3501-12 $2,925.00
22EF 3501-11 3501-12 $2,925.00
22F 3501-11 3501-12 $2,925.00
22EF 3501-11 3501-12 $2,925.00
24EF 3501-11 3501-12 $2,925.00
22R 3501-21 3501-22 $1,320.00
22R 3501-21 3501-22 $1,320.00
42M 3515-01 $1,085.00
42M 3515-01 $1,085.00
42C 3515-03 $1,015.00
42C 3515-03 $1,015.00
42F 3501-02 3501-03 $7,715.00

Prices and Specifications Subject to Change Without Notice.
HAND HELD WIRELESS MICROPHONE SYSTEMS

SYSTEM 25 - COMPRESSOR/LIMITER MAKES MIXING EASY
HME’s “soft compressor” is built into this microphone for superb sound quality from soft to loud passages. The levelled output is easy to match without difficult mixing. Stylized with a satin finish housing and capped with an ultra-short antenna, the transmitter uses your choice of a Shure SM57 or SM58 element. The receiver is the same as that used on the System 22.

SYSTEM 25E - WITH DYNAMIC EXPANSION
The System 25E can be used interchangeably by singers with soft voices and high-level rock vocalists – without adjustment.

The hand-held transmitter includes a Shure SM57 or SM58 head, especially good for close-up work. An ordinary 9-volt alkaline battery powers the unit for 8 hours, and can be changed in 10 seconds. VHF Hi-band design and crystal control assures interference-free and drift-free operation up to 500 ft. in line-of-sight applications, or 100 ft. in adverse conditions.

The receiver is the same as that used in the System 22, with Dynamic Expansion, balanced outputs plus separate monitor amp.

SYSTEM 27E - PROFESSIONAL UHF LO-BAND
(400 - 470 MHz) HAND HELD WIRELESS MICROPHONE SYSTEM
HME’s “studio quality” Hand-Held Microphone System is now available on UHF Lo-Band frequencies. The same superb audio qualities characteristic of HME’s VHF Systems are designed into the UHF System. For example, HME Systems use the FM (frequency modulation) transmission method in the UHF band, plus an audio processing technique called Dynamic Expansion. By using HME Dynamic Expansion, the System 27E reproduces the input signal linearly up to 95 dB and has complete immunity to interference from FM broadcast stations. Up to four systems can be used simultaneously.

The System 27E consists of a Hand-Held Transmitter and a Receiver. The transmitter is 27 cm (10 3/4 inches) long and contains all the electronics in the barrel portion. The receiver is simple to operate and comes equipped with ship antenna. The receiver can also be battery operated. Balanced audio output is provided at either MIC or "LINE" level.

SYSTEM 25F - FLAT PAC CONVENIENCE
The WM-155 receiver in this system offers transformer-coupled outputs, battery operation, stable crystal-controlled operation with Autolock AFC. It may be powered directly from a Nagra recorder, for example, to make a perfect combination for remote interviewing. The hand-held transmitter uses the compressor/limiter function of the System 25.

SYSTEM 25EF - WITH FLAT PAC RECEIVER AND DYNAMIC EXPANSION
HME’s new Flat Pac is a perfect receiver for remote work. The 25EF uses the same hand-held transmitter as the 25E but includes the WM-152 battery-operated Dynamic Expansion receiver.

HAND HELD WIRELESS MICROPHONE SYSTEMS

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>150-174MHz</th>
<th>174-216MHz</th>
<th>400-470MHz</th>
</tr>
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<tbody>
<tr>
<td>25</td>
<td>(SM-58)</td>
<td>3514-01</td>
<td>3514-02</td>
</tr>
<tr>
<td>25E</td>
<td>(SM-58)</td>
<td>3528-01</td>
<td>3528-02</td>
</tr>
<tr>
<td>27E</td>
<td>(SM-58)</td>
<td>3528-03</td>
<td>3528-04</td>
</tr>
<tr>
<td>25F</td>
<td>(SM-58)</td>
<td>3514-11</td>
<td>3514-12</td>
</tr>
<tr>
<td>25EF</td>
<td>(SM-58)</td>
<td>3528-11</td>
<td>3528-12</td>
</tr>
<tr>
<td>27EF</td>
<td>(SM-58)</td>
<td>3528-13</td>
<td>3528-14</td>
</tr>
<tr>
<td>25R</td>
<td>(SM-58)</td>
<td>3514-21</td>
<td>3514-22</td>
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TRANSMITTERS

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>CATALOG NO.</th>
<th>PRO NET</th>
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<tbody>
<tr>
<td>WM 222</td>
<td>3524-81</td>
<td>$860.00</td>
</tr>
<tr>
<td>WM 222-TV</td>
<td>3524-82</td>
<td>$860.00</td>
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<tr>
<td>WM 225A</td>
<td>3501-83</td>
<td>$756.00</td>
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<tr>
<td>WM 225A-TV</td>
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<td>WM 242</td>
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<td>WM 250-TV</td>
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<td>WM 252</td>
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<td>WM 252-TV</td>
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<td>WM 262</td>
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<tr>
<td>WM 400C</td>
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<td>WM 400M</td>
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<tr>
<td>WM 640</td>
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RECEIVERS

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<th>CATALOG NO.</th>
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<td>WM 125</td>
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<td>WM 142</td>
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<td>WM 152</td>
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<td>WM 156</td>
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<tr>
<td>WM 172</td>
<td>3540-02</td>
<td>$1,650.00</td>
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<tr>
<td>WM 300</td>
<td>3516-01</td>
<td>$560.00</td>
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<tr>
<td>WM 540</td>
<td>3532-01</td>
<td>$375.00</td>
</tr>
</tbody>
</table>
150E 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** — Unlimited number of remotes may be used for push-to-talk communication.
- **Hard-Wired System Interface** — Provides for expanding almost any hard-wired intercom system to include full-duplex or push-to-talk wireless stations. Full inter-system level control.
- **Ultra Compact Remote Transceivers** — Single unit, metal enclosed, belt trans-receivers are only 5 1/2” x 3 1/4” x 1 1/8” small and 10 oz. light.
- **Only 1 VHF High Band Channel Required** — To conserve available wireless microphone channels, the remote transceivers transmit in the VHF Mid band. The base station uses only one channel in the VHF Hi-band.
- **HME Dynamic Expansion** — Assures clean, noise-free operation with a dynamic range of at least 80 dB.
- **Integrated Base Station** — Compact, convenient base station contains all functions and controls as supplied, including one receiver module. For added full-duplex stations, additional receiver modules are simply plugged in as needed.
- **Loop-Around Sidetone** — Presence of clear sidetone verifies communications, since transmissions from each remote are re-broadcast by the base station as received.
- **Headset/Microphone** — Supplied with each station (Beyer DT 108).

The need for reliable, hands-free high quality communication between several people is obvious and diverse. The HME 150E Series is ideally suited to many of these needs.

The IC-150 Base Station is the hub of the system, combining the functions of base transmitter and receiver(s), wired system interface and control center in one compact unit. It 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 transmission 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 four different frequencies). In push-to-talk operation, all MT-1000’s may use the same transmit frequency. Operator sidetone is provided through rebroadcast of the receive signal by the IC-150, automatically confirming receipt of communication.

**Specifications**

**IC-150 BASE STATION**
- Audio Frequency Response: 300 Hz - 3 KHz
- Operating Frequencies:
  - Transmit: 150-174 MHz (One channel)
  - Receive: 26.1-26.48, 30-35 or 72-76 MHz (up to four channels in any one band)
- Dynamic Range: Greater than 80 dB
- Distortion: Less than 3%
- Transmit Power: 100mW
- Receiver Sensitivity: 1uV for 20 dB quieting
- Wired System Interface:
  - Level: - 3 volts (adjustable)
  - Impedance: 200 ohms
- Size: 11” x 6” x 2-1/2’
- Weight: 3 1/2 lbs.

**MT-1000 REMOTE TRANSCEIVER**
- Audio Frequency Response: 300 Hz - 3 KHz
- Operating Frequencies:
  - Transmit: 26.1-26.48, 30-35 or 72-76 MHz
  - Receive: 150-174 MHz
- Dynamic Range: Greater than 80 dB
- Distortion: Less than 3%
- Transmit Power: 75 mW
- Receiver Sensitivity: 1 UV for 20 dB quieting
- Power Requirement: 2 x 9 Volt Alkaline (8-10 hours continuous)
- Size: 5 1/2” x 3 1/4” x 1 1/8”
- Weight: 13 oz. (with batteries)
- Mounting: Belt clip

**AM-150 TRANSMIT/RECEIVE ANTENNA MATCHING SYSTEM**
In adverse environments, it may be advantageous to place the IC-150 Antenna in an elevated or distant position. The AM-150 TRAM System matches a single antenna to standard 50 ohm coaxial cable at both transmit and receive frequencies to permit remote placement.

**RM-150 RECEIVER MODULE**
The IC-150 is normally supplied with one receive channel, providing for one full-duplex remote or any number of push-to-talks. An additional RM-150 must be inserted for each additional full-duplex station required (up to 4 total).

Prices and Specifications Subject to Change Without Notice.
WIRELESS MICROPHONE SYSTEM ACCESSORIES

- Three-level input selection on all four "MIC" inputs (-55, -40 line)
- Dual output, balanced "MIC" and "LINE"
- Color coordinated knobs for convenient MIC identification
- Ultra-low noise and distortion
- Low distortion tone oscillator
- LED INDICATORS FOR AUDIO PEAKS AND BATTERY CONDITION
- Isolated mix bus inputs/outputs for cascading units
- Portable — AC or battery operated

The MX-40 Professional Microphone Receiver was designed primarily for portable applications where size, weight, and rugged construction are important, in addition to reliable, studio-quality audio performance. The wide variety of options available for powering the MX-40 are 115/230V ac, and dc from 10 to 35 volts (two 9-volt alkaline batteries can easily power the unit for almost 4 hrs.).

FR-100 FIELD PAC RECEIVER CASE

Convenience, versatility and protection are features of the FR-100 Field Pac. Storage in cover. Rugged aluminum case.

MODEL MX-40 PROFESSIONAL FOUR-CHANNEL MICROPHONE MIXER

ANTENNAS AND ANTENNA CABLES

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>DESCRIPTION</th>
<th>CATALOG NO.</th>
<th>PRO NET</th>
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</thead>
<tbody>
<tr>
<td>AN-10</td>
<td>Rx Ant, Hi-Band Dipole, w/Cable</td>
<td>3518-01</td>
<td>$82.50</td>
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<tr>
<td>AN-20</td>
<td>Rx Ant, UHF Dipole, w/Cable</td>
<td>3518-10</td>
<td>$82.50</td>
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<tr>
<td>101001</td>
<td>Rx Ant, Lo-Band, Telescope</td>
<td>3518-08</td>
<td>$13.50</td>
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<tr>
<td>101003</td>
<td>Rx Ant, Hi-Band, Whip</td>
<td>3518-05</td>
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<td>101007</td>
<td>Tx Ant, Hi-Band, Hand-Held</td>
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<tr>
<td>101008</td>
<td>Tx Ant, Hi-Band, Flex, w/microplug</td>
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<td>101009</td>
<td>Rx Ant, Whip</td>
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<td>115002</td>
<td>Coax Cable, 6', UHF Conn.</td>
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MISCELLANEOUS

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<thead>
<tr>
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<tbody>
<tr>
<td>AC-5</td>
<td>AC power adaptor</td>
<td>$37.50</td>
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<tr>
<td>BC-5</td>
<td>Belt Clip (less installation)</td>
<td>$3.75</td>
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<tr>
<td>FL-30</td>
<td>Hi-Band Filter</td>
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<tr>
<td>FL-40</td>
<td>UHF Filter</td>
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<td>MA-5</td>
<td>Mic Cable XL (A3F) To Micplug</td>
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<td>MC-15</td>
<td>Mic Clamp</td>
<td>$19.50</td>
<td></td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
MODEL 901

Features:
• 3 Input Busses (A, B, and Direct)
• 6 Composite Video Inputs including, Colorizer/Black
• Mix, Wipe, Key, Mix-Key, Wipe-Key, Mix-Wipe-Key
• Hard or Soft Wipes
• Normal/Reverse Wipes
• 12 Patterns
• Positioner
• Operates on AC or DC
• Master Fade to Black

Additional features include a blackburst/colorizer to provide color matte background and color matte fill for video keys. LED's are provided as a convenience, indicating which bus is "on air". A low voltage indicator warning when the +12 V supply is low in the DC mode is standard.

Specifications:
INPUTS: Video Input Level: 1 v p-p composite • Pulse: 4 v p-p +/−6 dB • Subcarrier: 2 v p-p +/−6 dB • Impedence: Video -75 ohm terminated • Pulse - looping • Key - 75 ohm terminated
OUTPUTS:Return Loss: greater than 36 dB at 5 MHz • Types: 2 Program, 2 Black Burst • Level: 1 v p-p nominal
MIX/EFFECTS CHARACTERISTICS: Black Balance Stability: +/−50 MHz • Switching Transients: Less than 5 IRE • Mix Tracking: 2% • Key Response: Linear

OVERALL SYSTEMS NTSC (PAL): Differential Gain: Less than 1.5% • Differential Phase: Less than 1.5° • K Factor -2T Pulse: 1% • Freq. Response (ref 1 MHz): to 6 MHz + .2 dB • Chroma/Luminance: Less than 10 ns • Crosstalk: Less than 45 dB • Path Delay Accuracy: 1° • Signal/Noise Ratio: Greater than 50 dB • Tilt (Line or Field): Less than 1%

POWER/TALLY/CABLES (PAL): Battery: 12VDC • Mains: 120 VAC at 60 Hz (220 VAC +/−10% at 50 Hz) • Power Consumption: 50 W • Tally Relays: Reed Form "A" • Cables: 25 ft. (7.6 m)

MECHANICAL/ENVIRONMENTALS (PAL): Connectors: BNC • Control Panel Dimensions: 19 x 7 x 7 (48.26 x 17.78 x 17.78 cm) • Approximate Shipping Weight: 20 lbs. (9.07 kg) • Temperature Range: 0-50°C • Relative Humidity: 96%

AVAILABLE IN NTSC OR PAL $2850.00

Options:
• Model 993 Downstream Key Edger (prewired) $1680.00
• Model 994 RGB Chroma Keyer (prewired) 1010.00
• Model 995 NTSC Encoded Chroma Keyer (prewired) 2240.00
• Model 959 Sync Generator 590.00

Prices and Specifications Subject to Change Without Notice.
VIDEO PRODUCTION SWITCHER

1200 Series

Features:
- ISI's 1200 Series is available with one, two or three Mix/Effects Amplifiers and all include a downstream keyer with border edging and color.
- Each M/E is a two level processor, allowing a mix, wipe or key plus an additional title key with color and border edging.

Features:
- Each 1200 Series Video Production Switcher has at least one 1250 M/E Amplifier, which affords the user an enormous amount of creative flexibility by providing the following standard features:
  - Pushbutton and assign effects system with LED readout of selected pattern
  - "A" and "B" blanking indicators
  - Individual M/E colorizer; manual fader operation or auto transition rate; selectable and variable hard, soft, and bordered edges with color; wipe direction selector
  - Mix, Key, Wipe, Mix Key, Wipe Key, plus ISI's special Fade Through Black mode (using synchronous or non-synchronous sources)
  - Mix or Wipe to preset pattern limits or mask key
  - Electronic spotlight with variable 0-100% video level attenuation
  - 4 x 2 key source switcher; key fill selector
  - Mask key, key invert, and matte key, pull to preview, key preview function
  - Dual or "tandem" keying with a primary key (luminance or chroma) followed by a secondary downstream key with outline, shadow, or border and color
  - Edging of primary key video for special effects
  - Sine wave, square wave or sawtooth modulation with frequency, amplitude, and freeze controls
  - Pattern rotate allowing wipe direction and angle to be changed
  - Joystick positioner and positioning of multiple repeat patterns to change pattern size
  - These features, and their layout, make each 1250 M/E System both flexible and easy to use. Multiple M/E systems arranged in "cascade" fashion, coupled with available mix keyers and options, make the 1200 series the ideal choice where state-of-the-art production switchers are required.

Note: Numerous options are available with any 1200 series system and with appropriate 501/506 Rack Frame/Power Supply may be added to most other ISI Production or Master Control Switchers. These options may also be added to other non-ISI equipment depending upon the specifications of that equipment.

1201 — Video Production Switcher — 12 inputs including black and color background; 4 busses; one Mix/Effects system; one Mix Keyer, 25' control cable; technical manual .......................... $16,500.00

Options:
- 659-1C — Quad Split with 6 x 4 Pushbutton Input
  - Selector with Colorized Border ................................ $3250.00
- 660-4 — RGB Chroma Keyer with 4 Input Selector ........... $1680.00
- 666-C — Downstream Key Edger with Colorizer ............... 2075.00
- 1240-4 — NTSC Encoded Chroma Keyer with 4 input selector 2635.00
- 1242-4 — RGB Chroma Keyer with Shadow and 4 input selector 2075.00
- 1280 — Rotary Wipe Generator ................................ 1795.00
- 2065-1 — Digital Pointer Generator ........................... 1050.00
- Additional Cable .................................................. 25.00/ft.

1204 — Video Production Switcher — 20 inputs including color black and color background, 4 busses; one Mix/Effects system; Program/Preset Mixer, Downstream Keyer with edging, 50' control cable; technical manual ........................................... $27,400.00

Options:
- 659-1C — Quad Split with 6 x 4 Pushbutton Input
  - Selector with Colorized Border ................................ $3250.00
- 660-4 — RGB Chroma Keyer with 4 Input Selector ........... $1680.00
- 666-C — Downstream Key Edger with Colorizer ............... 2075.00
- 1240-4 — NTSC Encoded Chroma Keyer with 4 input selector 2635.00
- 1242-4 — RGB Chroma Keyer with Shadow and 4 input selector 2075.00
- 1280 — Rotary Wipe Generator ................................ 1795.00
- 2065-1 — Digital Pointer Generator ........................... 1050.00
- Automated Production Effects (APE) ......................... 18,500.00
- Additional Cable .................................................. 25.00/ft.

1206 — Video Production Switcher — 20 inputs including color black and color background; 8 busses; two Mix/Effects systems, Program/Preset Mixer, Downstream Keyer with edging, 50' control cable; technical manual ........................................... $44,700.00

Options:
- 659-1C — Quad Split with 6 x 4 Pushbutton Input Selector with Colorized Border ................................ $3250.00
- 660-6 — RGB Chroma Keyer with 6 Input Selector .......... $1400.00
- 666-C — Key Edger with Colorizer ............................ 2075.00
- 1240-4 — NTSC Encoded Chroma Keyer with 6 input selector 2635.00
- 1242-4 — RGB Chroma Keyer with Shadow and 6 input selector 2075.00
- 1276 — Audio Follow Video Interface Package ............... 4000.00
- 1280 — Rotary Wipe Generator (per M/E) ................... 1795.00
- 2065-1 — Digital Pointer Generator ........................... 1050.00
- Automated Production Effects (APE) ......................... 23,800.00
- Additional Cable .................................................. 25.00/ft.

1208 — Video Production Switcher — 20 inputs including color black and color background; 8 busses; three Mix/Effects systems, Program/Preset Mixer, Downstream Keyer with edging, 50' control cable; technical manual ........................................... $69,750.00

Options:
- 659-2C — Quad Split with 10 x 4 Thumbwheel Input
  - Selector, "Take" Pushbutton LED Quadrant Read-out with Colorized Border ................................. $4710.00
- 660-4 — RGB Chroma Keyer with 4 Input Selector ........... $1400.00
- 1240-4 — NTSC Encoded Chroma Keyer with 4 input selector 2635.00
- 1242-4 — RGB Chroma Keyer with Shadow and 4 input selector 2075.00
- 1276 — Audio Follow Video Interface Package ............... 4000.00
- 1280 — Rotary Wipe Generator (per M/E) ................... 1795.00
- 2065-1 — Digital Pointer Generator ........................... 1050.00
- Automated Production Effects (APE) ......................... 29,800.00
- Additional Cable .................................................. 25.00/ft.

Options:
- 659-1C — Quad Split with 6 x 4 Pushbutton Input
  - Selector with Colorized Border ................................ $3250.00
- 660-4 — RGB Chroma Keyer with 4 Input Selector ........... $1680.00
- 666-C — Downstream Key Edger with Colorizer ............... 2075.00
- 1240-4 — NTSC Encoded Chroma Keyer with 4 input selector 2635.00
- 1242-4 — RGB Chroma Keyer with Shadow and 4 input selector 2075.00
- 1276 — Audio Follow Video Interface Package ............... 4000.00
- 1280 — Rotary Wipe Generator (per M/E) ................... 1795.00
- 2065-1 — Digital Pointer Generator ........................... 1050.00
- Automated Production Effects (APE) ......................... 29,800.00
- Additional Cable .................................................. 25.00/ft.

Note: Numerous options are available with any 1200 series system and with appropriate 501/506 Rack Frame/Power Supply may be added to most other ISI Production or Master Control Switchers. These options may also be added to other non-ISI equipment depending upon the specifications of that equipment.

Prices and Specifications Subject to Change Without Notice.
MODEL 904 VIDEO PRODUCTION SWITCHER

The 904 provides a versatile switching package for complicated studio production, remotes and post production.

Computer editing...digital effects...automation...new technologies placing new demands on production switchers.

The 904 incorporates microprocessor control, effectively interfacing the 904 with the future. Serial editor interface, event storage and total switcher automation are field installable plug-in options.

Standard Features
- 10 inputs including Blackburst/Colorizer
- 6 busses
- 2 independent Mix/Effects units
- Program/Preset mixer
- DSK with key edging and 4 input selector
- Master fade to black
- Pulse processor
- Full camera tally system
- Microprocessor controlled
- Single 25' cable to remote control panel
- Technical manual
- Two year warranty

The 904 mix/effects systems are unequaled in capabilities and ease of operation. The last technical advances have been incorporated into the new pattern generators, providing crisp hard wipes and variable soft or bordered wipe transitions. Included in the 16 patterns are a star and 3 rotary wipes. Pattern preset allows control of both the preset limit and pattern aspect ratio and can be used to either mix or wipe to a preset pattern or masked key.

Each mix/effects system includes the following standard features:
- Mix, wipe, key, mix key and wipe key modes
- 16 pattern generator with 3 rotary patterns and star
- Pattern normal/reverse
- Variable soft or border and hard pattern transitions
- Pattern positioner
- Pattern preset with separate size and aspect controls
- Pattern modulation with frequency and amplitude controls
- Pattern spotlight
- Self, chroma key and external key inputs
- Matt key
- Key invert

$16,400.00

Prices and Specifications Subject to Change Without Notice.
VIDEO PRODUCTION SWITCHER

200 SERIES

200 SERIES FEATURES:
The 200 Series is an advanced, state-of-the-art production switching system, offering one, two or three PolyKey Effects (PKE) Systems. Each PKE has a 4 level processor with the following features:

- 4 input busses
- Manual or auto transitions
- Video key plus title key over/under
- Black/white/color border edging

- Chroma key standard
- Rotary and spin wipes

Every 200 Series switcher also has a Downstream Transition Unit which includes:

- 'Flip-flop' mixer with cut bar
- Fade-to-black with pulse processing
- DSK with border edging and color
- Pointer Generator

Prices and Specifications Subject to Change Without Notice.
MASTER CONTROL SWITCHER

Model 931

Features:
- Ten (10) inputs including black burst/colorizer, audio follow video
- Five (5) audio breakaways
- Audio over/under
- Presetable audio/video mix transitions at four rates with initiate bar
- Downstream key edge with four input selector, colorizer, and outline, shadow, and border
- Audition monitor, program monitor, and program level controls
- Non-synchronous source detection and inhibit
- Program audio VU meter
- Rack mount configuration
- 25' control cable, technical manual

Price:
Model 931 ........................................... $8980.00

Specifications:
Inputs .................................................. 75 ohm terminating
Outputs ............................................... two (2), 75 ohms source terminated
Crosstalk ............................................. better than -52 dB at 3.58 mHz
Differential Gain ................................. 1.5%
Differential Phase ................................. +/−1.5°
Input Return Loss ............................... 35 dB minimum
Output Return Loss ............................ 35 dB minimum
Signal to Noise Ratio ............................ better than 60 Hz-5 mHz

Frequency Response .......................... DC to 8 mHz +/−0.25 dB
Tilt (Line or Field Rate) ......................... +/−1.5° at 3.58 or 4.43 mHz
K Factor ........................................... 1% or better (T pulse)
Temperature Range ............................... 0-50°C

Audio Specifications:
Inputs ............................................... 0 dBm, +15 dBm maximum balanced bridging
Outputs ............................................. two (2), 600 ohms balanced, 15 dBm maximum
Harmonic Distortion ............................. less than 0.25%, 20 Hz-20 kHz at 0 dBm output
Frequency Response ......................... ±/−0.1 dB, 10 Hz-30 kHz
Crosstalk .......................................... better than -66 dB
Signal to Noise Ratio ............................ better than -68 dBm down below + 0 dBm (20 Hz-20 kHz)
Input to Output Gain ............................ unity +/−2 dB
Connectors ......................................... post

Mechanical/Power Specifications:
Power .............................................. 120 vac +/−10% 60 Hz
Dimensions ....................................... 19 x 10 ½ x 3 ½ (control panel) 19 x 11 x 8¾ (electronics)

Options:
Model 937 Time Display ............................ $675.00

Prices and Specifications Subject to Change Without Notice.
### Model 821

**Features:**
- Twenty (20) inputs with full tally
- Colorizer
- Program and preset busses
- BCD control
- Audio/Video mixer with auto transitions
- Four (4) audio breakaways
- Audio over/under with adjustable video
- Program and preset audio VU meters
- Built-in pre-roll system
- Downstream keyer with edging, 4 input selector and colorizer
- Control panel prewired for following options:
  - Chroma Keyer
  - Time Display
  - Booth Mic Pre-amp
  - 50' control cable
- Technical manual

**Description:**
ISI's Model 821 Master Control Switcher offers a state-of-the-art means for switching control room signals in television stations, sophisticated cable systems, or other program origination sources.

- The 821 allows the air/program switcher to mix between sources at one of three automatic rates or 'take' a new source instantaneously. Audio follows the video through the mix or cut except when an audio breakaway source is selected. When this occurs new audio (from an audio cart, for example) is substituted for the audio on the selected video source. If breakaway and over/under are both selected, the new audio is mixed with the audio from the video source and may be predominant (over) or background (under). The audio breakaway always returns to the AFV position after the mix.

- A Downstream Keyer with edging allows title keying over the program output of the 821. It includes a four input selector and colorizer.

- Pre-roll circuitry for VTR's, film islands, and other machine sources, is built into the 821. With the addition of the appropriate optional machine decoder modules and buffers, machine pre-roll is activated by engaging the initiate button. The mix takes place after the pre-programmed pre-roll has been completed.

- Other options include a program monitor time display which provides a pre-roll and elapsed time counter and a real-time clock display. An RGB or NTSC Chroma Keyer with 4 inputs selector allows "News Break" inserts without tying up a production switcher. A booth mic pre-amp, full stereo audio operation, and microprocessor automation package, are available options.

- The 821 carries ISI's full two year warranty and board exchange program.

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### Options:

- **660-4 RGB Chroma Keyer with 4 Input Selector**...$1,680.00
- **710 Booth Microphone Preamp Control**...$400.00
- **870 Stereo Audio**...$900.00
- **883 Video Tape Machine Control**...$510.00
- **884 Film Island Machine Control**...$675.00
- **1240 NTSC Encoded Chroma Keyer**...$2240.00
- **Addtional Cable**...20.00/ft.

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### Video Specifications:

- Inputs ........................................... 75 ohm terminating or bridging (customer option)
- Outputs ........................................ two (2), 75 ohm source terminated Crosstalk (worst case) better than -52 dB at 3.58 or 4.43 mHz
- Differential Phase ........................ better than 9.5° (10-90% APL)
- Differential Gain ........................ better than 0.5%
- Input Return Loss .......................... 35 dB minimum
- Output Return Loss ........................ 35 dB minimum
- Signal to Noise Ratio ........................ better than 60 dB to 5 mHz
- Frequency Response ........................ DC to 8 mHz +/- 0.25 dB
- Tilt (Line or Field Rate) .................. better than 1%
- Differential Delay ........................ +/−1.5° at 3.58 or 4.43 mHz
- K Factor ...................................... .1% or better (T pulse)
- Temperature Range .......................... 0-50°C
- Connectors ........................ BNC
- Power ........................................... 120 vac +/-10% 60 Hz

### Audio Specifications:

- Inputs ........................................... -0 dBm, + 15 dBm maximum balanced bridging
- Outputs ........................................ 2-600 ohms balanced 15 dBm maximum Harmonic Distortion ........................... less than 0.25%, 20 Hz-20 kHz at 0 dBm output
- Frequency Response ........................... +/-1 dB, 10 Hz-30kHz Crosstalk ........................................ better than -65 dB
- Signal to Noise Ratio ........................... better than -68 dBm down below +0 dBm 20 Hz-20kHz
- Input to Output Gain .......................... unity +/- 2 dB
- Connectors ..................................... post
- Power ........................................... 120 vac +/-10% 60 Hz Dimensions ........................................ 11.5/8" x 30" (control panel)
- 12 1/4" x 30 3/8" x 6" (cutout for pan)
- 19" x 21" x 13" (track electronics)

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**Prices and Specifications Subject to Change Without Notice.**
VIDEO PRODUCTION SWITCHER

Our PolyKey System has changed switching by adding more production capabilities with easier operation. We didn’t revamp an old idea, we advanced the state-of-the-art in television production artistry, with the PolyKey Concept. Every 200 Series switcher is built around it. The PolyKey Concept began with the realization that today’s most exciting production effects are produced using the key mode. Even digital effects units interface through the external key input. Add title and graphics keys, video keys, and effects transitions behind chroma keys, and it’s soon evident that to limit keying means limiting production capability.

PKE AMPLIFIER

The unique PKE amplifier is the heart of every 200 Series Switcher. The following are some of its STANDARD features:
- • Independent multi-pattern generator and positioner
- • 4 input busses
- • Internal quad split and chroma key
- • Title key over/under
- • Video key
- • Black/white/color edging of title and video key
- • Frame rate auto transitions
- • 3 way modulator with freeze
- • Normal/normal-reverse/reverse pattern direction
- • Rotary and spin wipes

Our Downstream Transition Unit keeps the production flowing smoothly with the following standard features:
- • A “flip-flop” mixer automatically transfers program/preset sources.
- • A “cut bar” and auto mix position keep “flip-flop” transitions smooth and exact in any situation.
- • A built-in downstream keyer with outline, drop shadow, and border edging and colorizer (fed from a 10 input key bus) allow the insertion of titles and graphics over program material.
- • The fade-to-black module also incorporates a new pulse processing system to eliminate the picture shift at the end of the transition. Less than perfect timing is then corrected by the ISI 200. The pulse processor also has outputs available to lock external sources such as character generators.
- • Standard in every Downstream Transition Unit is an 8 position pointer generator with “joystick” positioner. This popular feature is widely used in weather reporting and instructional productions.

The PKE unit is divided into four main areas:
1) Input busses — A, B, C, D
2) Transition modes
3) Keying functions
4) Wipe effects

- • 8 Position Pointer Generator
- • Master Fade-to-Black
- • Pulse Processing

Dimensions

200-1: 16.250 x 32.625 x 6 (control head)
(28 x 19 x 13 (electronics)

200-2: 17.000 x 45.875 x 6 (control head)
35 x 19 x 13 (electronics)

200-3: 21.500 x 48.875 x 6 (control head)
42 x 19 x 13 (electronics)

Our A.P.E. (Automated Production Effects) unit is an easy to operate event storage and retrieval system which allows the director to concentrate on creativity instead of switcher operation. It’s easy because all events are learned by manually executing control panel functions, then storing the switcher setup in the A.P.E. memory.

By defining points where switcher setup changes, and programming transition rates, complicated production sequences may be learned and repeated or stored for later use. Our A.P.E. can remember 60 events in its hardware memory and 3840 events in disk storage.

Events represent a single setup for the entire switcher which may include as many as 15 buses and the complete setup of 4 M/E or mix units.

Our A.P.E. can execute transitions with a smooth flow that’s not humanly possible. For instance, try moving a circle pattern with the positioner control while expanding the size of the circle. It’s virtually impossible to execute that movement smoothly, but, thanks to our A.P.E.’s microprocessor brain it can perform this simple move flawlessly on 3 mix/effects units simultaneously.

200 Series Specifications (Model 200-3):

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>video 75 ohms bridging</td>
</tr>
<tr>
<td>Return Loss</td>
<td>greater than 40 dB (1 pulse)</td>
</tr>
<tr>
<td>Pulse</td>
<td>75 ohms bridging</td>
</tr>
<tr>
<td>Return Loss</td>
<td>greater than 40 dB (1 pulse)</td>
</tr>
<tr>
<td>Input Level Video</td>
<td>1 vpp composite</td>
</tr>
<tr>
<td>Pulse</td>
<td>2-8 vpp</td>
</tr>
<tr>
<td>Subcarrier</td>
<td>1-4 vpp</td>
</tr>
<tr>
<td>Outputs</td>
<td>(2) outputs 75 ohms source terminated</td>
</tr>
<tr>
<td>Output Level</td>
<td>1 vpp composite</td>
</tr>
<tr>
<td>Response</td>
<td>relative 1 mHz, +/0.1 dB, DC to 8 mHz, +0.1 to -2 dB</td>
</tr>
<tr>
<td>Switching Time</td>
<td>approximately 1 microsecond</td>
</tr>
<tr>
<td>Differential Phase</td>
<td>less than 1.5° 3.58 or 4.43 mHz</td>
</tr>
<tr>
<td>(10-90% APL)</td>
<td></td>
</tr>
<tr>
<td>Differential Gain</td>
<td>less than 1.5% 10-90% APL</td>
</tr>
<tr>
<td>K Factor</td>
<td>less than 1% (1 pulse)</td>
</tr>
<tr>
<td>Chrominance/Luminance Delay</td>
<td>less than 10 ns</td>
</tr>
<tr>
<td>Chrominance/Luminance</td>
<td>less than 0.1 dB</td>
</tr>
<tr>
<td>Crosstalk (worst case)</td>
<td>greater than -52 dB at 3.58 mHz;</td>
</tr>
<tr>
<td>Signal to Noise Ratio</td>
<td>-50 dB at 4.43 mHz</td>
</tr>
<tr>
<td>Path Length Accuracy</td>
<td>less than 1.5° 3.58 or 4.43 mHz</td>
</tr>
<tr>
<td>RMS noise to 5 mHz</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Tilt (Line or Field Rate)</td>
<td>less than 1%</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-50°C</td>
</tr>
<tr>
<td>Tally Relay Contacts</td>
<td>2 A-30 v</td>
</tr>
<tr>
<td>Power Input</td>
<td>10 v or 20 v, 50-60 Hz +/- 10% v</td>
</tr>
<tr>
<td>Control Cable</td>
<td>400° maximum</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
AUDIO CONSOLE
FOR TELEVISION

Model 1002

Features:
- Modular construction
- Ten (10) inputs, two (2) program outputs, fully balanced
- Front panel switchable Hi or Lo level input selectors
- Three (3) foldback/echo send outputs
- Input channels feature three stage equalization and Hi and Lo cut
- Professional-type slide faders and preset gain adjustment
- Input sources may be assigned to either A or B outputs
- Tone oscillator
- Illuminated VU meter and LED peak indicator
- Echo return gain control
- Two (2) monitor outputs with level control
- Optional stereo input and output modules

Specifications:
Inputs:
- Audio ..................... ten (10) balanced inputs
- Microphone .................. input impedance 4000 ohms;
source impedance 150/250 ohms; nominal input
level -65 dBm; equivalent
input noise -123 dBm 10 Hz - 10 kHz
- Line .......................... input impedance 20K;
source impedance 500 ohms; nominal input
level +4 dBm, equivalent
input noise -95 dBm

Output:
Line level outputs:
- Program A and B .................. two (2) 600 ohm outputs
- Monitor A and B .................. one (1) 600 ohm output
- Foldback, Echo Send, Cue .................. one (1) 600 ohm output
- Nominal Output Level (faders at -12 dB) .................. +4 dBm
- Maximum Output Level .................. +20 dBm
- Distortion (20 Hz-20 kHz) ........... 0.5% THD
- Headphone Output .................. volume adjustable, clipped
at +100 dB sound level
- Frequency Response ........... + / -0.5 dB, 20 Hz-20 kHz
- Crosstalk .................. 70 dB
- Distortion .................. 0.25%, 20 Hz-20 kHz
- Equalization .................. lo: 14 dB boost/cut at 60 Hz;
mid: 14 dB boost/cut at 2.5 kHz;
hi: 14 dB boost/cut at 10 kHz;
lo cut: -3 dB at 100 Hz, -12 dB/octave;
hi cut: -3 dB at 12 kHz, -12 dB/octave
- Calibration Oscillator ................ frequency 1 kHz (+ / - 10%)
- Connectors .................. input channels 3 pole 180° XLR;
output channels 3 pole 180° XLR
- Dimensions .................. 12 ¾ x 19 x 8 ¾

$4,575.00

Prices and Specifications Subject to Change Without Notice.
VIDEO PRODUCTION SWITCHER

Features:
- Rack mount control head with separate 7-inch electronics package
- Ten (10) clamped and phase adjustable inputs including black burst/colorizer
- Momentary contact pushbuttons with indicator lamps
- Full tally on all inputs
- Separate preview and program output switching busses
- Two (2) Mix/Effects systems utilizing ISI's exclusive Shared Pattern Generator
- True reentry effects system
- Pattern Generator includes seven (7) basic patterns plus Rotate position enabling hundreds of standard and special wipes to be created
- Mix/Effects functions include mix, wipe, key mix/wipe and mix or wipe key
- Electronic spotlight, pattern modulator, and "joystick" positioner
- Adjustable hard, soft, and bordered edges, and preset pattern limit
- Professional full-size faders
- Three input key selector, matte key and key invert is standard on each M/E
- 25' control cable
- Technical manual

Description:
- With almost 300 Model 902 Video Production Switchers installed and field proven, the 902 has gained remarkable acceptance in the two years since its introduction. This switcher features two (2) Mix/Effects Systems utilizing ISI's exclusive Shared Pattern Generator, multiple keying functions, and extreme flexibility due to the separate preview and program output switching busses.
- Added features, all standard on the 902, such as electronic spotlight, modulator, positioner, and preset pattern limit, plus the ability to do hard, soft, or bordered wipes make the 902 ideal for any small or medium size studio or remote production facility.
- As with all ISI products, the 902 carries a full two year warranty on all parts and labor.

Prices and Specifications Subject to Change Without Notice.

93
## ITE-P3A Elevation Pedestal
- **Camera Load Capacity**: 50 lbs.
- **Minimum Height**: 31 in.
- **Maximum Height**: 49 in.
- **Caster Radius**: 19 in.
- **Elevation Adjustment**: 18 in.
- **Weight**: 36 lbs.
- **Wheel Diameter**: 5 in.
- **Finish**: Dark Blue (comes equipped with cable guards)

**Price**: $1150.00

## ITE-P4 Pedestal
- **Camera Load Capacity**: 140 lbs. (first 87 lbs. spring counter-balanced)
- **Minimum Height**: 34 in.
- **Maximum Height**: 52 in.
- **Single Wheel Diameter**: 7 in. (polyurethane)
- **Doorway Width**: 32 in.
- **Steering Wheel Diameter**: 25 in.
- **Base Construction**: Cast Aluminum
- **Weight (less camera balance weights)**: 180 lbs.
- **Finish**: Dark Blue

**Price**: $3995.00

## ITE-P5 Pedestal
- **Camera Load Capacity**: 265 lbs. (first 174 lbs. spring counter-balanced)
- **Minimum Height**: 34 in.
- **Maximum Height**: 52 in.
- **Dual Wheel Diameter**: 7 in. (polyurethane)
- **Doorway Width**: 32 in.
- **Steering Wheel Diameter**: 25 in.
- **Base Construction**: Cast Aluminum
- **Weight (less camera balance weights)**: 180 lbs.
- **Finish**: Dark Blue

**Price**: $4795.00

## ITE-P6 Pedestal
- **Camera Load Capacity**: 120 lbs.
- **Minimum Height**: 33 in.
- **Maximum Height**: 52 in.
- **Single Wheel Diameter**: 7 in. (polyurethane)
- **Doorway Width**: 28 in.
- **Steering Wheel Diameter**: 20 in.
- **Base Construction**: Cast Aluminum
- **Weight**: 150 lbs.
- **Finish**: Dark Blue

**Price**: $3550.00

## ITE-P7A Elevation Pedestal
- **Camera Load Capacity**: 60 lbs.
- **Minimum Height**: 32 in.
- **Maximum Height**: 49 in.
- **Caster Radius**: 19 in.
- **Elevation Adjustment**: 18 in.
- **Weight**: 45 lbs.
- **Wheel Diameter**: 7 in.
- **Finish**: Dark Blue
- **Unit has adjustable cable guards**

**Price**: $1295.00

Prices and Specifications Subject to Change Without Notice.
INNOVATIVE TELEVISION EQUIPMENT

DOLLIES

ITE-D3 Dolly
- Camera Load Capacity: 110 lbs.
- Length (folded): 26 in.
- Height: 7 in.
- Width (folded): 12 in.
- Diameter: 42 in.
- Wheel Diameter: 5 in.
- Weight: 17 lbs.
- Finish: Aluminum and Dark Blue

Accessories Available: ITE-D3G (comes equipped with cable guards)

ITE-D6 Dolly
- Camera Load Capacity: 60 lbs.
- Length (folded): 23 in.
- Height: 6 in.
- Width (folded): 6 in.
- Weight: 7 lbs.
- Diameter: 41 in.
- Wheel Diameter: 5 in.
- Finish: Dark Blue

Accessories Available: ITE-D6G (comes equipped with cable guards)

ITE-D7 Dolly
- Camera Load Capacity: 250 lbs.
- Length (folded): 29 in.
- Height: 9 in.
- Width (folded): 15 in.
- Weight: 25 lbs.
- Diameter: 45 in.
- Wheel Diameter: 7 in.
- Finish: Aluminum and Dark Blue

ITE-D20 Dolly
- Camera Load Capacity: 35 lbs.
- Length (folded): 19 in.
- Height: 9 in.
- Width (folded): 12 in.
- Diameter: 37 in.
- Weight: 7 lbs.
- Wheel Diameter: 4 in.
- Finish: Aluminum

ITE-D5 Dolly
- Camera Load Capacity: 60 lbs.
- Length (folded): 23 in.
- Height: 6 in.
- Width (folded): 6 in.
- Weight: 7 lbs.
- Diameter: 42 in.
- Wheel Diameter: 5 in.
- Finish: Aluminum and Dark Blue

ITE-D7 Dolly
- Camera Load Capacity: 250 lbs.
- Length (folded): 29 in.
- Height: 15 in.
- Width (folded): 15 in.

ITE-TS Tripod Spreader
(For ITE/Miller-type Tripods)
This spreader is constructed of sturdy, lightweight aluminum. It will retain tripod legs from a diameter of 32 to 48 inches. Weight is 3 lbs.

ITE-D20 Dolly
- Camera Load Capacity: 35 lbs.
- Length (folded): 19 in.
- Height: 9 in.
- Width (folded): 12 in.
- Diameter: 37 in.
- Weight: 7 lbs.
- Wheel Diameter: 4 in.
- Finish: Aluminum

ITE-TS Tripod Spreader
(For ITE/Miller-type Tripods)
This spreader is constructed of sturdy, lightweight aluminum. It will retain tripod legs from a diameter of 32 to 48 inches. Weight is 3 lbs.

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Prices and Specifications Subject to Change Without Notice.
INNOVATIVE TELEVISION EQUIPMENT

TRIPODS

MICROWAVE HEAD

ITE-T18 Wood Tripod Ball
- Camera Load Capacity: 25 lbs.
- Maximum Height: 59 in.
- Leg Angle: up to 85°
- Folded Length: 9 in.
- Weight: 8 lbs.
- Finish: Natural Wood and Dark Blue
- $395.00

ITE-T9 Tripod - Ball
- Camera Load Capacity: 50 lbs.
- Maximum Height: 65 in.
- Leg Angle: up to 80°
- Folded Length: 6 1/2 in.
- Weight: 12 lbs.
- Finish: Natural Wood and Dark Blue
- $690.00

ITE-T6A Elevation Trolley
- Camera Load Capacity: 60 lbs.
- Minimum Height: 29 in.
- Maximum Height: 65 in.
- Maximum Leg Angle: 33°
- Minimum Folded Length: 33 in.
- Elevation Adjustment: 18 in.
- Weight: 18 lbs.
- Finish: Aluminum and Dark Blue
- $366.00

ITE-T10 Elevation Tripod
- Camera Load Capacity: 50 lbs.
- Maximum Height: 65 in.
- Leg Angle: up to 90°
- Folded Length: 6 in.
- Weight: 12 lbs.
- Finish: Natural Wood and Dark Blue
- $690.00

ITE-T12 Tripod - Ball
- Camera Load Capacity: 70 lbs.
- Maximum Height: 83 in.
- Leg Angle: 24°
- Folded Length: 36 in.
- Weight: 15 lbs.
- Finish: Anodized Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

ITE-T7 Tripod - Ball
- Camera Load Capacity: 60 lbs.
- Folded Length: 36 in.
- Maximum Height: 63 in.
- Leg Angle: up to 80°
- Folded Width: 8 in.
- Weight: 13 lbs.
- Finish: Aluminum and Dark Blue
- $825.00

ITE-T13 Tripod
- Camera Load Capacity: 70 lbs.
- Folded Length: 36 in.
- Maximum Height: 83 in.
- Minimum Height (standing): 24 in.
- Maximum Leg Angle: 33°
- Folded Width: 7 in.
- Weight: 15 lbs.
- Finish: Anodized Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

ITE-M11 Tripod
- Camera Load Capacity: 250 lbs.
- Minimum Height: 25 in.
- Maximum Height: 43 in.
- Leg Angle: 30°
- Weight: 33 lbs.
- Finish: Aluminum and Dark Blue
- For camera and microwave support.
- $860.00

ITE-T5A Elevation Trolley
- Camera Load Capacity: 60 lbs.
- Minimum Height: 38 in.
- Maximum Height: 56 in.
- Minimum Folded Length: 40 in.
- Maximum Leg Angle: 34°
- Elevation Adjustment: 18 in.
- Weight: 17 lbs.
- Finish: Aluminum and Dark Blue
- $415.00

ITE-T4 Wood Tripod - Ball
- Camera Load Capacity: 40 lbs.
- Folded Length: 40 in.
- Maximum Height: 65 in.
- Leg Angle: up to 80°
- Folded Width: 6 1/2 in.
- Weight: 12 lbs.
- Finish: Natural Wood and Dark Blue
- $690.00

ITE-T16 Elevation Trolley
- Camera Load Capacity: 60 lbs.
- Minimum Height: 38 in.
- Maximum Height: 56 in.
- Minimum Folded Length: 40 in.
- Maximum Leg Angle: 34°
- Elevation Adjustment: 18 in.
- Weight: 17 lbs.
- Finish: Anodized Aluminum and Dark Blue
- $415.00

ITE-T10 Elevation Tripod
- Camera Load Capacity: 140 lbs.
- Minimum Height: 28 in.
- Maximum Height: 59 in.
- Maximum Leg Angle: 33°
- Minimum Folded Length: 33 in.
- Elevation Adjustment: 18 in.
- Weight: 26 lbs.
- Finish: Aluminum and Dark Blue
- $660.00

ITE-H8 Microwave Pan/Tilt Head
- Camera Load Capacity: 250 lbs.
- Pan Rotation: 45°
- Tilt Angle: 45°
- Height: 7 in.
- Weight: 19 lbs.
- Finish: Dark Blue
- Accessories Available: Control Handle
- $760.00

ITE-T20 Elevation Tripod/Head
- Camera Load Capacity: 140 lbs.
- Minimum Height: 28 in.
- Maximum Height: 59 in.
- Maximum Leg Angle: 33°
- Minimum Folded Length: 33 in.
- Elevation Adjustment: 18 in.
- Weight: 26 lbs.
- Finish: Aluminum and Dark Blue
- $660.00

ITE-T20 Elevation Tripod/Head
- Camera Load Capacity: 70 lbs.
- Minimum Height: 24 in.
- Maximum Height: 83 in.
- Maximum Leg Angle: 33°
- Folded Length: 36 in.
- Weight: 15 lbs.
- Finish: Anodized Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

ITE-T9 Tripod
- Camera Load Capacity: 50 lbs.
- Minimum Height: 13-1/2 in.
- Maximum Height: 25 in.
- Maximum Leg Angle: up to 80°
- Minimum Folded Length: 33 in.
- Elevation Adjustment: 18 in.
- Weight: 13 lbs.
- Finish: Aluminum and Dark Blue
- $660.00

ITE-T11 Tripod
- Camera Load Capacity: 50 lbs.
- Folded Length: 36 in.
- Maximum Height: 65 in.
- Leg Angle: up to 80°
- Folded Width: 8 in.
- Weight: 12 lbs.
- Finish: Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

ITE-T12 Tripod - Ball
- Camera Load Capacity: 50 lbs.
- Folded Length: 36 in.
- Maximum Height: 65 in.
- Leg Angle: up to 80°
- Folded Length: 8 in.
- Weight: 13 lbs.
- Finish: Anodized Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

ITE-T11 Tripod
- Camera Load Capacity: 50 lbs.
- Folded Length: 36 in.
- Maximum Height: 65 in.
- Leg Angle: up to 80°
- Folded Width: 8 in.
- Weight: 12 lbs.
- Finish: Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

ITE-T11 Tripod
- Camera Load Capacity: 50 lbs.
- Folded Length: 36 in.
- Maximum Height: 65 in.
- Leg Angle: up to 80°
- Folded Width: 8 in.
- Weight: 12 lbs.
- Finish: Aluminum and Dark Blue
- Includes removable, adjustable spider (tyrodl) assembly. Footpads optional at extra cost. $795.00

Prices and Specifications Subject to Change Without Notice.
INNOVATIVE TELEVISION EQUIPMENT

ITE-H1 Torsion Head
- Camera Load Capacity: 30 lbs.
- Pan Rotation: +/ - 45°
- Height: 6 in.
- Width: 7 in.
- Length: 6 in.
- Weight: 7 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles
- Price: $185.00

ITE-H2 Cam Head
- Camera Load Capacity: 30 lbs.
- Pan Rotation: up to +/ - 90°
- Height: 7 1/4 in.
- Width: 9 in.
- Length: 10 in.
- Weight: 25 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles and Wedge Adaptor
- Price: $1095.00

ITE-H4 Torsion Head
- Camera Load Capacity: 40 lbs.
- Pan Rotation: +/ - 45°
- Height: 6 in.
- Width: 8 in.
- Length: 8 in.
- Weight: 8 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles
- Price: $225.00

ITE-H5 Hydro Head
- Camera Load Capacity: 260 lbs.
- Pan Rotation: +/ - 90°
- Height: 8 in.
- Width: 12 in.
- Length: 12 in.
- Weight: 32 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles
- Price: $2225.00

ITE-H14 Fluid Head
- Camera Load Capacity: 30 lbs.
- Pan Rotation: +/ - 80°
- Height: 5 lb.
- Width: 6 lb.
- Length: 5 lb.
- Weight: 8 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles and Ball Leveling
- Price: $1150.00

ITE-H15 Fluid Head
- Camera Load Capacity: 40 lbs.
- Pan Rotation: +/ - 75°
- Height: 5 in.
- Width: 6 in.
- Length: 7 in.
- Weight: 8 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles and Ball Leveling
- Price: $1150.00

ITE-H12 Fluid Head
- Camera Load Capacity: 20 lbs.
- Pan Rotation: 360°
- Height: 5 in.
- Width: 4 in.
- Length: 4 in.
- Weight: 5 lbs.
- Finish: Dark Blue
- Accessories Available: Ball Leveling
- Price: $895.00

ITE-H11 Fluid Head
- Camera Load Capacity: 10 lbs.
- Pan Rotation: +/ - 90°
- Height: 5 in.
- Width: 4 in.
- Length: 4 in.
- Weight: 2 lbs.
- Finish: Dark Blue
- Accessories Available: Ball Leveling
- Price: $355.00

ITE-H9 Hydro Head
- Camera Load Capacity: 30 lbs.
- Pan Rotation: +/ - 90°
- Height: 6 in.
- Width: 7 in.
- Length: 8 in.
- Weight: 8 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles
- Price: $1146.00

ITE-H7 Torsion head
- Camera Load Capacity: 60 lbs.
- Pan Rotation: +/ - 45°
- Height: 8 3/4 in.
- Width: 7 7/8 in.
- Height: 8 in.
- Weight: 13 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles
- Price: $850.00

ITE-H8 Hydro Head
- Camera Load Capacity: 120 lbs.
- Pan Rotation: +/ - 50°
- Height: 9 in.
- Width: 9 in.
- Length: 9 in.
- Weight: 23 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles and Wedge Adaptor
- Price: $2395.00

ITE-H3 Cam Head
- Camera Load Capacity: 250 lbs.
- Pan Rotation: +/ - 90°
- Height (including Wedge Adaptor): 8 in.
- Width: 12 in.
- Length: 12 in.
- Weight: 32 lbs.
- Finish: Dark Blue
- Accessories Available: Dual Handles
- Price: $2325.00

ITE-H13 Fluid Head
- (Miller-type Light Pro Model with Positive Heavy Duty Tilt Lock)
- Camera Load Capacity: 30 lbs.
- Pan Rotation: +/ - 90°
- Height: 5 in.
- Width: 6 in.
- Length: 5 in.
- Weight: 5 lbs.
- Finish: Dark Blue
- Accessories Available: Ball Leveling
- Price: $995.00

ITE-H10 Hydro Head
- Camera Load Capacity: 40 lbs.
- Pan Rotation: 360°
- Height: 7-1/4 in.
- Width: 6-3/4 in.
- Weight: 9 lbs.
- Finish: Dark Blue
- Camera Mounting Plate/Quick Release: 5-7/16 x 2-1/2 in. with 3/8" slot for mounting cameras with 1/4" or 3/8" screws
- Accessories Available: Dual Handles
- Price: $1747.00

ITE-H11 Fluid Head
- (Miller-type Super "F" Model)
- Camera Load Capacity: 10 lbs.
- Pan Rotation: +/ - 90°
- Height: 5 in.
- Width: 4 in.
- Length: 4 in.
- Weight: 2 lbs.
- Finish: Dark Blue
- Accessories Available: Ball Leveling
- Price: $355.00

ITE-H14 Fluid Head
- (Miller-type Light Pro Model with Positive Heavy Duty Tilt Lock)
- Camera Load Capacity: 30 lbs.
- Pan Rotation: +/ - 80°
- Height: 5 1/8 in.
- Width: 6 7/8 in.
- Length: 5 3/4 in.
- Weight: 8 lbs.
- Finish: Dark Blue
- Accessories Available: Ball Leveling
- Price: $995.00

ITE-H12 Fluid Head
- (Miller-type V.G. 50 Modell)
- Camera Load Capacity: 20 lbs.
- Pan Rotation: 360°
- Height: 5 in.
- Width: 4 in.
- Length: 4 in.
- Weight: 5 lbs.
- Finish: Dark Blue
- Accessories Available: Ball Leveling
- Price: $895.00

Prices and Specifications Subject to Change Without Notice.
**Wedge Adaptor Assemblies**

The ITE Wedge Plate and Adaptor combination provide for rapid attachment and removal of camera from pan/tilt head. Positive attachment of wedge plate to adaptor is accomplished by rotation of a locking screw which makes inadvertent disengagement impossible.

**ITE-HH6 Hi-Hat**

- **Camera Load Capacity**: 300 lbs.
- **Height**: 6 in.
- **Maximum Width**: 7 ½ in.
- **Mounting Bolt Circle**: 6 ½ in.
- **Bolt Attachment Size**: 3/8 in.
- **Finish**: Dark Blue

**ITE-H9TCB Claw Ball Adaptor**

Interfaces ITE-H9 Head to T4, T7, T8 and T12 Tripods.

**ITE-H2T Claw Ball Assembly**

For H2 and H5 to T6, T10, T13 and P7 Tripods.

**Tripod Accessories**

Leg spikes, rubber foot pads and ball feet are available on various models. Contact ITE for availability.

**ITE-Adaptors**

For interface of all ITE products.

**Quick Release Assemblies**

The ITE Quick Release Assembly provides for rapid attachment and removal of camera from pan/tilt head. Positive attachment of plate to adaptor is accomplished by rotating a spring-loaded lever. Inadvertent disengagement is impossible.

**Handles**

A wide variety of zoom handles are available for all ITE tripods.

**Prices and Specifications**

Prices and Specifications Subject to Change Without Notice.
KY-1900U Portable Three-Tube Professional Color Video Camera

- Super-compact professional quality color video camera
- 4-1/4" x 7.13/32" x 11.23/32". Weight 7.7 lbs.
- Power consumption only 15W (with viewfinder)
- Three 2/3" (17.7mm) Saticon tubes newly designed for quick warm-up convenience
- High-performance parallel optical system with multi-layer coated lenses and dichroic mirrors
- Rugged construction with diecast aluminum frame
- High signal-to-noise ratio of 52dB plus 9dB GAIN available for really low light situations
- 6:1 zoom lens with auto iris, 10:1 servo zoom lens, or 14:1 servo zoom lens can be used
- Automatic iris control with weighting detection circuit to reduce the sensitivity for the upper part of the frame
- ABC (Automatic Beam Control), knee compression and white clip circuits for highlight processing
- Y, I and O encoder provided
- R, G and B output signals through the optional RS-1900U
- Automatic white balance control circuit with 8-bit digital memory
- C-mount and special lens mount enable using a 200-2000mm lens
- High signal-to-noise ratio of 52dB plus 9dB GAIN available for really low light situations
- Rugged construction with diecast aluminum frame
- High signal-to-noise ratio of 52dB plus 9dB GAIN available for really low light situations
- 6:1 zoom lens with auto iris, 10:1 servo zoom lens, or 14:1 servo zoom lens can be used
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- ABC (Automatic Beam Control), knee compression and white clip circuits for highlight processing
- Y, I and O encoder provided
- R, G and B output signals through the optional RS-1900U
- Automatic white balance control circuit with 8-bit digital memory
- C-mount and special lens mount enable using a 200-2000mm lens
- High signal-to-noise ratio of 52dB plus 9dB GAIN available for really low light situations
- Rugged construction with diecast aluminum frame
KY-2700 A

- Three 1/2" (17.7mm) Saticon® tubes newly designed for quick warmup convenience
- High-performance parallel optical system with multi-layer coated lenses and dichroic mirrors
- Rugged construction with diecast aluminum body
- Compact and lightweight with well-balanced weight distribution when held on the shoulder and low power consumption - ideal for ENG/EFP applications
- Camera mount and special lens mount, accommodating a wide variety of lenses
- Plug-in genlock circuit, color bar generator and adjustable H/V blanking width circuit
- RGB signal outputs directly available
- FET-equipped lenses and dichroic mirrors
- H/V blanking width circuit
- Master Black control
- 2H delay line for vertical image enhancement
- 14X or 10X servo zoom lens available
- Multi-layer coated in combination with the RS-2000U
- High-performance parallel optical system
- Automatic iris control with weighting detection highlight processing
- Precision-made deflection yokes for higher performance
- 54 dB of up to 30m (980 ft) from the RS-2000U
- Full remote control and power from a distance
- High-performance parallel optical system
- Well-balanced weight distribution when held on the shoulder and warmup convenience
- High-performance parallel optical system

Standard Accessories

- Carrying case
- Shoulder pad
- Power adaptor holder
- Registration chart
- Mic holder
- 3.15 AMP fuse
- BNC L-type adaptor
- PCB extension board
- Dust/moisture cover
- Auto white memory battery (6V)
- Service manual

CAMERA SYSTEMS

KY-2700APSX14 Portable Color Camera System $9800.00

KY-2700APSX14 Components:

KY-2700ACH Camera Head
AA-C20U AC Adaptor
VF-2000BU 1.5 inch Viewfinder
HZ-2140U 14:1 Servo Zoom Lens
B-20/C-20/Q-27 12 Volt Battery, slow charger, and mount

KY-2700ASSX14 Studio Color Camera System $9260.00

KY-2700ASSX14 Components:

KY-2700ACH Camera Head
AA-C20U AC Adaptor
VF-2500BU 5 inch Viewfinder
HZ-2140U 14:1 Servo Zoom Lens

PS (Portable System)

KY-2700CH Color camera head
AA-C20U AC adaptor
VF-2000BU 1/2" Electronic viewfinder
B-20 4 AH rechargeable battery
C-20 Charger for B-20 battery
Q-27 Battery Bracket for B-20 battery

Accessories for KY-2700 Color Camera

- Model compatible with KY-1900 Color Camera

Prices and Specifications Subject to Change Without Notice.

PS & SS SYSTEMS

Professional Color Camera System

KY-2700ACH Camera Head
AA-C20U AC Adaptor
VF-2500U 5" Electronic viewfinder
HZ-2140U 14:1 Servo zoom lens or
HZ-2100U 10:1 Servo zoom lens

PS (Portable System)

Model compatible with KY-1900 Color Camera

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>WT. (LBS.)</th>
<th>PRICE</th>
</tr>
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<tbody>
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<td>AA-C20</td>
<td>AC Adaptor</td>
<td>5.4</td>
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<td>B-20</td>
<td>Rechargeable Ni-Cad Battery (4AH)</td>
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<td>Charger for B-20 Battery</td>
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<td>CB-3000BS</td>
<td>Soft Carrying Case for KY-Series Cameras</td>
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<td>F-20</td>
<td>Fast Charger for B-20 Battery</td>
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<td>FA-2000U</td>
<td>Film Chan Adaptor</td>
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<td>2500.00</td>
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<td>FL-RBU</td>
<td>Lens for 8mm Projector to FA-3000U</td>
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<td>FL-RBU</td>
<td>Lens for 16mm Projector to FA-3000U</td>
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<td>FL-RBU</td>
<td>Lens for 35mm Projector to FA-3000U</td>
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<td>HZ-EX3</td>
<td>2X Lens Convertor for HZ-2100U or HZ-2140U</td>
<td>1.5</td>
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<td>HZ-FRBU</td>
<td>Rear Manual Focus Control for HZ-2100U</td>
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<td>Rear Manual Focus Control for HZ-2140U</td>
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<td>HZ-ZMIU</td>
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<td>HZ-ZMIU</td>
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<td>1:1, 1:10, 1:100mm Servo zoom Lens</td>
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<td>Electrode Condenser Microphone</td>
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<td>MA-1000U</td>
<td>Microscope Adaptor</td>
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<td>NH-1000U</td>
<td>Microscope Base for MA-1000U</td>
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<td>Q-27</td>
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<td>VC-688U</td>
<td>Extension Cable for VCR Cable 14pin 1m/3.3ft.</td>
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<td>1/4&quot; Electronic Viewfinder</td>
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<td>VF-2500BU</td>
<td>5&quot; Electronic Viewfinder</td>
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<td>2AKFZU</td>
<td>HZ-C20 to HZ-2100U Lens Adaptor</td>
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NEW! S62U

Introduced 4/82 at NAB
(Photo Not Available at Presstime)

S62U Color Video Camera

$1395.00

- Color video camera • 1-1" SATICON® tube, 6 to 1 auto iris C mount zoom lens with macro feature, 1 ½" electronic viewfinder with LED iris, battery warning and VCR start/stop indicators, return video capability in viewfinder, built-in microphone, VCR start/stop trigger, sensitivity switch, AC adaptor, outdoor filter, 20’ cables for HR-6700, HR-2200U, HR-7300, HR-7650, HR-2650, BR-6200

S-100PS One Tube Portable Saticon Color Video Camera

Light weight and economy have been achieved through the use of a single 1" Saticon* tube together with a color stripe filter; the Saticon tube gives superb color reproduction and picture resolution with lower lag.

Another industry-first from JVC — the S-100PS video camera has a built-in "Sound Zoom" microphone. The directivity of the microphone is automatically varied from super-directional to omni-directional and vice versa, being linked with the semi-servo controlled 10:1 power zoom lens. Manual selection of the directivity is also possible.

For better operability, the 1.5" B and W electronic viewfinder displays exposure indication and other information necessary for optimum use of the camera; for convenience the position of the viewfinder is freely adjustable. So that any other camera lens can be substituted for the standard 10X power zoom lens, the S-100PS is provided with special and "C" lens mounts. Includes a carrying case.

The S-100PS is a portable color video camera, combining the quality that professionals expect with flexibility that makes it ideal for a wide range of applications in business, education and industry.

S-100PS ENSEMBLE — Color Video Camera 1-1" Saticon tube. 10:1 auto iris servo Zoom lens with macro focus. 1.5" electronic viewfinder. Zoom microphone with windscreens, handgrip/shoulder pad, AC adaptor, VTR cable, shipping case $2300.00

S-100CH CAMERA HEAD ONLY — Includes Ac adaptor plus VC404 extension and VC408 Breakout cables. For film-to-tape transfers and microscope use. $1750.00

Optional Accessories for Color Cameras

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tr>
<td>B-10A</td>
<td>Battery for BKT-100A</td>
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<td>BKT-100A</td>
<td>Battery Kit for S-100/G-71</td>
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<td>C-10A</td>
<td>Battery Charger for B-10A</td>
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<td>CB-100S</td>
<td>Soft case for S-100</td>
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<td>1 ½&quot; electronic viewfinder</td>
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<td></td>
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<td>CVL-617AMS</td>
<td>6:1 auto iris macro zoom lens</td>
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<td>DC-10S</td>
<td>Cable for B-10A to S-100/G-71</td>
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<td>GN-C80U</td>
<td>Camera Adaptor Unit</td>
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<td>G-10A</td>
<td>Battery holder with belt loop</td>
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<td>TAC-300</td>
<td>Tele-cine converter</td>
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<td>VC-404</td>
<td>Camera extension cable 3m (9')</td>
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<td>VC-40S</td>
<td>Camera extension cable 10m (33')</td>
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<td>VC-418-10S</td>
<td>Extension Cable for GN-C80</td>
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<tr>
<td>VC-422-3SY</td>
<td>Extension Cable for G71US camera</td>
<td>145.00</td>
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<tr>
<td>CV-CF10</td>
<td>Lens Filter for G71US camera</td>
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<tr>
<td>VC-408-3D</td>
<td>Breakout Cable for G71US camera</td>
<td>75.00</td>
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</table>

*Saticon is a registered trademark.

Prices and Specifications Subject to Change Without Notice.
NEW!

HR7650 and HR2650U VCR's with Stereo

Sophistication, Styling, Feature-packed, Ease of operation.

Now all the design concepts are brought together in this video masterpiece. All the video claims and expectations realized. Introducing JVC's new, top-of-the-line Vidstar HR-7650U – a first-rate video recorder that's in a class of its own.

Here's The Premier VHS Machine On The Market Today!

Highlights are full-function infrared remote control, stereophonic sound reproduction with Dolby* NR, and a 105-channel cable-ready capacity.

HR-7650 Features

$1595.00

All features of HR-7300, plus the following:

- Wireless 15 function Remote Control
- Dual Audio Tracks, Stereo Dolby System
- 105 Channel Cable Ready
- Front panel slot loading
- Backspace assemble editing
- Manual distortion on insert edits
- Freeze Frame, from advance
- 5 motors, direct head drive
- 10 minute power outage back up for clock

HR-7300U

$1050.00

- Four-head system for picture clarity
- Shuttle-search
- Full-logic electronic operation
- 8-Event/14-Day timer
- Direct-drive head drum motor
- Full-function remote control

To achieve 6-hour recording and playback capability while retaining excellent picture quality, JVC designed the 4-head system, with independent pairs of heads for the 2-hour (Standard Play) and 6-hour (Extended Play) modes. This innovative system means that the same superb picture quality, the hallmark of JVC and VHS, is maintained in the EP mode.

As well as recording in the 2-hour and 6-hour modes, the HR-7300U is equipped to playback 4-hour (Long Play) cassettes. To playback you don't have to worry about the mode used for recording; just insert the cassette and SP/LP/EP switching is done automatically.

Auto rewind at tape end so that your tapes are always rewound and ready to pop in to start playback from the beginning.

14-channel pretunable electronic tuner: preset the channels, then channel selection is done by simply pressing a button.

Counter search operates in the rewind mode to stop the tape just before the point at which the counter was reset to "0000".

Air-damped cassette holder lifts gently when you press the eject button

Audio dubbing is possible; this means you can add sound to a recording without disturbing the picture.

Automatic channel lock means that you can't change channels accidentally once you've started recording.

Full-function remote control for channel selection, shuttle search in both directions, record, play, audio dubbing, pause, rewind, fast forward and stop.

Prices and Specifications Subject to Change Without Notice.
CP-5000U
3/4" Color Videocassette Player
  • Crisp, clear pictures with APC (Automatic Phase Control) and ACC (Automatic Color Control) circuits. Solenoid-operated. May be remote-controlled with optional RM-51U Remote Control Unit. May be connected to a color TV receiver for playback, using an optional RF converter (KR-500 Series). Full repeat and counter repeat, both automatic. Stereophonic or bilingual audio. Drop-out compensator.
  • Dimensions (WHD): 526 x 195 x 450 mm (20-3/4" x 7-11/16" x 17-3/4")
  • Weight: 26 kg (58 lbs.)
CP-5000U Color videocassette player, automatic repeat $1330.00

CP-5200U
3/4" Color Videocassette Player with Stillframe
  • Dimensions (WHD): 526 x 195 x 450 mm (20-3/4" x 7-11/16" x 17-3/4")
  • Weight: 26 kg (58 lbs.)
CP-5200U Color videocassette player with still frame, automatic repeat $1490.00

CR-6060U
3/4" Color Videocassette Recorder
  • May be fully remote-controlled with the use of the optional RM-60U Remote Control Unit. Audio level controls with level meters. Audio limiter circuit built in. Pause and still-frame capability. Automatic search and repeat. Stereophonic or bilingual audio. Timer start capability. Frame advance.
  • Dimensions (WHD): 526 x 195 x 450 mm (20-3/4" x 7-11/16" x 17-3/4")
  • Weight: 26 kg (58 lbs.)
CR-6060U Color videocassette recorder/player with still frame, manual audio, fully remote controllable with optional RM-60 remote control unit, automatic repeat $1990.00

Prices and Specifications Subject to Change Without Notice.
3/4" COLOR VIDEO CASSETTE PLAYER

CP-5500U

3/4" Color Videocassette Player — Direct Drive

• Ideal for use as a player in electronic editing system
• FM signal output connector provided for FM-FM dubbing
• Microcomputer-assisted logic control with direct mode change
• High reliability, stability and durability due to advanced mechanisms and servo systems
• Variable-speed shuttle-search function via optional RM-70U, RM-82U or RM-88U
• Capstan servo system for external-lock playback
• Time base corrector connectable
• Electronic tape counter/timekeeper
• Optional RF output

• Dimensions (WHD): 564 x 221 x 471 mm (22-1/4" x 8-3/4" x 18-9/16")
• Weight: 29.4 kg (65 lbs.)

CP-5500U 3/4" Color Videocassette Player $2730.00

EDITING CONTROL UNITS

RM-88U

Automatic Editing Control Unit

• Combined with the CR-8200U as a recorder and the CP-5500U, CR-6600U or CR-8200U as a player for high-precision automatic editing
• Memory of edit-in/edit-out points
• Edit-shift for edit point correction
• 7-digit fluorescent display time counter allowing edit-in/edit-out indication as well as readout of elapsed time and edit lap time
• Variable-speed shuttle-search control

• Dimensions (WHD): 440 x 86 x 238 mm (17-3/8" x 3-7/16" x 9-3/8")
• Weight: 5.5 kg (12.2 lbs.)

RM-88U Full Function, Automatic Editing Control Unit $3200.00

REMOTE CONTROL UNIT

RM-70U

Remote Control Unit

• Remote control of all operations of the CR-8200U, CR-6600U or CP-5500U
• Variable-speed shuttle-search function (at speeds from zero to 5 times the normal in both forward and reverse directions)

• Dimensions (WHD): 146 x 67 x 238 mm (5-3/4" x 2-11/16" x 9-3/8")
• Weight: 1.8 kg (4 lbs.)

RM-70U Remote Control Unit $370.00

JVC Tape Handler System Prices

CP-5500U + RM-70 Screening System $3100.00
CR-6600U + RM-70 Screening System $4030.00
CR-8200U + RM-70 Screening System $5370.00
CP-5500U + RM-88 + CR-8200U Editing System $10,950.00
CR-6600U + RM-88 + CR-8200U Editing System $12,000.00
CR-8200U + RM-88 + CR-8200U Reversible Edit System $13,800.00

VE-90 Joystick Controller with provisions for single and dual monitors. (Sold only as part of the following complete systems.)

CP-5500U + VE-90 + CR-8200U $13,150.00
CR-6600U + VE-90 + CR-8200U $14,000.00
CR-8200U + VE-90 + CR-8200U $16,000.00

Remote control with 18 ft. cable for CP-5000/5200, CR-6300, Model RM-51U $110.00
RM-60U Remote control for CR-6060U $165.00
SW-200U Switchbox and antenna cable for CR-6060U $15.00
MCB-20 Carrying case for use with CP5200U, CP5000U, CR6060U, CR6300U $269.00
VC-202U Monitor cable for CP5000U(CP5200U)(CR6300U)(CR6060U/CR6500) $25.00
RM-50U 10' Version of RM51U $60.00

Prices and Specifications Subject to Change Without Notice.
JVC
US JVC Corp.
PROFESSIONAL VIDEO DIVISION

3/4" COLOR VIDEOCASSETTE RECORDER

CR-6600U

3/4" Color Videocassette Recorder $3600.00

- Excellent dubbing quality due to FM-FM dubbing capability
- Ideal for use as a copying or editing VTR for software production
- Automatic pre-roll mechanism and blanking switcher enables assemble-editing
- Microcomputer-assisted logic control
- High reliability, stability and durability
- Variable-speed shuttle-search function via optional RM-70U, VE-90 or RM-88U
- Audio level controls with meters
- Audio limiter circuit built-in
- External-lock playback
- Time base corrector connectable
- Electronic tape counter/timekeeper
- Dimensions (WHD): 564 x 221 x 471 mm (22-1/4" x 8-3/4" x 18-9/16"
- Weight: 30.3 kg (67 lbs.)

The Direct Drive CR-6600U in conjunction with the new CR-8200U editing videocassette recorder and the new RM-82U and RM-88U Automatic Editing Control Units is part of a flexible mid-priced editing system that can be easily expanded or upgraded.

The CR-6600U has direct-drive head drum and capstan, as well as direct-drive reel motors on the reel servo system. This insures stable tape transport at any speed in either forward or reverse. Luminance jitter is rated at less than a factor of plus/minus 5 microseconds.

Features
- The CR-6600U has a built-in automatic pre-roll mechanism and blanking switcher, so that manual or remote control of the record and pause functions create clean assemble edits. The unit has an audio limiter circuit for each of two audio channels, which functions either automatically or manually. Dual audio recording level meters are provided.
- External subcarrier input terminal for TBC connection, and a variable-speed dial search control, which can continuously vary playback speed from zero to five-times normal in both forward and reverse when used with the RM series Automatic Remote Editing Control Units.
- Microprocessor-based logic tape controls, automatic rewind and repeat, pause control, a switchable electronic tape counter and standard time clock with digital display, and a counter search mechanism for locating selected portions of a tape. The unit also has FM-to-FM dubbing capability for improved picture quality during tape duplication.
- The CR-6600U has a video signal-to-noise ratio of more than 48 dB, and a horizontal resolution of 330 lines monochrome and 240 lines in color.

CR-8200U

3/4" Color Videocassette Recorder $5600.00

- Fully electronic editing with rotary erase head and blanking switcher
- Excellent dubbing quality due to FM-FM dubbing capability
- Insert, assemble and pre-roll edit capabilities
- High reliability, stability and durability thanks to direct-driven head drum and capstan, reel servo system with exclusive reel motors, aluminum diecast chassis, two-motor gear-driven, tape loading system, etc.
- Remote control via optional RM-70U or automatic editing control via optional VE-90 or RM-88U
- Microcomputer-assisted logic control
- External-lock playback
- Time base corrector connectable
- Audio level control
- Electronic tape counter/timekeeper
- Dimensions (WHD): 564 x 221 x 471 mm (22-1/4" x 8-3/4" x 18-9/16"
- Weight: 30.3 kg (67 lbs.)

The tape transport performance of the CR-8200U color U-type editing videocassette recorder is the logical choice for video users that demand professional performance at a good price.

Features
- The CR-8200U has direct-drive head drum and capstan, as well as direct-drive reel motors on the reel servo system. This results in stable tape movement at any speed. Luminance jitter is rated at less than plus/minus 5 microseconds.
- The CR-8200U's rotary erase head and blanking switcher permit clean assemble and insert edits. An audio limiter circuit is provided for each of the two audio channels, preventing distortion in the audio recording process. This limiter circuit is manual or automatic. Dual audio recording level meters are also built-in.
- An external subcarrier input terminal is provided for TBC connections. The FM output and input allow for tape Duplication with low-distortion.
- When used with the RM-70U Remote Control Unit or either of the Edit Controllers in the RM series, the CR-8200U also has continuously variable playback speeds. These speeds vary from zero to five-times normal in both forward and reverse.
- Microprocessor-based logic tape controls, automatic rewind and repeat, pause control, and a switchable electronic tape counter and standard time clock with digital display. There is also a counter search mechanism for finding specific portions of a program.
- The CR-8200U has a video signal-to-noise ratio of more than 48 dB, and a horizontal resolution of 330 lines monochrome and 240 lines in color.

Prices and Specifications Subject to Change Without Notice.
JVC’s all-new U-format portable: reliability and performance make it invaluable for ENG/EFP applications

CR-4700U
- Lightweight — 19.6 lbs. w/Battery
- Low Power Drain — 12.5 watts
- Real Time Monitoring
- Record Current Adjustment
- Microprocessor Controlled
- SMPTE Time Code Capability
- Frame Servo Mechanism
- Automatic Backspace Edits
- Remote Control
- SMPTE Time Code Capability
- Horizontal Resolution: More than 260 lines
- SC Input: 2.0 Vp-p, 75 ohms, unbalanced
- Sync & Subcarrier Jacks
- PRO Connections (BNC -A3/XLR)

Specifications
- Format: U-standard
- Video Recording System: Rotary two-head, helical scan system
- Video Signal System: NTSC-type color, 525 lines
- Maximum Recording Time: 20 min. (KCS-20)
- Tape Speed: 9.53 cm/s
- Power Requirements: 12 V DC
- Power Consumption: 12.5 watts
- Temperature: Operating: 0°C to 40°C (32°F to 104°F)
- Storage: -20°C to 60°C
- Operating Position: Horizontal or vertical
- Video Signal — Input: Mic -60 dBs, 10 k-ohms, balanced; Line -20 dBs/-60 dBs, 10-k ohms, balanced; Output Level: 0 dBs, low impedance, balanced; Headphone Output: Variable between -20 and -40 dBs, 8 ohms load, unbalanced
- Audio Signal — Input: Mic -60 dBs, 10 k-ohms, balanced; Line -20 dBs/-60 dBs, 10-k ohms, balanced; Output Level: 0 dBs, low impedance, balanced; Headphone Output: Variable between -20 and -40 dBs, 8 ohms load, unbalanced
- Time Code: input: More than 1 Vp-p, 10 k-ohms, balanced; Output: 2.2 Vp-p, low impedance, unbalanced
- Connectors — Video/SC/Sync input/output: BNC; Audio LINE IN/OUT: XLR; Mic: LINE IN connectors are used for connecting microphones; Headphones: 6 mm jack; Time code input/output: 12-pin connector
- Dimensions: 338(W) x 130(H) x 352(D) mm (13-5/16” x 5-1/8” x 13-7/8”)
- Weight: 8.9 kg (19.6 lbs.)

Accessories:
AAP-47U AC Adapter/Charger $370.00
NB-P2U Rechargeable Battery $100.00
TG-P47U Time Code Generator Call for Price
CB-XX Custom Shoulder Case Call for Price
RMP-47 Remote Control $245.00
BA-P47U Ext. Battery Cord for NB-P2 $170.00

KCR-2747 KY-2700A Camera/VCR Combination $12,500.00

VE-90 Videotape Editor
The microprocessor-based VE-90 videotape editor with the efficiency and precision of joystick control is the centerpiece of three new editing systems available from the Professional Video Division of US JVC Corp. With continuously variable tape speed and single-handed control, the VE-90 operates on control track. It is compatible with 3/4" and professional 1/2" VCRs, and comes configured with Tapehandler players and recorders. The VE-90 is engineered for fast, hassle-free editing. And it is the first joystick-controlled editor from JVC especially suited for ENG, educational, corporate and professional editing applications.

VE-90 Editor sold in the following packages only
VE-90 Editor with two CR-8200s $16,000.00
VE-90 Editor with CR-8200 and CR-6600 $14,000.00
VE-90 Editor with CR-8200 and CR-5500 $13,000.00

Full-Function Editor
With the versatile VE-90, the operator can edit onto a blank videotape (assemble) or onto a prerecorded tape (insert).

The VE-90 also lets the operator perform one-second fades to and from black, and generates NTSC black ("crystal black"). The black generator function is convenient for adding a control track and recording NTSC black for inserting.

Other VE-90 features include High Speed Search, which enables the operator to find an exact tape location, and Cruise, which shuttles the tape at the fastest joystick speed in forward or reverse. Auto-Tag automatically loads the last record-out point as the next record-in point is completed, minimizing keystrokes and maximizing efficient program building. Recall allows the operator to call up the last keyboard entry for reference or correction before an edit is initiated, while Swap provides access to alternate VCR controls. A Status Display Generator provides a signal to an external monitor of important editing data including: edit number, tape time, record and source in/out points, edit durations, type of edit, VCR status and more.

- Weight: 17 lbs. VE-90 only
- Dimensions: 17” W x 4.5” H x 13” D

§4" RECORDING SYSTEMS

Specifications
- Format: U-standard
- Video Recording System: Rotary two-head, helical scan system
- Video Signal System: NTSC-type color, 525 lines
- Maximum Recording Time: 20 min. (KCS-20)
- Tape Speed: 9.53 cm/s
- Power Requirements: 12 V DC
- Power Consumption: 12.5 watts
- Temperature: Operating: 0°C to 40°C (32°F to 104°F)
- Storage: -20°C to 60°C
- Operating Position: Horizontal or vertical
- Video Signal — Input: Mic -60 dBs, 10 k-ohms, balanced; Line -20 dBs/-60 dBs, 10-k ohms, balanced; Output Level: 0 dBs, low impedance, balanced; Headphone Output: Variable between -20 and -40 dBs, 8 ohms load, unbalanced
- Audio Signal — Input: Mic -60 dBs, 10 k-ohms, balanced; Line -20 dBs/-60 dBs, 10-k ohms, balanced; Output Level: 0 dBs, low impedance, balanced; Headphone Output: Variable between -20 and -40 dBs, 8 ohms load, unbalanced
- Time Code: input: More than 1 Vp-p, 10 k-ohms, balanced; Output: 2.2 Vp-p, low impedance, unbalanced
- Connectors — Video/SC/Sync input/output: BNC; Audio LINE IN/OUT: XLR; Mic: LINE IN connectors are used for connecting microphones; Headphones: 6 mm jack; Time code input/output: 12-pin connector
- Dimensions: 338(W) x 130(H) x 352(D) mm (13-5/16” x 5-1/8” x 13-7/8”)
- Weight: 8.9 kg (19.6 lbs.)

Accessories:
AAP-47U AC Adapter/Charger $370.00
NB-P2U Rechargeable Battery $100.00
TG-P47U Time Code Generator Call for Price
CB-XX Custom Shoulder Case Call for Price
RMP-47 Remote Control $245.00
BA-P47U Ext. Battery Cord for NB-P2 $170.00

KCR-2747 KY-2700A Camera/VCR Combination $12,500.00

Recoding System Consists of Portable KY-2700APS System with Standard Accessories (Less Lens), CR47006 and AC Adaptors

VE-90 Editor sold in the following packages only
VE-90 Editor with two CR-8200s $16,000.00
VE-90 Editor with CR-8200 and CR-6600 $14,000.00
VE-90 Editor with CR-8200 and CR-5500 $13,000.00

Full-Function Editor
With the versatile VE-90, the operator can edit onto a blank videotape (assemble) or onto a prerecorded tape (insert).

The VE-90 also lets the operator perform one-second fades to and from black, and generates NTSC black ("crystal black"). The black generator function is convenient for adding a control track and recording NTSC black for inserting.

Other VE-90 features include High Speed Search, which enables the operator to find an exact tape location, and Cruise, which shuttles the tape at the fastest joystick speed in forward or reverse. Auto-Tag automatically loads the last record-out point as the next record-in point is completed, minimizing keystrokes and maximizing efficient program building. Recall allows the operator to call up the last keyboard entry for reference or correction before an edit is initiated, while Swap provides access to alternate VCR controls. A Status Display Generator provides a signal to an external monitor of important editing data including: edit number, tape time, record and source in/out points, edit durations, type of edit, VCR status and more.

- Weight: 17 lbs. VE-90 only
- Dimensions: 17” W x 4.5” H x 13” D

VE-90 Editor sold in the following packages only
VE-90 Editor with two CR-8200s $16,000.00
VE-90 Editor with CR-8200 and CR-6600 $14,000.00
VE-90 Editor with CR-8200 and CR-5500 $13,000.00

Prices and Specifications Subject to Change Without Notice.
HR-2200UB
VHS-Format 1/2" Color Videocassette Recorder

- Microprocessor-based full-logic tape control
- Solenoid-operated feather-touch pushbuttons
- Four-motor system for greater stability and high reliability
- Variable-speed playback — variable slow-motion, still-frame and frame-advance
- Shuttle search function for quick program sequence location in both directions
- Eleven-mode full-function remote control unit
- ESC (Edit Start Control) system for smooth assembled recordings
- A separate optional tuner doubles as an AC power adaptor/battery charger.

This ultra-lightweight, compact portable recorder weighs only 14.0 lbs. complete with battery pack. This makes it one of the lightest color videocassette recorders around. But it’s not just the light weight of the HR-2200UB that makes it so portable; it’s also very compact — its biggest dimension is less than a foot.

The microprocessor in the HR-2200UB makes possible remote control operation of 12 modes, including recording, variable slow motion, freeze frame, frame advance and others.

BP-5300U
VHS-Format 1/2" Color Videocassette Player

- Four-head system for improved picture quality in special effect playback modes
- Direct-drive system for stable playback
- Aluminum diecast chassis for heavy-duty use
- Motorized automatic front cassette loading
- Microprocessor-based full-logic control
- Shuttle search to about 10 times normal speed
- Capstan servo and external sync capability
- Two-channel audio
- Flexible search and repeat functions
- Electronic tape counter/lap time indicator
- Cordless remote control (RM-P54), connectable remote control (RM-P53), and random access unit (RM-P500) are available.
- Variable-speed playback from still to 10 times normal in either direction when remote-controlled

Dimensions (WHD): 338 x 137 x 329 mm (13-3/8" x 5-7/16" x 13")

BR-6400U
VHS-Format 1/2" Color Videocassette Recorder

- Four-head system for improved picture quality in special-effect playback modes
- Direct-drive system for stable recording and playback
- Aluminum diecast chassis for heavy-duty use
- Motorized automatic front cassette loading
- Microprocessor-based full-logic control
- Shuttle search to 10 times normal speed
- Capstan servo and external sync capability
- Two-channel audio with selectable audio dubbing
- Audio level control with meters
- Automatic back-space editing control
- Electronic tape counter/lap time indicator
- Cordless remote control (RM-P54), connectable remote control (RM-P53) and random access unit (RM-P500) are available.
- Variable-speed playback from still to 10 times normal in either direction

Dimensions (WHD): 442 x 165 x 447 mm (17-7/16" x 6-1/2" x 17-5/8")

Prices and Specifications Subject to Change Without Notice.
**7280UM/7860UM
13”/19” Diagonal Color TV Monitor/Receivers**

The 7280UM/7280UM color TV monitor features electronic components which have been checked and re-checked during production to guarantee superior performance over a long and trouble-free lifetime.

**Features:**
- Black Matrix Picture Tube
- Scene Control
- Automatic Fine-tuning Control (AFC)
- Easy Front Panel Switching between TV and VCR/VTR playback
- Two earphone jacks for private listening or audio monitoring
- Aperture Compensator Control (APACON) on the 7860UM
- Automatic Picture Control (PICTURE AUTO) on the 7280UM
- Automatic Picture Control (PICTURE TUNE) on the 7860UM
- Record off-the-air TV programs with excellent picture quality
- Monitor the camera signal on the TV screen
- Enjoy Hi-Fi sound through a separate audio system
- All solid state construction

**7280UM**
13” Diagonal Color Monitor/Receiver with VC-202U Monitor Cable
$715.00

**7860UM**
19” Diagonal Color Monitor/Receiver with VC202U Monitor Cable
$890.00

**TM-41AU
5” Portable Color Video Monitor**

JVC announces the 5-inch color video monitor which can be used in a variety of video systems. Being lightweight and having three power supply options — AC, battery pack and car battery — it's most suitable for checking camera work in combination with a portable Vidstar VHS system. The TM-41AU has been designed for flexible applications and can be used for professional ENG/EFP productions as well as in studios where a small color camera monitor is required in conjunction with a control console.

- A 5-inch (12.58 sq. in.) in-line stripe picture tube ensures reproduction of sharp, clear color images.
- Flexible 3-way power supply arrangement — household AC, exclusive rechargeable battery pack or car battery — enables both indoor and outdoor use.
- Speaker incorporated for monitoring audio.
- Two video inputs and two audio inputs are provided. Either one can be selected by the pushbuttons on the front panel.
- An LED indicator warns of low battery power.
- The exclusive rechargeable battery pack PBP-1 (optional) can be recharged through the AC power adapter AA-P41AU (optional) while remaining within the monitor.
- The bridged and selected outputs are available from the rear panel terminals with both video and audio signals.
- EIAJ 8-pin connector is provided.

**TM-41AU**
5” Diagonal AC/Battery Powered Color Monitor (PBP-1 battery optional)
$395.00

**AAP-41AU**
Battery Charger for PBP-1
$125.00

Prices and Specifications Subject to Change Without Notice.
CX-610
5" Diagonal—13 Sq. In.
5-Inch Portable Color TV and Monitor
* Sharp, vivid color pictures on both VHF and UHF from a compact, lightweight unit
* Four-way power supply flexibility—AC, "D" batteries, optional rechargeable battery pack and car battery via optional adaptor
* Contactless electronic tuner
* High-sensitivity swivel telescopic antenna
* AFC (Automatic Fine-tuning Control)
* Precision in-line electronic guns
* Video In-Out terminals for use as a color video monitor or as a tuner for recording off-air TV programs with a portable video recorder
* Dimensions: 244 W x 135 H x 275 D mm (9-5/8" x 5-3/8" x 10-7/8")
* Weight: 4.4 kg (9.7 lbs.) (w/o batteries)

$450.00

Accessories
BC-60E Battery case $27.00
CB-25E Rechargeable battery pack $107.00
CC-60E Carrying case $34.00
AP-23 Car Adaptor $7.00

COLOR TELEVISION MONITOR

SPECIFICATIONS
TV standard NTSC system US Standard
Channel coverage VHF channels 2 — 13, UHF channels 14 — 83
Picture tube 5-inch (picture measured diagonally), 55° defl. angle, flat-surface, precision in-line tube.
Power input AC 120 V, 60 Hz, DC 12 V (Car battery/Rechargeable battery), DC 15 V (with 10 D-size dry-cell batteries)
Power consumption 14 W at DC, 24 W at AC
Audio output 0.6 W max.
Antenna input Telescopic rod antenna, 75-ohm for VHF and 300-ohm for VHF & UHF with matching adapter.
Speaker size 8 cm (3-1/4"
Jacks AC input jack, Battery input jack (for dry-cell & rechargeable battery), 12 V DC input jack (for car adapter), Earphone jack, Video input jack, Audio input jack, Video output jack, Audio output jack.
Dimensions 244(W) x 135(H) x 275(D) mm (9-5/8" x 5-3/8" x 10-7/8")
(excluding handle)
Weight 4.4 kg (9.7 lbs.) (without batteries)

Prices and Specifications Subject to Change Without Notice.
Television Demodulator, Model UD-283A
For MATV, CCTV and CATV Applications

Provides High Quality Composite Video and Audio Signals from any TV Channel (2-83)

FEATURES
• All Channel  • Precise Repeatable Tuning  • Front Panel Metering  • AFT  • Varactor Solid State Tuning  • Quality Color & Black & White Signals  • Simultaneous Monitoring and On-Line Operation  • AGC

Commander III Modulator
Model CMM*

TV Signal Modulator for broadcast quality adjacent channel operation, monochrome or color.

FEATURES
• Spurious outputs down -70 dB at +60 dBmV output  • Extremely low differential phase and gain  • Front-panel metering for video depth of modulation and audio deviation  • White-level limiter prevents over-modulation  • Front-panel test points  • No outboard filters required  • Automatic gain control  • Ease of maintenance — slide-out drawer allows maintenance without interrupting service  • Plug-in modular construction  • Crystal-controlled oscillator with new pulse-integrating AFC  • Complete override control for emergency alert  • Provides for maximum system reliability with external standby power  • Only 3 ½” of rack space  • Optional phase lock: single channel or incremental

CCM* Commander III Modulator,
Output VHF (2-13)

CMM* Commander III Modulator,
Output Sub (T-7 - T-11), Mid, Super (A-W)
* Specify Channel

Prices and specifications subject to change without notice
**CARRYING EQUIPMENT FOR PORTABLE VIDEO**

**Porta-Brace ™ Grip**

The GRIP is a heavy-duty, adjustable video cart. It transports more video equipment than ever before possible. The GRIP can be used in the studio or in the field; it is compact and can be loaded into a station wagon and yet may be custom-adjusted to accommodate a wide variety of studio or field equipment. Equipment may be semi-permanently secured by a unique strapping system or may be secured with shock cord for quick on-off use. All bearing surfaces are neoprene padded for shockproof transport. The GRIP uses sturdy 16” spoked wheels, and its axle frame adjusts for selecting the exact balance for your load. The standard model has a cushioned camera rack conveniently located near the handle grips for safe carrying. A second set of handles is provided in front for two-person lifting. The standard GRIP G-1 comes complete with strapping system, shock cord and camera rack. Overall size approx. 25” x 26” x 36” high. Weight: 45 lbs.

Extra Large Model G2 has all the features of the standard model GRIP but with an extra second tier cushioned-shelf arrangement. This added structure nearly doubles the space capacity by adding a full upper surface and another front overhanging shelf.

**ACCESSORIES**

CASE—Model G-LCA, large catchall case which will carry all kinds of tapes, mikes, clamps, cords, etc. It has a thick padded, nylon squared-off construction. Main compartment is 5-1/2” x 11” x 13”, two side pockets 3” x 4-1/2” x 12”, and one front pocket 2” x 9-1/2” x 11-1/2”. Hooks between handles.

CASE—Model GU, two-compartment nylon zippered utility case. This case hangs in the space between the axles or higher, between the handles.

QUIVER—Model GQ-S or GQ-L tripod quiver holds snugly a tripod for transporting with or without camera. Tripod may be quickly removed or left in place for shooting. Specify type of tripod to be held: Model No. GQ-S = small, or Model No. GQ-L = Large.

LIGHT STAND—Model GL, telescoping light stand is fixed on the GRIP. Available for single or double light source.

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**“Grip” Heavy-Duty Cart and Accessories**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Application</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-1</td>
<td>Multi-Purpose</td>
<td>$410.00</td>
</tr>
<tr>
<td>G-2</td>
<td>Multi-Purpose, Extra Capacity</td>
<td>436.00</td>
</tr>
<tr>
<td>G-L</td>
<td>Field Production Lights, 1/2” Top Stud</td>
<td>48.00</td>
</tr>
<tr>
<td>G-QL</td>
<td>For Large Tripods</td>
<td>45.00</td>
</tr>
<tr>
<td>G-QS</td>
<td>For Smaller Tripods</td>
<td>45.00</td>
</tr>
<tr>
<td>G-U</td>
<td>Utility Case</td>
<td>45.00</td>
</tr>
<tr>
<td>G-LCA</td>
<td>Large Utility Case</td>
<td>65.00</td>
</tr>
</tbody>
</table>

The Porta-Brace ™ Trim Series

The Trim Series is offered for those who wish to carry a recording deck on the back without a camera support. It is a compact, comfortable back frame with padded waist belt and shoulder straps. The recorder case sets on small shelves and is secured by clevis pins and split rings. This unit can be put on the wheelbase (WB-2) for rolling. It does not include camera arm or accessory case though these items may be ordered separately. Order by designating “T” plus recorder used plus WB-2 Wheelbase if desired. (Example: T3800/WB-2).

**Backpack-Trim Series**

<table>
<thead>
<tr>
<th>Model #</th>
<th>With Wheelbase</th>
<th>Without Wheelbase</th>
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</thead>
<tbody>
<tr>
<td>T-50</td>
<td>$309.00</td>
<td>$244.00</td>
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<tr>
<td>T-50B</td>
<td>320.00</td>
<td>255.00</td>
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<tr>
<td>T-110</td>
<td>314.00</td>
<td>249.00</td>
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<td>T-150</td>
<td>296.00</td>
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<td>T-170</td>
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<td>T-340</td>
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<td>T-2100</td>
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<td>T-2200</td>
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<td>T-3000</td>
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<td>233.00</td>
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<td>T-3400</td>
<td>225.00</td>
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<td>T-3800B</td>
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<td>T-4100</td>
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<td>T-4400</td>
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<td>T-4800</td>
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<td>T-7300</td>
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<td>T-8400P</td>
<td>309.00</td>
<td>244.00</td>
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Prices and Specifications Subject to Change Without Notice.
BASE, FILL AND SET LIGHTS

ALL UNITS PROVIDED WITH 36 INCH LEADS, C-CLAMP, SAFETY CABLE AND CONNECTOR

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3451</td>
<td>16&quot; 1000W Quartz Scoop</td>
<td>140.00</td>
</tr>
<tr>
<td>3452</td>
<td>16&quot; 1000W Focusing Quartz Scoop</td>
<td>190.00</td>
</tr>
<tr>
<td>13451</td>
<td>Color Frame</td>
<td>35.00</td>
</tr>
<tr>
<td>13452</td>
<td>Color Frame</td>
<td>35.00</td>
</tr>
<tr>
<td></td>
<td>QUARTZ LAMPS FOR 3451TV/3452TV:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FDN 500W 3200°K 400 hrs. frosted</td>
<td>29.00</td>
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<tr>
<td></td>
<td>EMD 750W 3200°K 400 hrs. frosted</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>FHM 1000W 3200°K 300 hrs. frosted</td>
<td>33.00</td>
</tr>
<tr>
<td>1000SE</td>
<td>1000W Quartz Set Light</td>
<td>$190.00</td>
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<td>QUARTZ LAMPS FOR 1000 SE:</td>
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<tr>
<td></td>
<td>FDN 500W 3200°K 400 hrs. frosted</td>
<td>29.00</td>
</tr>
<tr>
<td></td>
<td>EMD 750W 3200°K 400 hrs. frosted</td>
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<tr>
<td></td>
<td>FHM 1000W 3200°K 300 hrs. frosted</td>
<td>33.00</td>
</tr>
<tr>
<td>6912</td>
<td>2000W Soft Light</td>
<td>600.00</td>
</tr>
<tr>
<td>16912</td>
<td>Color Frame</td>
<td>60.00</td>
</tr>
<tr>
<td></td>
<td>QUARTZ LAMPS FOR 6912TV:</td>
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</tr>
<tr>
<td></td>
<td>FHM 1000W 3200°K 300 hrs. frosted</td>
<td>33.00</td>
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<tr>
<td>6914</td>
<td>4000W Soft Light</td>
<td>600.00</td>
</tr>
<tr>
<td>16914</td>
<td>Color Frame</td>
<td>60.00</td>
</tr>
<tr>
<td></td>
<td>QUARTZ LAMPS FOR 6914TV:</td>
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<tr>
<td></td>
<td>FFW 2000W 3200°K 125 hrs.</td>
<td>63.00</td>
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DIFFUSION MATERIALS

<table>
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<tr>
<th>CATALOG NUMBER</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSP-2</td>
<td>Tough Spun. Replaces spun glass.</td>
<td>$130.00</td>
</tr>
<tr>
<td></td>
<td>Roll 48&quot; x 25 feet.</td>
<td></td>
</tr>
<tr>
<td>TRF-2</td>
<td>Tough Frost Diffusion</td>
<td>130.00</td>
</tr>
<tr>
<td>TSK-2</td>
<td>Tough Silk. Same diffusion qualities as real silk. Roll 4&quot; x 25&quot;</td>
<td>130.00</td>
</tr>
<tr>
<td>835</td>
<td>Spun glass. Roll 3&quot; x 12&quot;</td>
<td>30.00</td>
</tr>
</tbody>
</table>

NOTE: Softlights require 2 lamps each.

ADD SUFFIX TO CATALOG NUMBER TO SPECIFY PROPER CONNECTOR

- UG Parallel blade U-ground, U.L. listed
- 955G 3 pole pin connector, U.L. listed
- TLG 3 pole twistlock, U.L. listed

Prices and Specifications Subject to Change Without Notice.
### KEY AND BACK LIGHTS

ALL UNITS PROVIDED WITH 36 INCH LEADS, C-CLAMP, SAFETY CABLE AND CONNECTOR

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3604</td>
<td>4 1/2&quot; 750W quartz Fresnel, slide focus</td>
<td>$150.00</td>
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<tr>
<td>23604</td>
<td>4 way Barndoor</td>
<td>70.00</td>
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<td>13604</td>
<td>Color Frame</td>
<td>8.00</td>
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<td>QUARTZ LAMPS FOR 3604TV:</td>
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<tr>
<td></td>
<td>BW 500W 3200°K 200 hrs.</td>
<td>71.00</td>
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<tr>
<td>3606</td>
<td>6-3/8&quot; 750W Quartz Fresnel</td>
<td>170.00</td>
</tr>
<tr>
<td>23606</td>
<td>4 way Barndoor</td>
<td>70.00</td>
</tr>
<tr>
<td>13606</td>
<td>Color Frame</td>
<td>9.00</td>
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<tr>
<td></td>
<td>QUARTZ LAMPS FOR 3606TV:</td>
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<tr>
<td></td>
<td>EHC 500W 3200°K 500 hrs.</td>
<td>49.00</td>
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<td></td>
<td>EHF 750W 3200°K 300 hrs.</td>
<td>54.00</td>
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<tr>
<td>3608</td>
<td>8&quot; 1000W Quartz Fresnel</td>
<td>280.00</td>
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<td>23608</td>
<td>4 way Barndoor</td>
<td>80.00</td>
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<td>13608</td>
<td>Color Frame</td>
<td>10.00</td>
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<td>QUARTZ LAMPS FOR 3608TV:</td>
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<tr>
<td></td>
<td>CYV 1000W 3200°K 200 hrs.</td>
<td>83.00</td>
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<td>CIX 1500W 3200°K 325 hrs.</td>
<td>105.00</td>
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<td>CYX 2000W 3200°K 250 hrs.</td>
<td>114.00</td>
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<tr>
<td>3609</td>
<td>8&quot; 1000W Quartz Fresnel</td>
<td>265.00</td>
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<td>23609</td>
<td>4 way Barndoor</td>
<td>80.00</td>
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<tr>
<td>13609</td>
<td>Color Frame</td>
<td>10.00</td>
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<td>3610</td>
<td>10&quot; 2000W Quartz Fresnel</td>
<td>390.00</td>
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<tr>
<td>23610</td>
<td>4 way Barndoor</td>
<td>130.00</td>
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<tr>
<td>13610</td>
<td>Color Frame</td>
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<td>QUARTZ LAMP FOR 3610TV:</td>
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<td>CYX 2000W 3200°K 250 hrs.</td>
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<td>3612</td>
<td>12&quot; 5000W Quartz Fresnel</td>
<td>400.00</td>
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<tr>
<td>23612</td>
<td>4 way Barndoor</td>
<td>165.00</td>
</tr>
<tr>
<td>13612</td>
<td>Color Frame</td>
<td>19.00</td>
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<td>QUARTZ LAMP FOR 3612TV:</td>
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<td></td>
<td>DPY 5000W 3200°K 500 hrs.</td>
<td>453.00</td>
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<tr>
<td>3616</td>
<td>16&quot; 10000W Quartz Fresnel</td>
<td>P.O.A.</td>
</tr>
<tr>
<td>23616</td>
<td>4 way Barndoor</td>
<td>P.O.A.</td>
</tr>
<tr>
<td>13616</td>
<td>Color Frame</td>
<td>P.O.A.</td>
</tr>
<tr>
<td></td>
<td>QUARTZ LAMP FOR 3616TV:</td>
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<tr>
<td></td>
<td>DTY 10000W 3200°K 300 hrs.</td>
<td>878.00</td>
</tr>
</tbody>
</table>

NOTES: Oval Beam® 8" Fresnels available on Special Order
Pole-operated Fresnels available on Special Order
P.O.A. - Price On Application

ADD SUFFIX TO CATALOG NUMBER TO SPECIFY PROPER CONNECTOR
- UG Parallel blade U-ground, U.L. listed
- 955G 3 pole pin connector, U.L. listed
- TLG 3 pole twistlock, U.L. listed

Prices and specifications subject to change without notice
SIX STUDIO LIGHTING PACKAGES

These packages have been designed and engineered by Kliegl to cover a broad spectrum of studio lighting applications as they apply to most commercial, educational, and industrial users. Each package has been carefully laid out to ensure that the compliment of lighting fixtures, distribution equipment and the lighting control system will prove adequate in the area for which it is designed.

LIGHTING FIXTURES — A varying compliment of Key, Back, Base, Fill and Set lights, including their accessories, are provided in every package. Pattern Projectors and special Cyc lighting instruments are included in certain packages. All fixtures are provided with 36” leads, C-clamp, safety cable and connector.

DISTRIBUTION EQUIPMENT — Wireway connector strips and wall outlet boxes are provided in various quantities for each package (except the STUDIO/FIELD Package, which uses a portable plugging box), in order to ensure proper power distribution throughout the specified studio. Cyc drop boxes are also used in the two larger packages for powering the cyc lighting units.

LIGHTING CONTROL SYSTEM — A solid state, low voltage control dimming system has been designed for each of the studio packages. Each system consists of an SCR Dimmer Bank, a Safpatch Panel, a portable 2 Scene Control Console and Plugging Box. The STUDIO/FIELD Package has the option of using a KLIEGPAC 9 portable dimming system in place of the portable Plugging Box normally provided.

In addition to the above, each of the studio packages contain a studio layout, the power requirements of the package, and a system (flow) diagram. The packages are listed as follows:

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>PACKAGE DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>801015</td>
<td>10 x 15 TV Package</td>
<td>$2,900.00</td>
</tr>
<tr>
<td>801520</td>
<td>15’ x 20’ (300 sq. ft.)</td>
<td>15,500.00</td>
</tr>
<tr>
<td>801825</td>
<td>18’ x 25’ (450 sq. ft.)</td>
<td>23,000.00</td>
</tr>
<tr>
<td>802030</td>
<td>20’ x 30’ (600 sq. ft.)</td>
<td>32,000.00</td>
</tr>
<tr>
<td>803040</td>
<td>30’ x 40’ (1200 sq. ft.)</td>
<td>70,000.00</td>
</tr>
<tr>
<td>804060</td>
<td>40’ x 60’ (2400 sq. ft.)</td>
<td>110,000.00</td>
</tr>
</tbody>
</table>

Kliegl is also available to work with you in the custom design of a lighting control and distribution system to meet your studio needs. Please contact your Kliegl video dealer, sales representative or the factory direct, in order to arrange for a no-obligation review of your studio requirements.

Prices and Specifications Subject to Change Without Notice.
<table>
<thead>
<tr>
<th>System #</th>
<th>Description</th>
<th>Dimmer Bank #</th>
<th>Control Console #</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000/TLG</td>
<td>9 - 2.4 KW Dimmers. Twistlock Receptacles</td>
<td>7926/TLG</td>
<td>7890</td>
<td>5,400.00</td>
</tr>
<tr>
<td>7000/9555G</td>
<td>9 - 2.4 KW Dimmers. Pin Connector Receptacles</td>
<td>7926/955G</td>
<td>7890</td>
<td>5,400.00</td>
</tr>
<tr>
<td>7000/UG</td>
<td>9 - 2.4 KW Dimmers. U Ground Receptacles</td>
<td>7926/UG</td>
<td>7890</td>
<td>5,400.00</td>
</tr>
<tr>
<td>7000/S</td>
<td>9 - 2.4 KW Dimmers. Terminal Strip Output</td>
<td>7926/S</td>
<td>7890</td>
<td>4,975.00</td>
</tr>
<tr>
<td>8000/955G</td>
<td>9 - 6.0 KW Dimmers. Pin Connector Receptacles</td>
<td>7960/955G</td>
<td>7890</td>
<td>9,100.00</td>
</tr>
<tr>
<td>8000/S</td>
<td>9 - 6.0 KW Dimmers. Terminal Strip Output</td>
<td>7960/S</td>
<td>7890</td>
<td>8,175.00</td>
</tr>
</tbody>
</table>

NOTE: A #7892/32 Control Cable is furnished with each system.

Control Cables

- Catalog #7892
  - Console to Dimmer Bank Control Cable
  - 32" (10M) long with AMP connectors

- Catalog #7893
  - Console to Console Master/Slave Cable
  - 3' (1M) long with AMP connectors

- Catalog #7895
  - Cable to Cable Coupler
  - 1' (3M) long with AMP connectors

Other Control Cable lengths of 50, 75, 100, 200 and 250 ft. also available. External plug-in boxes for solid connected systems #7888 with 2 receptacles and #7889 with 1 receptacle also available. All products UL listed.

Prices and Specifications Subject to Change Without Notice.
KLOSS VIDEO

NOVA BEAM

NOVA BEAM MODEL ONE
The NOVA BEAM Model One is a two-piece projection color television set, consisting of an unusually compact receiver/monitor console and a separate free-standing screen which provides a 6.5' diagonal-measure picture. Like most other quality home projection sets, the picture is projected by a three-tube system which eliminates the electrical inefficiencies of the conventional front view color picture tube like the shadow mask and the uncontrolled direction of light. However, the NOVA BEAM Model One incorporates innovative new NOVATRON® projection tube technology which achieves a new level of picture performance — and does so, almost incidentally, at a lower cost than was previously possible. We believe that the result is a projection set which will come closer to fulfilling your expectations for large-screen television viewing than any other.

THE NOVATRON PROJECTION TUBE SYSTEM AND THE PROJECTION SCREEN
The key to the NOVA BEAM Model One's high performance, as well as to its lower than expected cost, is the new NOVATRON projection tube developed by Kloss Video Corporation. It is overall the most efficient method yet devised to realize a large color television picture — efficient in its use of electricity, efficient in its light-projecting capability and efficient to manufacture. NOVATRON tubes, one for each of the red, green and blue signals that make up a color TV picture; the three projected images overlap on the screen to create the full color picture free of the segmentation into dots or stripes common to regular television.

Combined with the NOVATRON projection tube system is a new high performance projection screen. Its 6.5’ diagonal surface focuses the light from the projector over a broad, comfortable viewing area, while simultaneously rejecting ambient room light; the surface is both durable and washable. Together, the screen and the NOVATRON projection system provide the brightest home projection television picture, one which can be watched in surprisingly well-lit surroundings. Available in Walnut or Oak finish.

TEN FOOT FLAT SCREEN NOVA BEAM®
The NOVA BEAM® Model One 10 Foot Projector for use with a flat screen is intended for special applications in home, institutional, and industrial installations where projection on a larger, flat screen (with controlled room lighting) allows larger audience coverage. The NOVA BEAM® Model One 10 Foot Projector is used with a conventional 6 x 8 foot, glass beaded or matte white, flat projection screen. The flat screen may be ceiling, wall, or tripod mounted; and electrically controlled roll up/out of sight installations are possible. Because the 10 foot diagonal flat screen is more than twice the area of the 6.5 foot diagonal curved screen, the flat screen reflects light over a wider viewing area than the curved screen and does not reject ambient room light as the curved screen does. Consequently, the NOVA BEAM® 10 foot flat screen picture is not as bright as the standard NOVA BEAM® 6.5 foot curved screen picture. NOVA BEAM® 10 foot flat screen brightness is comparable to classroom 16mm movie projection; similar, subdued lighting is appropriate.

The NOVA BEAM® Model One 10 Foot Projector is also available in a ceiling mount version where suspending the projector from the ceiling is preferable to standard floor positioning. The projector has side mounted plates from which it is hung upside-down in a ceiling mounted frame which must be secured to the building structure. The projector has also been modified electronically to provide a “heads-up” picture and convergence control changes appropriate for the projector in the upside-down position.

NOVA BEAM® Model One Projection Receiver Monitor includes Tuner, Remote Control, Walnut or Oak cabinet.

<table>
<thead>
<tr>
<th>SCREEN Included</th>
<th>Floor Standing Model</th>
<th>Ceiling Mount Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 ½’ Curved Screen Projector</td>
<td>Yes</td>
<td>$3300.00</td>
</tr>
<tr>
<td>6 ½’ Flat Screen Projector</td>
<td>No</td>
<td>$3125.00</td>
</tr>
<tr>
<td>10’ Flat Screen Projector</td>
<td>No</td>
<td>$3500.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
Character Generator Specifications

**K128 Genera Description:** Keyboard entry device for purpose of generating high resolution white alphaneumeric in video form. Unit self-contained requiring only AC power and sync pulse train. Allows entry of information at any location on page. Audio I/O's included. Character Specifications: Display Format: 128 characters - 26 upper case, 26 lower case, 10 numerals, 26 typewriter symbols, 10 math symbols, 8 Greek letters, 11 foreign language letters, 9 special symbols, 1 flash, 1 space. Character resolution: 768 elements (32 horizontal x 24 vertical); Nominal character height: 32 scan lines, large, 16 scan lines, small; Page format: 24 characters/line; 8 lines/page. Input: full interlace composite video-sync per EIA RS170, RS330, EIAJ, or similar standards.

**Expansion Memory Unit**

KD-128 Fast random access page storage on flexible magnetic Floppy diskettes. Expands the K128 memory capacity to 400 pages, external. Roll or crawl continuously from page to page. OR, with the inclusion of the KAM128 automated control option, PROGRAM the 400 pages to do any combination of rolls/Crawls, full page displays, loop pages, pause the program, do character animation. A remote control unit is included with each system.

**Titling Unit**

K50 General Description: Keyboard entry device for purpose of generating white alphaneumeric information in video form. Unit self-contained requiring only AC power and sync pulse train. Used as a video source or downstream keyer-insertor. Allows entry of information at any location or page. independent program/preview channels. 4 full pages of memory. Character Specifications: Display format: 64 characters - 26 upper case, 10 numerals, 27 typewriter symbols, 1 space. Character resolution 7 x 9 dot matrix. Nominal character height 36 scan lines. Page format: 16 characters/line; 8 lines/page. Input: Full interlace composite video-sync per EIA RS170, RS330, EIAJ, or similar standards.

### Series K5C/K60 Titlers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>K50</td>
<td>Character Generator with 4 pages of memory,</td>
<td>$1095.00</td>
</tr>
<tr>
<td></td>
<td>independent edit channel, flash</td>
<td></td>
</tr>
<tr>
<td>K550</td>
<td>All features in K50 plus crystal controlled</td>
<td>$1225.00</td>
</tr>
<tr>
<td></td>
<td>internal sync</td>
<td></td>
</tr>
<tr>
<td>KX50</td>
<td>All features in K550 plus title window, crawl,</td>
<td>$1756.00</td>
</tr>
<tr>
<td></td>
<td>and automatically timed page sequencer</td>
<td></td>
</tr>
<tr>
<td>K60</td>
<td>Character Generator with all K50 features but</td>
<td>$1525.00</td>
</tr>
<tr>
<td></td>
<td>increases line length to 32 characters and number</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of lines to 16</td>
<td></td>
</tr>
<tr>
<td>K650</td>
<td>All features in K60 plus crystal controlled</td>
<td>$1700.00</td>
</tr>
<tr>
<td></td>
<td>internal sync</td>
<td></td>
</tr>
<tr>
<td>K660</td>
<td>All features in K560 plus title window, crawl,</td>
<td>$2085.00</td>
</tr>
<tr>
<td></td>
<td>and automatically timed pages sequencer</td>
<td></td>
</tr>
</tbody>
</table>

### Series K128B Character Generators

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>K128B</td>
<td>High Resolution Character Generator with 4</td>
<td>$3825.00</td>
</tr>
<tr>
<td></td>
<td>pages of memory, italics, internal mixing audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>I/O, extended character set, 3 pos. title window,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>double size</td>
<td></td>
</tr>
</tbody>
</table>

### Memories: (To STD K128B)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>I004</td>
<td>Adds 4 pages for total of 8</td>
<td>$545.00</td>
</tr>
<tr>
<td>I016</td>
<td>Adds 12 pages for total of 16</td>
<td>$1425.00</td>
</tr>
<tr>
<td>KD128</td>
<td>External 400 page diskette memory</td>
<td>$5715.00</td>
</tr>
<tr>
<td>KAM128</td>
<td>Automated control for KD128</td>
<td>$1030.00</td>
</tr>
<tr>
<td>KDR128</td>
<td>Remote control for use with KD128 and/or KAM128</td>
<td>$1315.00</td>
</tr>
<tr>
<td>KD128D</td>
<td>Floppy Diskettes</td>
<td>$12.00/ea</td>
</tr>
</tbody>
</table>

### Systems

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>K128B</td>
<td>with MF246</td>
<td>$46160.00</td>
</tr>
<tr>
<td></td>
<td>with MF246 other options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with MF246, MF and KAM</td>
<td>$5650.00</td>
</tr>
<tr>
<td>K128B</td>
<td>with MF246 other options</td>
<td>$11,195.00</td>
</tr>
<tr>
<td></td>
<td>with MF246, MF and KAM</td>
<td></td>
</tr>
</tbody>
</table>

### Options: (To STD K128B)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC128TS</td>
<td>3 speed roll/crawl</td>
<td>$875.00</td>
</tr>
<tr>
<td>PP128</td>
<td>Independent Edit Channel</td>
<td>$1115.00</td>
</tr>
<tr>
<td>AC128</td>
<td>Line-By-Line Auto Center</td>
<td>$650.00</td>
</tr>
<tr>
<td>MF246</td>
<td>Multi-font very high resolution character set</td>
<td>$1415.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
TELECINE PROJECTOR

Athena® 6000
16mm Telecine Film Transport
The Athena 6000 is designed to meet most professional telecine requirements in NTSC, PAL and SECAM countries.

Many of the features and benefits listed below are exclusive to the Athena 6000:

- Slow motion/still frame
- Automatically phase-locks to NTSC, PAL or SECAM field rates
- Unlimited hold time in still frame mode
- Precision adjustable film gate assembly with 8.73mm x 10.16mm aperture
- Cost-effective modular design
- Multi-voltage/multi-frequency
- Cueing sensor (stops film)
- 50 to 5,000-foot film capacity (15.2 meters — 1520 meters)
- Remote control option
- Automatic lamp change-over
- Moderate price
- Two year parts and workmanship warranty

The Athena 6000 is totally modular, enclosed in a RTMA rack 19 inches (480mm) wide by 69 3/4 inches (1.7 meters) high. Each module contains all related electronics. These modules are sold separately for emergency back-up inventory. All connection are plug-in to further facilitate easy servicing.

Solid state technology reel tension sensors permit a wide range of reel sizes and film footage, from 50 feet (15.2 meters) to 5,000 feet (1520 meters). The result is gentle film handling. Upper and lower loop formers combined with an automatic stop feature (film break) further protect the film.

Dual projection lamps have automatic change-over feature. Illuminated pushbutton on control panel will enter flashing mode if change-over occurs. Dual exciter lamps are also equipped with automatic change-over.

Accessories/Options Include:
- A wide selection of lenses
- Remote control (4-wire multiplex technology). Multiple locations are possible
- Remote control with electronic frame counter

Price includes follow-up visit by Athena Field Service Engineer at no charge, within the 48 contiguous States and District of Columbia, U.S.A. Other locations require only per diem fee plus transportation. $21,425.00

Prices and Specifications Subject to Change Without Notice.
The MODEL 5400 OPTICAL MULTIPLEXER is similar to the Model 5300 described above except that it has the capability of multiplexing up to four separate film images. It has two field lenses to provide intermediate image planes upon which both the camera and the projector lenses are focused. The movable mirrors are shifted by a cam/aperture coupling but in both the 5300 and the 5400, automatic self-dousing is inherent in the vertical-wipe image transfer so that all unused input images are eliminated.

Two vacuum-formed plastic covers protect the entire optical area from dust and ambient light. The bench pedestals on both the 5300 and the 5400 have the lower portion of the pedestal surrounded by a recessed kick plate. Also, in both systems, the bench pedestal, stands and shelves feature removable panel sections for rack equipment mounting and access during installation. A large port in the rear section of each shelf and stand allows power and control cable entry and each has a rotatable cover which both closes the cable opening and furnishes strain relief for the cable.

A complete line of 16mm TV film projectors, slide projectors, interconnecting stands and shelves as well as other accessories and peripherals are available. Also available is engineering assistance in equipment selection and system design.

MULTIPLEXERS

**5300 Optical Multiplexer** for three input sources (Small Image).
- Includes optical transfer assembly with field lens and cover, bench pedestal and local control. (Does not include camera or projector mounting shelves or stands). Note: Refer to lens extenders accessories section for special camera to lens interface components.

**5340 Optical Multiplexer** for three or four input sources (Large Image).
- Includes optical transfer assembly with cover, bench pedestal and local control. Three input may be field converted for fourth input source. (Does not include camera or projector mounting shelves or stands).

**5040 Large Image Field Lens and mounting assembly for 5340 Optical Multiplexer.** (Required for camera without integral field lens).

**5400 Optical Multiplexer** for four input sources (Small Image).
- Includes optical transfer assembly with field lens and cover, bench pedestal and local control. Requires 5041 ND mounting bracket for 410 light control. (Does not include camera or projector mounting shelves or stands).

**5330 Optical Multiplexer** for three input sources (Large Image).
- Includes optical transfer assembly and cover, bench pedestal and local control. (Does not include field lens, camera or projector mounting shelves or stands).

**SHELVES AND STANDS**

- **5104 Stand** for cameras or projectors with optical center height between 8 3/4” and 12 1/4”. Includes mounting adapter. (Specify camera or projector model when ordering) $399.00
- **5107 Shelf** for small camera or projector. Includes mounting adapter. (Specify camera or projector model when ordering) $285.00
- **5106 Stand** for camera or projector with height of less than 8 1/8” from mounting base to center of optics. Includes mounting adapter. (Specify camera or projector model when ordering) $290.00

**UNIPLEXERS**

**5116 Optical Assembly** with first surface mirror and field lens.
- Includes shelves and adapters for camera and 16mm film projector. (Specify camera and projector when ordering). Requires 50mm camera lens with 3/8” extender and 3” projection lens. (Lenses not included) $1100.00
- **5136 Optical Uniplexer Assembly** same as above for one 35mm slide projector. (Less mirror) $985.00
- **5136m Optical Uniplexer Assembly** for monochrome camera and 35mm slide projector. (Less field lens and mirror) $495.00
- **5136 105mm Camera taking lens and 1.57” lens barrel for use with 5135 Uniplexer.** ("C" Mount) $225.00

**LENS EXTENDERS**

- **5015 3/8” Lens Extender for 50mm lens to "C" mount camera adapter** $20.00
- **5016 Lens Extender Kit (Cosmicar)** $50.00

**MULTIPLEXER ACCESSORIES**

- **5021 Test Film Kit Loop.** Includes RES, REG, FLESH TONE slides.
- **RES 16mm film loop** $200.00
- **5022 Eastman Kodak Gray Scale Slide** $300.00
- **5036 Neutral Density Filter Kit — 6 density filters supplied for mounting.** For small image. (One Kit for each projector recommended) $100.00
- **5037 Neutral Density Filter Kit — 6 density filters supplied for mounting.** For large image. (One Kit for each projector recommended) $225.00
- **5046 Mounting Bracket for 5056 light control for use with 5400 4-input optical multiplexer** $40.00
- **5050 Automatic Light Control—maintains camera video at p/p** $1915.00

Prices and Specifications Subject to Change Without Notice.
**PROJECTORS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT-3LTI</td>
<td>Eiki Autoload 16mm TV Film Projector. Includes 3&quot; lens.</td>
<td>$2509.00</td>
</tr>
<tr>
<td>NT-2LTI</td>
<td>Eiki Autoload 16mm TV Film Projector. Includes 3&quot; lens, Optical and Magnetic Playback, and Remote Adapter. (Requires 5108 Stand).</td>
<td>$2950.00</td>
</tr>
<tr>
<td>4110</td>
<td>Eastman Single Drum Slide Projector. Holds 80, 35mm slides. Includes modified 7&quot; lens and adjustable mount. (Requires 5107 Shelf or 5108 Stand). (Use 2506 Remote and 3504 Adapter for remote control).</td>
<td>$3340.00</td>
</tr>
<tr>
<td>4210</td>
<td>Dual Drum Slide Projector. Holds 160, 35mm Slides. Includes lens and adjustable mount. With 7&quot; lens for Small Image System.</td>
<td>$105.00</td>
</tr>
<tr>
<td>4220</td>
<td>Dual Dissolve Slide Projector. Hold 160, 35mm Slides. Includes lens and adjustable mount. With 7&quot; lens for Small Image System.</td>
<td>$3340.00</td>
</tr>
<tr>
<td>TV-M100A</td>
<td>Eastman Super 8mm TV Film Projector. Includes 40mm lens. (Requires 5104 Stand). (Uses 2510 remote and 3509 adapter for remote control).</td>
<td>$115.00</td>
</tr>
<tr>
<td>TV-12M6</td>
<td>Eastman 16mm TV Film Projector. Includes 3&quot; lens. (Requires 5104 Stand). (Uses 2510 remote and 3509 adapter for remote control).</td>
<td>$930.00</td>
</tr>
<tr>
<td>1030NLTI</td>
<td>Singer 16mm TV Film Projector. Includes 3&quot; lens and Optical Playback. (Requires 5108 Stand). (Uses 2510 remote and 3501 adapter for remote control).</td>
<td>$1250.00</td>
</tr>
<tr>
<td>2230LTI</td>
<td>Singer 16mm TV Instalod Film Projector. Includes 3&quot; lens, fast forward and reverse mode and Optical Playback. (Requires 5108 Stand). (Uses 2510 remote and 3503 adapter for remote control).</td>
<td>$185.00</td>
</tr>
<tr>
<td>3501</td>
<td>Adapter, Projector Remote - for 930 LTI TV Film Projector.</td>
<td>$70.00</td>
</tr>
<tr>
<td>3503</td>
<td>Adapter, Projector Remote - for 1130 LTI TV Film Projector.</td>
<td>$70.00</td>
</tr>
<tr>
<td>3504</td>
<td>Adapter, Projector Remote - for 4110 Slide Projector.</td>
<td>$105.00</td>
</tr>
<tr>
<td>3507</td>
<td>Adapter, Projector Remote - for 322 Spinder and Sauppe' Slide Projector.</td>
<td>$145.00</td>
</tr>
<tr>
<td>3509</td>
<td>Adapter, Projector Remote - for 4220 Dual Drum Slide Projector.</td>
<td>$115.00</td>
</tr>
<tr>
<td>3510</td>
<td>Universal Adapter, Projector Remote - with A.C. power cord for all projectors without remote provisions. Includes local controls of &quot;Off&quot; and &quot;Ready&quot;.</td>
<td>$145.00</td>
</tr>
</tbody>
</table>

**ADAPTERS FOR REMOTE CONTROL**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2506</td>
<td>Control, Remote - for Model 4110 Single Drum Slide Projector. &quot;Off&quot;, &quot;Ready&quot;, &quot;Show&quot;, &quot;Forward&quot;, and &quot;Reverse&quot; slide change.</td>
<td>$145.00</td>
</tr>
<tr>
<td>2506</td>
<td>Rack Frame - accepts up to three remote control modules. Blank filler panels provided, if necessary.</td>
<td>$60.00</td>
</tr>
<tr>
<td>2510</td>
<td>Control, Remote - for TV-12M6 Eastman 16mm TV Film Projector. Includes modified 7&quot; lens and adjustable mount. (Requires 5107 Shelf or 5108 Stand). (Use 2506 Remote and 3504 Adapter for remote control).</td>
<td>$495.00</td>
</tr>
</tbody>
</table>

**ADDITIONAL ACCESSORIES**

- **3501 Adapter, Projector Remote - for 930 LTI TV Film Projector.**
- **3503 Adapter, Projector Remote - for 1130 LTI TV Film Projector.**
- **3504 Adapter, Projector Remote - for 4110 Slide Projector.**
- **3507 Adapter, Projector Remote - for 322 Spinder and Sauppe' Slide Projector.**
- **3509 Adapter, Projector Remote - for 4220 Dual Drum Slide Projector.**
- **3510 Universal Adapter, Projector Remote - with A.C. power cord for all projectors without remote provisions. Includes local controls of "Off" and "Ready".**

**PROPRIETARY ACCESSORIES**

- **3501 Adapter, Projector Remote - for 930 LTI TV Film Projector.**
- **3503 Adapter, Projector Remote - for 1130 LTI TV Film Projector.**
- **3504 Adapter, Projector Remote - for 4110 Slide Projector.**
- **3507 Adapter, Projector Remote - for 322 Spinder and Sauppe' Slide Projector.**
- **3509 Adapter, Projector Remote - for TV-12M6 Eastman 16mm TV Film Projector.**
- **3510 Universal Adapter, Projector Remote - with A.C. power cord for all projectors without remote provisions. Includes local controls of "Off" and "Ready".**
The Model 3600A Television Character Generator includes standard features such as 10 line by 25 character format with adjustable character width, 1k (four page) solid state memory, preview and program outputs, keyboard controlled program character on/off edging. Other standard keyboard function controls permit selective Underline, Overline, Crawl, Roll, Box, Flash and word length selection of either black or white characters. As many as three additional solid state memory, each of four, eight, twelve or sixteen page capacity, may be either included or added later, giving a total of sixty-four pages of solid state memory.

Model 1021 Electronic "Q" Board

The 1021 Q Board adds that professional touch to your video tape productions. By a method similar to that involving a "clap" board used in movie making important production information may be televised and recorded on the leader of any commercial or program tape. Also, both an aural and visual countdown, recorded just prior to program information, will allow accurate cueing in playback. Emission of a countdown beep tone from the built-in speaker serves to alert the studio crew and talent during taping sessions.
Our New and Latest Lightweight Video Equipment Carrier

**3100F — Features of Carrier:**
- Lightweight — anodized aluminum
- Only 24 pounds
- Foam padded shelves
- Adjustable straps — each shelf
- All shelves fold — easy to put in car or truck
- Drilled plate in handle to accept camera elevator
- Cable holders
- 16" air cushion tires — 23" wheelcase
- Easy up and down stairs
- 3" casters on front
- 1 year limited structural warranty
- Shipped UPS
- F.O.B. Mesa, Az. $635.00

Rigid — Sturdy — Put all your equipment on wheels.

**Options:**
- Waterproof dust cover
- Heavy-duty AC Strip — switch, light-circuit breaker and bracket
- Tripod or light holding attachment
- Gimbeled battery box

**Video Equipment and Instrument Carrier**

**3500 — Features of Carrier:**
- Main Feature — Lightweight and Large Wheels
- All anodized aluminum
- Welded unit
- Bolt-in padded shelves
- Space shelves to fit your equipment
- Safety straps each shelf
- Easy up and down stairs
- 16" spoke wheels — ball bearings, air tires, on tires, on 21" wheelbase
- Locking casters on front
- Casters — handle (optional)
- Drilled plate in handle to accept camera elevator — 2 ¼" hole
- 1 year limited structural warranty
- F.O.B. Mesa, Az. Total weight w/4 shelves — 26 lbs. $565.00

**Add-A-Shelf**

**4000 — Features of Carrier:**
- Main Feature — Lightweight
- All anodized aluminum
- Welded unit
- Bolt-in padded shelves
- Space shelves to fit your equipment
- Safety straps each shelf
- Easy up and down stairs
- 16" spoke wheels — ball bearings, air tires, on 21" wheelbase
- Locking casters on front
- Casters — handle (optional)
- Drilled plate in handle to accept camera elevator — 2 ¼" hole
- 1 year limited structural warranty
- F.O.B. Mesa, Az. Total weight w/4 shelves — 26 lbs. $519.00

This carrier designed and built to carry the Ampex VPR-20. Most other 1" recorders

**5100F — Features of Model:**
- 1" Recorders
- Yet lightweight — 25 lbs.
- All anodized aluminum
- Foam padded shelves
- All straps as necessary for equipment
- Easy up and down stairs
- 16" spoke wheels, ball-bearing, air tires, on 21" wheelbase
- Locking caster on front
- Drilled plate in handle to accept camera elevator — 2 ¼" hole
- Cable holders
- Folds to put in vehicle
- 1 year limited structural warranty
- F.O.B. Mesa, Az. $688.00

Put all your heavy equipment on wheels.

**Options:**
- Waterproof dust cover
- AC strip — 6 plug, switch, light, circuit breaker and mounting bracket
- Gimbeled battery box

---

Prices and Specifications Subject to Change Without Notice.
PAN AND TILT HEADS

**LISTEC TELEVISION EQUIPMENT CORP.**

**PAN AND TILT HEADS**

(100-400 LB. CAPACITY)

Mark IIIA Cam Head supplied with Mitchell Base, Full-sized Pan Bar and Clamp, 3/8" Bolt Fixing to Camera

Mark VII L.F. Cam Head shown with optional 3084/14 Female Wedge Adaptor

Mark V Cam Head supplied with Mitchell Base, Full-sized Pan Bar and Clamp, 3/8" Bolt Fixing to Camera

Petrel Mark II L.F. Pan and Tilt Head

PAN AND TILT HEADS

(25-50 LB. CAPACITY)

Post Pan and Tilt Head supplied with an appropriate base (Mitchell or Pro Jr.) and one full size Pan Bar

Dunlin L.F. Pan and Tilt Head Supplied with appropriate base and one full size Pan Bar

**COURTENIDGE MOUNTING EQUIPMENT**

3717 Mark IIIA Cam Head

**SPECIFICATIONS**

- **Capacity**: 400 lbs.
- **Weight**: 44 lbs.
- **Cam Sizes**: 5"-11"
- **Tilt Range**: + / - 50°
- **Width, Length, Height**: 12", 14", 7"
- **Construction**: Stainless Steel, Aluminum and Magnesium Alloy Castings
- **Finish**: Grey Textured Stove Enamel with Anti-Corrosion Plating on all Bright Metal

3084 Mark VII L.F. Cam Head

**SPECIFICATIONS**

- **Capacity**: 200 lbs.
- **Weight**: 35 lbs.
- **Cam Sizes**: 4 1/2"-11"
- **Tilt Range**: + / - 60°
- **Width, Length, Height**: 15", 9", 7"
- **Construction**: Stainless Steel, Aluminum and Magnesium Alloy Castings
- **Finish**: Grey Textured Stove Enamel with Anti-Corrosion Plating on all Bright Metal

3716 Mark V Cam Head

**SPECIFICATIONS**

- **Capacity**: 180 lbs.
- **Weight**: 15 lbs.
- **Cam Sizes**: 4 1/2"-11"
- **Tilt Range**: + / - 60°
- **Width, Length, Height**: 15", 9", 7"
- **Construction**: Stainless Steel, Aluminum and Magnesium Alloy Castings
- **Finish**: Grey Textured Stove Enamel with Anti-Corrosion Plating on all Bright Metal

3076 Mark II L.F. Pan and Tilt Head

**SPECIFICATIONS**

- **Capacity**: 100 lbs.
- **Weight**: 15 lbs.
- **Tilt Range**: + / - 40°
- **Width, Length, Height**: 6 1/2", 9", 7"
- **Construction**: Stainless Steel, Aluminum and Magnesium Alloy Castings
- **Finish**: Grey Textured Stove Enamel with Anti-Corrosion Plating on all Bright Metal

3078 Post Pan and Tilt Heads

**SPECIFICATIONS**

- **Capacity**: 50 lbs.
- **Weight**: 20 lbs.
- **Tilt Angle**: 360°
- **Pan Angle**: 360°
- **Tilt Axis Height Adjustment**: Max. 13 1/4", Min. 10 1/2" (L" Bracket Platform Adjustment)
- **Maximum Camera Width to "L" Bracket**: 6 1/2"

3051 L.F. Pan and Tilt Head

**SPECIFICATIONS**

- **Capacity**: 50 lbs.
- **Weight**: 11 lbs.
- **Center of Gravity Compensation**: Variable from 6 1/2" at 50 lbs.
- **Tilt Range**: + / - 50°
- **Width, Length, Height**: 8 1/2", 6 1/2", 7"
- **Construction**: Stainless Steel, Aluminum and Magnesium Alloy Castings
- **Finish**: Black Stove Enamel with Anti-Corrosion Plating on all Bright Metal

3199 ENG Pan and Tilt Head

**SPECIFICATIONS**

- **Capacity**: 30 lbs. at 7" C. of G.
- **Weight**: 7 lbs.
- **Tilt Angle**: + / - 90°
- **Pan Range**: 360°

3089 Cygnet L.F. Mini Post

**SPECIFICATIONS**

- **Capacity**: 25 lbs.
- **Weight**: 10 lbs.
- **Tilt Angle**: 360°
- **Pan Angle**: 360°
- **Cygnet Pan and Tilt Head supplied with Pro Jr. Mitchell, Claw Ball, or Sachtler Ball, and one full size Pan Bar.

**Prices and Specifications Subject to Change Without Notice.**
3702 FULMAR EXTENDED RANGE PNEUMATIC PEDESTAL

It is doubtful whether this pedestal could ever become obsolete and in a short span of just a few years the FULMAR has become regarded by all types of users as the ultimate production pedestal. Starting from the tremendously strong base, which contains a welded steel annular low pressure tank, the available three stage ram assembly which supports the camera mounting platform. This platform also carries a single lifting/steering ring for one handed operation. Special magnesium alloy telescoping tubes, each with four pairs of ball races, two pairs of which are always adjustable, ensure that absolute rigidity of the pedestal column is maintained. The unsurpassed column range of elevation (21")-59") allows shots to be obtained of the studio action without recourse to risers or other types of platforms. In addition, the fluid motion of the pedestal allows a continuity of program that will satisfy the most demanding director. All parts are machined meticulously and the built in adjustments ensure long life at optimum mechanical efficiency.

Weights.

tricycle steering, adjustable cable guards, pedal-operated change over from crab to tricycle steering, adjustable cable guards, dual wheels, 15 lbs. trim weights, pressure guage and wheel cutouts for visual inspection.  $17,300.00

3741 TERN PNEUMATIC PEDESTAL

When operating modes do not warrant the purchase of a full production pedestal such as the 702 above, the 741 Tern will provide much more than just adequate performance. Designed as a direct replacement in terms of operating range, to the original lead counterbalanced pedestals which were standard in the industry at one time, the 741 is only half the weight. This ensures that much less effort is required to move the pedestal over the studio floor which discourages "flat spots." A large annular low pressure tank supports a single stage ram assembly providing a long 21" stroke. The supporting column is carried on three pairs of ball races, one pair of which is eccentrically mounted. All moving parts in this pedestal, as in the case of the 702, can be adjusted for eventual wear to maintain optimum performance. This engineering approach is standard with all Vinten products. The 741 is supplied complete with trim weights for minor load variation and with gimballed wheels and adjustable cable guards as standard.

Weights.

The 741 is supplied complete with single combined lifting steering ring, pedal-operated change over from crab to tricycle steering, adjustable cable guards, dual wheels, 15 lbs. trim weights, pressure guage and wheel cutouts for visual inspection.  $13,000.00

ACCESSORIES

3806-1155 NITROGEN REGULAR with Hose and Adapter to pedestal. Preferred low cost method to charge pedestal where compressed Nitrogen is available, eliminates contamination of steel reservoir and allows fast charge up time.  $600.00

3056/3C PortaPed

The recent development of lightweight color cameras to broadcast standards has permitted the production of more sophisticated support equipment. Whereas previously, sheer weight and size ruled out the possibility of combining several functions in one unit, the latest cameras, even when loaded up, can be handled in a variety of new ways. The PortaPed is a combination self-leveling tripod with a built-in pedestal type column that can charge itself up for counterbalancing purposes just by exercising the column. This is accomplished using only the available atmosphere and no external charging apparatus is required. In addition, unlike other units, there are no fluids to leak from the PortaPed. All functions are achieved by traditional mechanical means. The PortaPed is lightweight, easy to set up and folds away neatly. It is also the basis of a number of other interesting Vinten Portable Mountings shown.

Weights.

PortaPed PORTABLE PNEUMATIC PEDESTAL supplied complete with Pro Jr. Top, "THREE WAY." Adjustable legs for both height and direction, lifting/steering ring, carrying handle, column lock and adjustable drag controls. Options include simple Type 71 PortaPed casting Dolly or Type 64 TriTrack Crabbing Base. See accessories.  $4600.00

ACCESSORIES

3064 TRITRACK CRABBING BASE for PortaPed (described elsewhere)  $4600.00

3046 TRITRACK CRABBING BASE for PortaPed (described elsewhere)  $4800.00

3067 DOLPHIN CRANE ARM (described elsewhere)  $6875.00

3072 TRIMOUNT COLUMN to mount Dolph in TriTrack  $3650.00

3073 PLATFORM and SEAT ASSEMBLY for TriTrack  $1500.00

Prices and specifications subject to change without notice.
TOTA/OMNI KITS

T1-93M
carry-on kit
19 lbs. 8.62 kg. 654.00
3 tota-lights, 16' cables (less lamps); 3 tota-frames; assorted gels;
3 tota-flags; 1 totaector; 4 flexisheets; 1 tota-mount; 1 tota-clamp;
1 small space clamp; 1 12 yard gaffer tape; 1 tota-lampak; 1 tota-case.
T1-90
lube kit
14 lbs. 6.35 kg. 485.00
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.
T1-92M
trans-kit
29 lbs. 13.15 kg. 725.00
3 tota-lights, 16' cables (less lamps); 3 tota-brellas; 3 omni-stands;
1 tota-lampak; 1 tota-omni molded case.
T1-94M
4 kit
40 lbs. 18.14 kg. 1250.00
4 tota-lights, 16' cables (less lamps); 1 tota-brella; 4 tota-frames;
2 assorted gels; 1 lightflector/tiller; 4 tota-flags; 1 totaector;
4 flexisheets; 1 tota-tatch; 4 omni-stands; 1 tota-mount; 1 tota-clamp;
1 large space clamp; 1 12 yard gaffer tape; 1 tota-lampak; 2 tota-packets; 1 tota-omni case.
01-92
action kit
28 lbs. 12.70 kg. 875.00
3 omni-lights, 16' cables. #1 reflectors (less lamps); 3 omni-barndoors;
3 omni-stands; 1 omni-lampak; 1 tota-omni case.
01-93
omni 3 kit
32 lbs. 14.51 kg. 1065.00
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;
2 assorted gels; 3 omni-stands; 1 tota-mount; 1 tota-clamp;
1 12 yard gaffer tape; 1 omni-lampak; 1 tota-omni case.
01-94M
spatial kit
42 lbs. 19.05 kg. 1380.00
4 omni-lights, 16' cables. #1 reflectors (less lamps); 4 omni-frames;
1 #3 super spot 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-lampak; 1 omni case.
01-97
basicfly 3 kit
28 lbs. 12.70 kg. 775.00
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.
01-95
ambi kit
39 lbs. 17.95 kg. 1350.00
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 totaector; 4 flexisheets; 1 tota-tatch; 4 omni-stands; 1 tota-
mount; 2 tota-clamps; 1 12 yard gaffer tape; 2 tota-omni lampaks;
1 tota-pack; 1 tota-omni case.
01-98
elemental kit
31 lbs. 14.06 kg. 865.00
1 tota-light, 16' cable (less lamp); 2 omni-lights, 16' cables;
#1 reflectors (less lamps); 2 omni-barndoors; 1 full scrim; 1 tota-
broella; 2 tota-frames; 1 assorted gels; 3 omni-stands; 1 tota-omni
lampak; 1 tota-omni molded case.
T0-96
sole kit
58 lbs. 26.30 kg. 2100.00
2 tota-lights, 16' cables (less lamps); 4 omni-lights, 16' cables;
#1 reflectors (less lamps); 3 super spot reflectors; 4 omni-barn-
doors; 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/tiller; 4 tota-flags; 1 totaector; 4 flexisheets;
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 tota-packet; 1 omni case.
TOTA/OMNI SYSTEMS

T1-10
tota-light
2 lbs. 1.02 kg. 105.00
01-10
omni-light
2 lbs. 1.19 kg. 125.00
01-13
omni-light 30v
2 lbs. 1.02 kg. 135.00
01-15
#1 reflector
2 oz. 57 g. 12.00
01-16
#2 reflector
2 oz. 57 g. 12.00
01-17
#3 reflector
2 oz. 57 g. 12.00
01-18
#4 reflector
2 oz. 57 g. 12.00
T1-20
tota-frame
6 oz. 17.27 kg. 25.00
GELS: PACKAGE OF 5
2 oz.
#1 reflector
57 g.
2 oz.
#3 reflector
57 g.
2 oz.
#5 reflector
57 g.
4 oz.
#1 reflector
17 oz.
4 oz.
#3 reflector
17 oz.
4 oz.
#5 reflector
17 oz.
8 oz.
#1 reflector
57 g.
8 oz.
#3 reflector
57 g.
8 oz.
#5 reflector
57 g.
16 oz.
#1 reflector
122 oz.
16 oz.
#3 reflector
122 oz.
16 oz.
#5 reflector
122 oz.
20 oz.
#1 reflector
285 oz.
20 oz.
#3 reflector
285 oz.
20 oz.
#5 reflector
285 oz.

Lighting Systems and Kits

Prices and Specifications Subject to Change Without Notice.
### DP SYSTEM

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE LIST U.S.$</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2-10</td>
<td>dp light</td>
<td>3/4 lbs</td>
<td>176 kg</td>
</tr>
<tr>
<td>D2-15</td>
<td>1 reflector</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-17</td>
<td>3 reflector</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-18</td>
<td>4 reflector</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
</tbody>
</table>

**SEE SUPPLEMENT SHEET FOR LAMPS**

- D2-20 complete barndoor: 1 lb 45 kg 57.50
- D2-21 barndoor frame: 4 oz 11 kg 24.50
- D2-22 rectangular leaf: 4 oz 11 kg 12.00
- D2-23 triangular leaf: 2 oz 57 g 11.50
- D2-50 diffused glass: 4 oz 11 kg 27.50
- D2-51 dichroic filter: 4 oz 11 kg 104.00
- D2-52 clear glass: 4 oz 11 kg 26.00
- D2-53 snoot: 6 oz 17 kg 34.00
- D2-54 full scrim: 3 oz 85 g 14.00
- D2-55 half scrim: 3 oz 85 g 14.00
- D2-56 graduated scrim: 3 oz 85 g 16.50
- D2-57 cookaloris: 3 oz 85 g 14.00
- D2-24 dp frame: 8 oz 23 kg 38.50
- GELS | PACKAGE OF 4, 12x16" (30x41cm) | NET WEIGHT | WEIGHT |
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D2-69</td>
<td>blue frost gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-70</td>
<td>day blue gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-71</td>
<td>n.d. 3 gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-72</td>
<td>frost gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-78</td>
<td>mixed gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-25</td>
<td>dp brella</td>
<td>14 oz</td>
<td>40 kg</td>
</tr>
<tr>
<td>T1-50</td>
<td>flex shaft 16&quot; (2)</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-52</td>
<td>tota-flag</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-54</td>
<td>tota-reflector</td>
<td>6 oz</td>
<td>17 kg</td>
</tr>
<tr>
<td>LFT</td>
<td>lightflector/tilter</td>
<td>1 1/2 lbs</td>
<td>79 kg</td>
</tr>
<tr>
<td>KS</td>
<td>ks stand</td>
<td>4 1/4 lbs</td>
<td>2.10 kg</td>
</tr>
<tr>
<td>KP</td>
<td>full pole</td>
<td>1 lbs</td>
<td>62 kg</td>
</tr>
<tr>
<td>KPH</td>
<td>half pole</td>
<td>1 lb</td>
<td>45 kg</td>
</tr>
<tr>
<td>LC</td>
<td>lowel casters (3)</td>
<td>2 1/2 lbs</td>
<td>1.08 kg</td>
</tr>
<tr>
<td>LA</td>
<td>lowel anchors (4)</td>
<td>12 oz</td>
<td>34 kg</td>
</tr>
<tr>
<td>LW</td>
<td>lowel weight</td>
<td>4 1/4 lbs</td>
<td>1.93 kg</td>
</tr>
<tr>
<td>SC-10</td>
<td>large space clamp</td>
<td>11 1/2 lbs</td>
<td>68 kg</td>
</tr>
<tr>
<td>SC-20</td>
<td>small space clamp</td>
<td>1 1/4 lbs</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-32</td>
<td>tape up bracket</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
<tr>
<td>GT-12</td>
<td>gaffer tape 12 yards</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
<tr>
<td>GT-30</td>
<td>gaffer tape 30 yards</td>
<td>11 1/4 lbs</td>
<td>57 kg</td>
</tr>
</tbody>
</table>

### LIGHTING SYSTEMS AND KITS

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE LIST U.S.$</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-30</td>
<td>tota-clamp</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>K1-10</td>
<td>interlink</td>
<td>12 oz</td>
<td>34 kg</td>
</tr>
<tr>
<td>KG</td>
<td>grip</td>
<td>1 1/4 lbs</td>
<td>79 kg</td>
</tr>
<tr>
<td>LSS</td>
<td>screw in stud (2)</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>LOE25</td>
<td>25&quot; extension cable</td>
<td>2 1/4 lbs</td>
<td>1.08 kg</td>
</tr>
<tr>
<td>KCC</td>
<td>cable clips (40)</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>K4CC</td>
<td>cable clips (10)</td>
<td>1 oz</td>
<td>28 g</td>
</tr>
<tr>
<td>D2-61</td>
<td>dp lampak</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>MCSE</td>
<td>multi case</td>
<td>14 1/4 lbs</td>
<td>6.58 kg</td>
</tr>
<tr>
<td>D2-89</td>
<td>heavy duty case</td>
<td>37 lbs</td>
<td>1 17 kg</td>
</tr>
<tr>
<td>D2-05</td>
<td>quartz d retrofit</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
</tbody>
</table>

### DP KITS

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE LIST U.S.$</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2-95</td>
<td>dp brella kit</td>
<td>46 lbs</td>
<td>21 kg</td>
</tr>
<tr>
<td></td>
<td>3 dp lights, 1 reflector (less lamps): 3 dp brellas; 3 ks stands; 1 dp lampak; 1 multi case</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2-93</td>
<td>dp 3 kit</td>
<td>43 lbs</td>
<td>20 kg</td>
</tr>
<tr>
<td></td>
<td>3 dp lights, 1 reflector (less lamps): 3 dp barndoors; 3 ks stands; 1 dp lampak; 1 multi case</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2-94</td>
<td>dp 4 kit</td>
<td>53 lbs</td>
<td>24 kg</td>
</tr>
<tr>
<td></td>
<td>4 dp lights, 1 reflector (less lamps): 4 dp barndoors; 4 ks stands; 1 dp lampak; 1 multi case</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2-96</td>
<td>dp remote kit</td>
<td>50 lbs</td>
<td>23 kg</td>
</tr>
<tr>
<td></td>
<td>3 dp lights, 1 reflector (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 multi case</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Prices and Specifications Subject to Change Without Notice.*
SOFTLIGHT SYSTEM

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-10</td>
<td>soft light 2</td>
<td>8 lbs</td>
<td>3.63 kg</td>
</tr>
<tr>
<td>S2-20</td>
<td>complete barndoor</td>
<td>2 lbs</td>
<td>91 kg</td>
</tr>
<tr>
<td>S2-21</td>
<td>top or bottom door</td>
<td>10 oz</td>
<td>28 kg</td>
</tr>
<tr>
<td>S2-22</td>
<td>side barndoor</td>
<td>5 oz</td>
<td>14 kg</td>
</tr>
<tr>
<td>S2-30</td>
<td>reflector shell</td>
<td>6 oz</td>
<td>17 kg</td>
</tr>
<tr>
<td>S2-69</td>
<td>blue frost gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>S2-70</td>
<td>day blue gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>S2-71</td>
<td>n 3 gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>KS</td>
<td>ks stand</td>
<td>4 lbs</td>
<td>11.34 kg</td>
</tr>
<tr>
<td>KP</td>
<td>full pole</td>
<td>1 lb</td>
<td>454 g</td>
</tr>
<tr>
<td>SC-10</td>
<td>large space clamp</td>
<td>1 lb</td>
<td>454 g</td>
</tr>
<tr>
<td>SC-20</td>
<td>small space clamp</td>
<td>1 lb</td>
<td>454 g</td>
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<tr>
<td>KG</td>
<td>gaffer tape 12 yards</td>
<td>1 lb</td>
<td>454 g</td>
</tr>
<tr>
<td>Ki-10</td>
<td>interlink</td>
<td>12 oz</td>
<td>340 g</td>
</tr>
<tr>
<td>T1-30</td>
<td>tota-clamp</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>KWW</td>
<td>water weight</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
<tr>
<td>LW</td>
<td>lowel weight</td>
<td>4 lbs</td>
<td>1.81 kg</td>
</tr>
<tr>
<td>LC</td>
<td>lowel casters (3)</td>
<td>2 lbs</td>
<td>907 g</td>
</tr>
<tr>
<td>KCC</td>
<td>cable clips (40)</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>KCC</td>
<td>cable clips (10)</td>
<td>1 oz</td>
<td>28 g</td>
</tr>
<tr>
<td>T1-61</td>
<td>tota lampak</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>S2-51</td>
<td>softlight case</td>
<td>9 oz</td>
<td>3.11 kg</td>
</tr>
<tr>
<td>S2-53</td>
<td>softlight case</td>
<td>11 lbs</td>
<td>4.99 kg</td>
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<tr>
<td>RU</td>
<td>roll up carrier</td>
<td>3 lbs</td>
<td>1.47 kg</td>
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<tr>
<td>S2-06</td>
<td>softlight retrofit</td>
<td>1 lb</td>
<td>0.45 kg</td>
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Prices and Specifications Subject to Change Without Notice.

LOWEL-LIGHT SYSTEM

<table>
<thead>
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<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL1</td>
<td>lowel light</td>
<td>10 oz</td>
<td>28 kg</td>
</tr>
<tr>
<td>BR40</td>
<td>barndoor</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>BR-1</td>
<td>replacement flap</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>GT-12</td>
<td>gaffer tape 12 yards</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
<tr>
<td>GT-30</td>
<td>gaffer tape 30 yards</td>
<td>14 lbs</td>
<td>31.50</td>
</tr>
<tr>
<td>K5C</td>
<td>lowel light case</td>
<td>2 lbs</td>
<td>907 g</td>
</tr>
<tr>
<td>KSBR</td>
<td>lowel light KSBR kit</td>
<td>8 oz</td>
<td>2.86 kg</td>
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REFLECTORS

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<tr>
<th>CODE</th>
<th>ITEM</th>
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<tbody>
<tr>
<td>LFT</td>
<td>lightflector/tilter</td>
<td>14 lbs</td>
<td>6.35 kg</td>
</tr>
<tr>
<td>LF</td>
<td>lightflector</td>
<td>14 lbs</td>
<td>6.35 kg</td>
</tr>
<tr>
<td>T1-54</td>
<td>tota-tilter</td>
<td>6 oz</td>
<td>17 kg</td>
</tr>
<tr>
<td>V44A</td>
<td>variflector II</td>
<td>14 lbs</td>
<td>6.35 kg</td>
</tr>
<tr>
<td>V44RS</td>
<td>replacement panel</td>
<td>4 lbs</td>
<td>1.81 kg</td>
</tr>
<tr>
<td>V44CK</td>
<td>side channels (2)</td>
<td>3 lbs</td>
<td>1.36 kg</td>
</tr>
<tr>
<td>GS</td>
<td>grand stand</td>
<td>6 lbs</td>
<td>2.72 kg</td>
</tr>
<tr>
<td>KS</td>
<td>ks stand</td>
<td>4 lbs</td>
<td>1.81 kg</td>
</tr>
<tr>
<td>D1-3</td>
<td>omni-stand</td>
<td>2 lbs</td>
<td>0.91 kg</td>
</tr>
<tr>
<td>LA</td>
<td>lowel anchors (4)</td>
<td>1 oz</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>LW</td>
<td>lowel weight</td>
<td>4 lbs</td>
<td>1.81 kg</td>
</tr>
<tr>
<td>T1-36</td>
<td>tota-tilter</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>T1-50</td>
<td>flexi shaft 16&quot; (2)</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>T1-30</td>
<td>tota-clamp</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>T1-34</td>
<td>tota-tatch</td>
<td>2 oz</td>
<td>0.57 kg</td>
</tr>
<tr>
<td>LC</td>
<td>lowel casters (3)</td>
<td>2 lbs</td>
<td>0.91 kg</td>
</tr>
<tr>
<td>V44CC</td>
<td>variflector case</td>
<td>4 lbs</td>
<td>1.81 kg</td>
</tr>
<tr>
<td>V44SC</td>
<td>variflector II kit</td>
<td>11.34 kg</td>
<td>495.00</td>
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Prices and Specifications Subject to Change Without Notice.
FLAGS, GELS, UMBRELLAS

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<tr>
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<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-52</td>
<td>tota-flag</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-50</td>
<td>flex shaft 16&quot; (2)</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-30</td>
<td>tota-clamp</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-34</td>
<td>tota-tatch</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>T1-35</td>
<td>tota-daport</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-36</td>
<td>tota-tilter</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>T1-20</td>
<td>tota-frame</td>
<td>6 oz</td>
<td>17 kg</td>
</tr>
<tr>
<td>D2-24</td>
<td>dp frame</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
</tbody>
</table>

GELS/PACKAGE OF 5, 10x12" (25x30cm)

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1-69</td>
<td>blue frost gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>T1-70</td>
<td>day blue gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>T1-71</td>
<td>n.d. 3 gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>T1-72</td>
<td>frost gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>T1-78</td>
<td>assorted gels</td>
<td>2 oz</td>
<td>57 g</td>
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</table>

GELS/PACKAGE OF 4, 12x16" (30x41cm)

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2-69</td>
<td>blue frost gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-70</td>
<td>day blue gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-71</td>
<td>n.d. 3 gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-72</td>
<td>frost gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
<tr>
<td>D2-78</td>
<td>mixed gels</td>
<td>2 oz</td>
<td>57 g</td>
</tr>
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</table>

GELS/PACKAGE OF 3, 24x34" (61x86cm)

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2-69</td>
<td>blue frost gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>S2-70</td>
<td>day blue gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>S2-71</td>
<td>n.d. 3 gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>S2-72</td>
<td>frost gels</td>
<td>7 oz</td>
<td>20 kg</td>
</tr>
<tr>
<td>T1-25</td>
<td>tota-brelia</td>
<td>8 oz</td>
<td>14 oz</td>
</tr>
<tr>
<td>D2-25</td>
<td>dp brelia</td>
<td>14 oz</td>
<td>29.50</td>
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STANDS, POLES, BOOMS, RIGS

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS</td>
<td>grand stand</td>
<td>6 lbs</td>
<td>2.72 kg</td>
</tr>
<tr>
<td>KS</td>
<td>ks stand</td>
<td>4 lbs</td>
<td>2.10 kg</td>
</tr>
<tr>
<td>D1-33</td>
<td>omni-stand</td>
<td>2.5 lbs</td>
<td>1.30 kg</td>
</tr>
<tr>
<td>KP</td>
<td>full pole</td>
<td>1.5 lbs</td>
<td>0.62 kg</td>
</tr>
<tr>
<td>KPH</td>
<td>half pole</td>
<td>1 lb</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>LC</td>
<td>lowel casters (3)</td>
<td>2 lbs</td>
<td>0.93 kg</td>
</tr>
<tr>
<td>LA</td>
<td>lowel anchors (4)</td>
<td>1.2 oz</td>
<td>0.34 kg</td>
</tr>
<tr>
<td>LW</td>
<td>lowel weight</td>
<td>4 lbs</td>
<td>1.93 kg</td>
</tr>
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STANDS, POLES, BOOMS, RIGS

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW</td>
<td>water weight</td>
<td>8 oz</td>
<td>23 kg</td>
</tr>
<tr>
<td>KCL</td>
<td>ceiling link</td>
<td>10 oz</td>
<td>26 kg</td>
</tr>
<tr>
<td>T1-30</td>
<td>tota-clamp</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>KG</td>
<td>grip</td>
<td>1 lb</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>KI-10</td>
<td>interlink</td>
<td>1 oz</td>
<td>0.27 kg</td>
</tr>
<tr>
<td>KI-11</td>
<td>double male stud</td>
<td>4 oz</td>
<td>11 kg</td>
</tr>
<tr>
<td>MCSE</td>
<td>multi case</td>
<td>14 oz</td>
<td>0.58 kg</td>
</tr>
<tr>
<td>V44CC</td>
<td>variflect case</td>
<td>4 oz</td>
<td>1.93 kg</td>
</tr>
<tr>
<td>T1-82</td>
<td>tube case</td>
<td>2 oz</td>
<td>0.94 kg</td>
</tr>
<tr>
<td>RU</td>
<td>roll-up carrier</td>
<td>1 oz</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>SP-90</td>
<td>big boom</td>
<td>20 lbs</td>
<td>9.08 kg</td>
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CLAMPS & MOUNTS

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<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC-10</td>
<td>large space clamp</td>
<td>1 lb</td>
<td>0.68 kg</td>
</tr>
<tr>
<td>SC-20</td>
<td>small space clamp</td>
<td>1 lb</td>
<td>0.57 kg</td>
</tr>
<tr>
<td>SC-15</td>
<td>large bar</td>
<td>8 oz</td>
<td>0.23 kg</td>
</tr>
<tr>
<td>SC-25</td>
<td>small bar</td>
<td>4 oz</td>
<td>0.11 kg</td>
</tr>
<tr>
<td>SC-30</td>
<td>stud bracket</td>
<td>4 oz</td>
<td>0.11 kg</td>
</tr>
<tr>
<td>SC-35</td>
<td>clamping arm (1)</td>
<td>6 oz</td>
<td>0.17 kg</td>
</tr>
<tr>
<td>KP</td>
<td>full pole</td>
<td>1 lb</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>KPH</td>
<td>half pole</td>
<td>1 lb</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>T1-30</td>
<td>tota-clamp</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>KG</td>
<td>grip</td>
<td>1 lb</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>KI-10</td>
<td>interlink</td>
<td>1 lb</td>
<td>0.45 kg</td>
</tr>
<tr>
<td>K1-11</td>
<td>double male stud</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>T1-32</td>
<td>tota-mount</td>
<td>10 oz</td>
<td>2.86 kg</td>
</tr>
<tr>
<td>D2-32</td>
<td>tape up bracket</td>
<td>8 oz</td>
<td>2.33 kg</td>
</tr>
<tr>
<td>GT-12</td>
<td>gaffer tape 12 yards</td>
<td>8 oz</td>
<td>2.33 kg</td>
</tr>
<tr>
<td>GT-30</td>
<td>gaffer tape 30 yards</td>
<td>8 oz</td>
<td>2.33 kg</td>
</tr>
<tr>
<td>LSS</td>
<td>screw in stud (2)</td>
<td>4 oz</td>
<td>1.12 kg</td>
</tr>
<tr>
<td>T1-35</td>
<td>tota-daport</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>T1-36</td>
<td>tota-tilter</td>
<td>4 oz</td>
<td>1.11 kg</td>
</tr>
<tr>
<td>KCL</td>
<td>ceiling link</td>
<td>1 oz</td>
<td>0.28 kg</td>
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LIGHTING SUPPORT SYSTEMS AND ACCESSORIES

<table>
<thead>
<tr>
<th>CODE</th>
<th>ITEM</th>
<th>NET WEIGHT</th>
<th>PRICE</th>
</tr>
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<tbody>
<tr>
<td>SP-91</td>
<td>basic boom</td>
<td>19 lbs</td>
<td>8.62 kg</td>
</tr>
<tr>
<td>SP-92</td>
<td>hi-lo elbow</td>
<td>7 lbs</td>
<td>3.17 kg</td>
</tr>
<tr>
<td>SP-93</td>
<td>background support</td>
<td>13 lbs</td>
<td>6.12 kg</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
Luxor mobile TV Tables are available in adjustable and fixed-height models with or without cabinets.

All shelves measure 24" x 28". Every model is complete with a three-outlet, three-wire power assembly and 15' cord. Luxor tables are constructed of heavy-gauge welded steel for strength and durability. Legs are double-weight and rounded for strength and safety. Shelves have protective guardrails and rolled edges. Top shelves are double-reinforced and have a non-skid rubber mat. Big, 4" ball bearing, anti-shimmy, swivel casters — two with locking brakes. Charcoal finish. Cabinets have locking doors.

Adjustable-height tables can be easily positioned in any of six overall heights: 56", 54", 50", 48", 42", and 40". Cabinet height is 26".

Fixed-height TV Tables have top shelf tilted forward 8 degrees to reduce glare when viewing.

**Prices and Specifications Subject to Change Without Notice.**
LUXOR

Designer Series
Video Security Consoles

An entirely new concept in video consoles utilizing wood, steel and chrome construction. The DS Series achieves a sensational, attractive appearance in a highly functional cabinet. The black steel frame surrounds walnut woodgrain laminate and decorative chrome to form an exceptionally strong and stable piece of furniture.

The Designer Series is offered in three basic heights: 30", 40" and 55" high. The 30" models are ideal for use by small to medium viewing groups. The 40" models may be used with medium size groups. The 55" models raise the TV receiver to a level needed by larger groups. All models will accommodate VHS or Beta video player/recorders. Recorder shelf is slanted for easy access to controls.

Cabinet shelves and top have a raised safety-edge to prevent equipment from accidentally sliding off. Models are complete with a three-outlet, three-wire electrical power assembly and 15 foot cord.

VTO-28 — VIDEO TAPE ORGANIZER fits any shelf. Chrome plated steel with rubber feet. Holds up to 28 VHS, Beta or ¾" videocassettes. 25 ¾" w x 16" d x 4 ¾" h.

VTO-28 ................................................................. $15.00

All Designer Series models are complete with a three-outlet, three-wire electrical power assembly and a 15 foot cord. Recessed in rear wall of cabinets for safety.

Monitor and recorders not included.

Prices and Specifications Subject to Change Without Notice

DS-300 — 30" TWO-SHELF VIDEO CONSOLE Console is 30" w x 30" h x 20" d. Compartment are 28" w x 18-7/8" d with 12" h between middle and top. 2" hooded ball casters. Assembly required.

DS-300 ................................................................. $198.00

DS-312 — 30" DUTCH DOOR VIDEO CONSOLE Console is 30" w x 30" h x 20" d. Compartment are 28" w x 18-7/8" d with 12" h between bottom and middle shelf and 12" h between middle and top. Locking doors secure your valuable tapes. 2" hooded ball casters. Assembly required.

DS-312 ................................................................. $270.00

DS-325 — 30" FULL DOOR VIDEO CONSOLE Console is 30" w x 30" h x 20" d. Compartment are 28" w x 18-7/8" d with 12" h between bottom and middle shelf and 12" h between middle and top. Full locking doors secure your tapes and receiver. 2" hooded ball casters. Assembly required.

DS-325 ................................................................. $308.00
VIDEO DELAY LINES

INFINITELY VARIABLE VIDEO DELAY BOXES

Two models provide infinitely variable video delay (by means of toggle switches and a +/- 4 ns trim) over the following ranges:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cable Equivalent</th>
<th>Type 1-10</th>
<th>11-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10 ns</td>
<td>7-100 ns</td>
<td>UN180</td>
<td>$168.00</td>
</tr>
<tr>
<td>Performance: Insertion loss/frequency 0.1 dB at low frequency and 0.4 + /- 0.1 dB at 4.43 MHz. 10-325 ns equalized 7-211&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective Lucite Cover for UN180 and UN360</td>
<td>MLC</td>
<td>$13.00</td>
<td></td>
</tr>
</tbody>
</table>

PERFORMANCE: Flat loss at 100 KHz at max. delay is 0.9 dB + / - 0.2 dB. Return loss is greater than 20 dB up to 5.5 MHz. Amplitude/frequency response - ripple less than 0.4 dB up to 5.5 MHz for any delay.

VIDEO DELAY TRIMMER (rubber coax)

An infinitely variable delay range of 3 to 9 ns packaged in a small metal box with BNC connectors — video performance. Recessed screw adjustment permits trimming equivalent to 2-6 feet ccax cable.

<table>
<thead>
<tr>
<th>Range</th>
<th>Cable Equivalent</th>
<th>Type 1-10</th>
<th>11-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-9 ns</td>
<td>2-6'</td>
<td>UN3/9</td>
<td>$75.00</td>
</tr>
</tbody>
</table>

FIXED EQUALIZED VIDEO DELAY BOXES

75 — BNC Connectors — 5.5 MHz

The following equalized lump delay boxes can be cascaded and mixed with UN180 and UN360 to achieve delays to 2000 ns. Amplitude ripple is within 0.2 dB up to 5.5 MHz. A 10 MHz range is also available.

NEW — ADJUSTABLE VIDEO DELAY BOXES — 75Ω

A metal box with BNC connectors containing fixed and segmented video delays in increments of 5 ns with a fine trim of +/-4 ns by screwdriver adjustment on the outside of the box. Instructions inside each box for connection of segmented sections by customer.

PULSE AND BLANKING DELAY BOX — 75Ω

A metal box with BNC connectors containing pulse delays and instructions for tapping off required delay.

<table>
<thead>
<tr>
<th>Range in increments of 5 ns</th>
<th>Cable Equivalent</th>
<th>Type 1-10</th>
<th>11-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-156 ns</td>
<td>3½-100</td>
<td>UN068/A</td>
<td>$ 91.00</td>
</tr>
<tr>
<td>160-1665 ns</td>
<td>104-1067</td>
<td>UN068/B</td>
<td>210.00</td>
</tr>
<tr>
<td>1660-3156 ns</td>
<td>1070-2055</td>
<td>UN068/C</td>
<td>495.00</td>
</tr>
</tbody>
</table>

In increments of 100 ns

<table>
<thead>
<tr>
<th>Range</th>
<th>Cable Equivalent</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-1500 ns</td>
<td>66-967</td>
<td>UN068/1</td>
</tr>
<tr>
<td>1600-3000 ns</td>
<td>1032-1935</td>
<td>UN068/2</td>
</tr>
<tr>
<td>3100-4500 ns</td>
<td>2000-2903</td>
<td>UN068/3</td>
</tr>
</tbody>
</table>

RACK-MOUNTED EQUALIZED VIDEO DELAYS

5.25 SERIES

5.25 Series Rack Frame ........................................... $155.00
5.25 Series Blank Panel ........................................... $ 24.00

The 5.25 Series delay line cards are available either with switches (Part No. 5.25/8-) or adjustable (without switches, Part No. 5.25/1A). Both cards have BNC connectors on the back. Up to 8 cards can be accommodated by one rack frame.

The switched version provides 310 ns of infinitely variable delay with 26 switches and the + /-4 ns vernier. The version without switches has the + /-4 ns vernier and is normally supplied with the final 150 ns segmented range unconnected. You connect this final segmented portion in 5 ns increments using the + /-4 ns vernier for fine trim until correct timing is achieved.

With either version, should timing requirements change, Matthey delay line PC modules can be added or subtracted to accommodate any delay requirement from 10 to 2100 ns.

SWITCHABLE VIDEO DELAY CARDS

5.25/B Series — Six switches and the + /-4 ns vernier provide 310 ns of infinitely variable delay — equalized to 5.5 MHz and padded to 3 dB.

<table>
<thead>
<tr>
<th>Video Delay Range</th>
<th>Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.25/B2</td>
<td>10-320 ns</td>
<td>$ 542.00</td>
</tr>
<tr>
<td>5.25/B3</td>
<td>310-620 ns</td>
<td>720.00</td>
</tr>
<tr>
<td>5.25/B4</td>
<td>610-920 ns</td>
<td>857.00</td>
</tr>
<tr>
<td>5.25/B5</td>
<td>910-1220 ns</td>
<td>955.00</td>
</tr>
<tr>
<td>5.25/B6</td>
<td>1210-1520 ns</td>
<td>1136.00</td>
</tr>
<tr>
<td>5.25/B7</td>
<td>1510-1820 ns</td>
<td>1193.00</td>
</tr>
<tr>
<td>5.25/B8</td>
<td>1810-2120 ns</td>
<td>1451.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
VIDEO PRODUCTS

Video Signal Synchronizer 2525
075904-501 VIDEO SIGNAL SYNCHRONIZER for complete signal processing of any video source. A full performance Frame Synchronizer/Time Base Corrector including Line Error Detection, Field 1, Field 2, or Frame Freeze, RS-170A Sync Generator, Auto Freeze or Black Selectable, H-Phasing, Output H-Sync and Burst Level Control, and unique Hetrocolor processing. Includes one Operation and Service Manual.

$16,900.00

TBC Frame Synchronizer 2520
The 2520 synchronizer gives you the highly transparent performance of the 2525 at an attractive price. Synchronize network incoming, remotes, satellite feeds - all locked to station through the 2520. On location, switch multi-cameras feeds through the 2520 for "invisible" hot switches. The 2520 is a full-function infinite window time base corrector with Microtime's exclusive Hetrocolor** correction. Use it in the studio as a dedicated TBC, or feed remote VTR or VCR video for lock to station or live playback. No link to the VTR is necessary — just the video feed via Telco, microwave or satellite.

$15,900.00

Video Image Processor 2100
075966-501 STANDALONE IMAGE CORRECTION SYSTEM for any video signal. Provides 6 dB video noise reduction in luminance and chrominance, horizontal detail synthesis, vertical aperture correction, automatic group delay correction, comb filtering to remove cross color errors, chrome crispening and hue error reduction. Includes one Operation and Service Manual.

$4,950.00

Video Image Processor (Model 2121) available also as option to Microtime 2020 Series.

Video Signal Processor 2020

$12,995.00

OPTIONS
075965-501 2121 Video Image Processor image correction system, companion, plug-in.

$5,995.00

075075-502 Wide Window, 24 H-lines of correction range. (Velcor not available with Wide Window).

$1,995.00

074760-501 Line Error Detection for segmented VTRs. (VTR must have front porch head switch).

$1,095.00

075204-501 Velcor Velocity Correction System.

$1,295.00


$1,095.00

075116-501 No Lock Color, plug-in card.

$545.00

074717-501 Image-Ex image correction system, plug-in cards.

$2,095.00

Heterodyne Time Base Corrector T-120
The T-120 is engineered to obtain best results from non-segmented 1/2" and 1/3" VTR's. Its low cost and high performance design offer unparalleled performance for a wide range of broadcast, CCTV and CATV applications. At the same time, its processing power provides many new and exciting features: 8 bit, 4x subcarrier digital design for high reliability and transparent performance; Wide range, 16-H line memory allows correction of large gyro errors; 3.58 MHz feedback for full bandwidth processing; and, Averaging Velocity Correction for best color performance.

$9,950.00

Prices and Specifications Subject to Change Without Notice.
Full Frame Synchronizer S-130

The S-130 synchronizes external signals such as ENG, microwave, satellite, network and remote studio feeds, allowing easy interface with studio switching systems. For CATV applications, the S-130 synchronizes video signals necessary for the new Harmonically Related Carrier (H-RC) system designs.

The S-130 is available in three major video formats — NTSC, PAL, and PAL-M. Some of the unit's features are:

- Full Frame storage processes VITS, VIRS and Teletext information.
- Microprocessor directed memory hysteresis.
- Operator-initiated microprocessor controlled self-test.
- Selectable auto freeze or auto black with loss of input signal.
- Manual selection of Field 1, Field 2, or Full Frame Freeze.
- Independent adjustment of horizontal and burst output phase, with respect to black burst reference signal.
- Controlled sync, burst, and blanking rise times.
- Automatic color/mono detection and switching.
- Differential video input.
- Light weight, small size, and low power consumption.

$10,990.00

Automatic Commercial Inserter C-150

The C-150 was designed for use in satellite, CATV and closed circuit applications that require fully automatic local ad or program insertion.

The C-150 is a machine controller which will control up to 4 VTR's either automatically using coded tones from present satellites or manually from a switch closure command. The C-150 is equipped with the following features:

- Total automatic operation.
- Multiple selection of satellite network tone decode sequences.
- Adjustable pre-roll cues.
- Built-in audio, follow video switcher.
- Audio-Video bypass default system detects and bypasses to local slate or message without any loss of video.
- Automatic TBC interface.

$4,995.00

Prices and Specifications Subject to Change Without Notice.
DESCRIPTION

The 3M-Datavision Model D-8800 Titling System is a modern television titling and graphics production system designed around microprocessor technology. The Model D-8800 is a true GRAPHICS PRODUCTION tool designed specifically for television use. It utilizes the latest available microprocessor technology and powerful operating programs to allow broad creative freedom and system control.

The Model D-8800 Titling System design is based on the concept of maximizing software control to produce a SIMPLE TO OPERATE yet flexible and complete television graphics system. Software control provides the inherent capability to update the Model D-8800 over the years without incurring extensive hardware modification, and special application or customer requirements can be more easily accommodated by software changes to the internal operating program.

The Model D-8800 Titling System features a carefully designed and human-engineered INTER-ACTIVE control console which helps to make the system easy to operate. An alpha-numeric panel display is part of the control console and, in conjunction with the operating program, will “walk” a new operator through operation while an experienced operator can ignore or override the cueing instructions.

The Model D-8800 Titling System provides the basic features expected in modern television-graphics devices:
- Multi-font display
- Proportional character spacing
- Full editing capability
- High resolution character definition
- Multi-speed roll and crawl
- Floppy disc support memory
- Auto centering, line and page
- Character-by-character color control
- Vertical roll up and down
- Horizontal crawl left and right
- Programmable roll-crawl masking

In addition, the Model D-8800 incorporates the following options:
- Dual channel output with mix capability
- Additional font memories
- Colorizer/keyer
- Custom fonts and logos
- Additional keyboards
- Additional disc storage

Carrying on the tradition of earlier Datavision Titling Systems, the Model D-8800 also features a powerful Animation Mode which allows creation of unusual and special graphic effects not otherwise obtainable. The Animation Mode may be used with any standard available font, or a special Line Segment font.

And speaking of fonts, the Model D-8800 is supported by an immediate library of fonts available in various sizes. An ongoing program will continually add to the library, and custom font design for customers will be accommodated.
ROUTING SWITCHERS

15X SERIES
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 cancelling hum on input lines. The video inputs have looping BNC connectors and terminating switches.

<table>
<thead>
<tr>
<th>LOCAL CONTROL</th>
<th>REMOTE CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION</td>
<td>PRICE</td>
</tr>
<tr>
<td>12 in x 3 out</td>
<td>15 in x 3 out</td>
</tr>
<tr>
<td>12 in x 4 out</td>
<td>15 in x 4 out</td>
</tr>
<tr>
<td>15 in x 5 out</td>
<td>15 in x 5 out</td>
</tr>
<tr>
<td>12 in x 6 out</td>
<td>15 in x 6 out</td>
</tr>
<tr>
<td>15 in x 7 out</td>
<td>15 in x 7 out</td>
</tr>
<tr>
<td>12 in x 8 out</td>
<td>15 in x 8 out</td>
</tr>
<tr>
<td>15 in x 9 out</td>
<td>15 in x 9 out</td>
</tr>
<tr>
<td>12 in x 10 out</td>
<td>15 in x 10 out</td>
</tr>
<tr>
<td>15 in x 11 out</td>
<td>15 in x 11 out</td>
</tr>
<tr>
<td>15 in x 12 out</td>
<td>15 in x 12 out</td>
</tr>
<tr>
<td>15 in x 3 out</td>
<td>15 in x 3 out</td>
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<tr>
<td>15 in x 4 out</td>
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<tr>
<td>15 in x 5 out</td>
<td>15 in x 5 out</td>
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<td>15 in x 9 out</td>
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<tr>
<td>15 in x 10 out</td>
<td>15 in x 10 out</td>
</tr>
<tr>
<td>15 in x 11 out</td>
<td>15 in x 11 out</td>
</tr>
<tr>
<td>15 in x 12 out</td>
<td>15 in x 12 out</td>
</tr>
</tbody>
</table>

OPTIONS
Description | Price
--- | ---
Vertical Interval Switching (remote only) | Add $350.00
Audio Input/Output Cable (6' pigtailed) | 6 out frame $170.00
Remote Control Cable (assembled and tested) | $50.00 per cable + $1.00/ft.

15X-2 SERIES
15X-2 Series Video/Audio Routing Switchers

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Only</td>
<td>Audio/Video</td>
</tr>
<tr>
<td>15 in x 1 out</td>
<td>$1,773.00</td>
</tr>
<tr>
<td>15 in x 2 out</td>
<td>1,865.00</td>
</tr>
<tr>
<td>15 in x 1 out</td>
<td>$1,937.00</td>
</tr>
<tr>
<td>15 in x 2 out</td>
<td>2,389.00</td>
</tr>
</tbody>
</table>

OPTIONS
Description | LIST PRICE
--- | ---
Vertical Interval Switching (remote only) | Add $350.00
Remote Control Cable (assembled and tested) | Add $50.00 + $1.00/ft.

101 SERIES
Model 101 Vertical Interval Bridging Switcher

A 10 x 1 bridging switcher with built-in video and audio DA's featuring vertical interval switching on all inputs; lighted push buttons; 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).

<table>
<thead>
<tr>
<th>ACCESSORIES</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Control</td>
<td>$450.00</td>
</tr>
<tr>
<td>Instruction Manual</td>
<td>$30.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
AUTOMATIC VIDEO TELECONFERENCE SYSTEM

- Self Contained Portable System
- Simple Start Up — No Operators Required
- Automatic Voice Actuated Camera Switching
- Expandable up to 5 Cameras
- 6 Hour Record Capability on One Tape
- Built-in Date and Time Generator Automatically Logs Meeting on Tape
- Fast Search Recall for Instant Replay of Selected Segments
- Designed for Small Meetings or Large Conferences (2-20 People)
- Plugs Directly Into Satellite Feed
- Tapes can be Reviewed at Home on Standard Home VCRS

The MISAR I Automatic Video Teleconference System harnesses a unique microprocessor controller to automatically provide an economical, fully documented, audio/video record of small meetings or large conferences. The output of the system may also be fed simultaneously to a satellite feed. MISAR I is a portable, self-contained, easy to set-up system that requires no operators. The system operates in a normal office environment and requires no special power or lighting. MISAR I is expandable to five cameras (black and white or color) including an optional document storage capability.

MISAR is the first economical way to precisely document any meeting or conference. It’s perfect for staff meetings, design review conferences, legal depositions, medical consultation sessions, contract negotiations, or any meeting where immediate or future review is important.

$19,950.00

Prices and Specifications Subject to Change Without Notice.
NEC

C19-709A
19" COLOR VIDEO MONITOR
FEATURES
- Precision, in-line black strip picture tube for clear sharp picture.
- Comb filter and wide band video circuit for improved resolution.
- Complete connector panel with 8-pin plug, BNC connectors for video in and out and RCA type connectors for audio in and out.
- Various automatic color control circuits to assure stable, high picture quality.
- Built-in 4" round speaker for audio monitoring.
- DC restoration circuit.

C13-304A
13" COLOR MONITOR/RECEIVER
Excellent color performance is provided by NEC's C13-304A 13-inch (diagonal) color receiver/monitor. Whether you desire playback from a VTR, direct feed from a video camera, or just viewing off-air signals, this receiver/monitor offers top quality.

For skew-free VTR playback, fast time-constant circuitry is incorporated. A complete connector panel is provided to meet any production requirement.

Automatic Control Systems:
- Automatic Fine Tuning (AFT)
- Automatic Gain Control (AGC)
- Automatic Frequency Control (AFC)
- Automatic Chroma Gain Control (ACC)
- Automatic Color Killer
- Automatic Degaussing
- Automatic Brightness Control
- Automatic Voltage Control
- Automatic Pass Control

TU-820EN
TUNER-TIMER
FEATURES
- Microcomputer tuning system allows automatic preset of up to 12 TV channels.
- Full-function wireless remote control offers direct access channel selection, audio volume, audio muting and power on/off.
- Programmable timer can be preset for automatic VTR recording of one event in 24 hours.
- Built-in 3-position video/audio switcher permits convenient connection to 2 external video and audio sources.
- BNC connectors allow interface to professional video projectors or video monitors for off-air color TV viewing and to professional video tape recorders for off-air color TV recording.
- Compact modular design fits hi-fi component racks.

Prices and Specifications Subject to Change Without Notice.
VC-9207 (M) U-MATIC COLOR CASSETTE VIDEO TAPE PLAYER
FEATURES
- Solenoid operation for feather touch operation.
- Logic memory circuit allowing direct switching operating modes without going through stop mode.
- Remote control capability with optional remote control unit, RB-801.
- Pause/still frame with still frame adjustment for stable still picture playback.
- Advanced circuitry for improved video signal to noise ratio 48 dB.
- Rugged aluminum diecast chassis for long term alignment.
- Unique tape threading mechanism and direct drive head drum system.
- Automatic rewind and repeat.
- Tape counter memory for easy tape search in the rewind mode.
- Built-in RF modulator for playback with any conventional television receiver.
- 8 pin connector and headphone jack.

VC-9307 (M) U-MATIC COLOR CASSETTE VIDEO TAPE PLAYER/RECORDER
FEATURES
- Solenoid operation for feather touch operation.
- Logic memory circuit allowing direct switching between operating modes without going through stop mode.
- Remote control capability with optional remote control unit, RB-801.
- Pause/still frame with still frame adjustment for stable still picture playback.
- Advanced circuitry for improved video signal to noise ratio, 48 dB.
- Rugged aluminum diecast chassis for long term alignment.
- Unique tape threading mechanism and direct drive head drum system.
- Automatic rewind and repeat.
- Tape counter memory for each tape search in the rewind mode.
- Manual audio gain control with limiter switch and audio level meters for each channel.
- Optional RF modulator, R-F 34 for playback with any conventional television receiver.
- Audio dub capability.
- 8 pin connector, head phone jack and microphone inputs.

VC-9507 3/4” CASSETTE TIME LAPSE VIDEO TAPE RECORDER
FEATURES
- Expanded record and playback time:
  Realtime (72 minutes), 9H, 18H, 64H and 90H modes
- Multiple playback modes:
  Slow motion (Realtime recording/time lapse playback)
  Quick motion (Time lapse recording/realtime playback)
  Still frame
  Short reverse
- Full remote control capability:
  Fast forward, Forward, Stop, Rewind, Record, Audio Dub, Time Select, Still Frame, Reverse/Play, Field Advance
- Automatic time control switch allows outboard timer to operate in conjunction with VTR
  Clean quick motion and still frame playback
  Field advance button
- Tape counter with memory switch
- Auto rewind at end of tape and tape-end alarm
- Automatic change over to realtime recording from time lapse mode by using outboard alarm pulse
- Alarm memory indicator
- VTR trigger output pulse for sequential switchers
- VTR usage meter to show accumulated hours of operation
- Tape protection circuitry including dew sensor/heater, drum rotation sensor and take-up reel stoppage sensor
- Full solenoid operation with "feather touch" control buttons
- Full logic circuit to allow switching between all modes without going through stop
- Automatic gain control operation of audio and video channels
- Audio dubbing capability for audio channel

Prices and Specifications Subject to Change Without Notice.
Hydro-ped Model 102-B .......................... $3950.00
Including the following standard accessories

Pro Jr Top Plate

Factory Order Options
Add the following amount when substituted for the above standard accessories.

Mitchell Top Plate ............................. N/C

Accessories

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro Jr Top Plate for Hydro-ped</td>
<td>115.00</td>
</tr>
<tr>
<td>Mitchell Top Plate for Hydro-ped</td>
<td>115.00</td>
</tr>
<tr>
<td>Set of Wheels for Hydro-ped (2 fixed, 1 castor)</td>
<td>280.00</td>
</tr>
<tr>
<td>Set of Wheels for Hydro-ped (3 castors)</td>
<td>280.00</td>
</tr>
</tbody>
</table>

Claw Ball Tripods (price does not include Ball)

For use with Models C, 20, 30, and 50

<table>
<thead>
<tr>
<th>Tripod Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Claw Ball Tripod (39” to 67”)</td>
<td>345.00</td>
</tr>
<tr>
<td>Baby Claw Ball Tripod (18” to 26”)</td>
<td>345.00</td>
</tr>
<tr>
<td>Claw Ball Hi Hat (5½”)</td>
<td>105.00</td>
</tr>
<tr>
<td>Claw Ball Tripod Top Casting only (replacement)</td>
<td>120.00</td>
</tr>
</tbody>
</table>

Super Claw Ball Tripods (price does not include Ball)

For use with Models 100 and 150

<table>
<thead>
<tr>
<th>Tripod Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Super Claw Ball Tripod (50” to 79”)</td>
<td>545.00</td>
</tr>
<tr>
<td>Regular Super Claw Ball Tripod (46” to 66”)</td>
<td>545.00</td>
</tr>
<tr>
<td>Sawed off Super Claw Ball Tripod (37” to 57”)</td>
<td>545.00</td>
</tr>
<tr>
<td>Baby Super Claw Ball Tripod (26½” to 34½”)</td>
<td>545.00</td>
</tr>
<tr>
<td>Super Claw Ball Hi-Hat (6½”)</td>
<td>155.00</td>
</tr>
<tr>
<td>Super Claw Ball Tripod Top Casting only (replacement)</td>
<td>160.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
**Model 30**  
Including the following standard accessories.  
- Standard Handle (3/8" diameter, 10" length)  
- Quick Release Camera Platform (with Removable Lisand type Camera Mounting Plate)  
- Flat Base  
- Adjustable Counterbalance Spring with Adjustment Wrench  

**Factory Order Options**  
Add the following amount when substituted for the above standard accessories.  
- Adjustable Balance Quick Release Camera Platform (with removable Cine 60 Type Camera Mounting Plate, for use with one or two handles - extra handle not included)  
- Adjustable Balance Quick Release Camera Platform (with removable Lisand Type Camera Mounting Plate, for use with one or two handles - extra handle not included)  
- Pro Jr Flat Base  
- Claw Ball Base  
- Arri 16 Ball Base  
- Arri 35 Ball Base

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**Model 50-D**  
Including the following standard accessories.  
- Standard Handle (3/8" diameter, 15" length)  
- O'CONNOR Quick Release Camera Platform (with Removable Camera Mounting Plate)  
- Pro Jr Base with tiedown assembly  

**Factory Order Options**  
Add the following amount when substituted for the above standard accessories.  
- Fixed Camera Platform  
- Adjustable Balance Quick Release Camera Platform (with removable Cine 60 Type Camera Mounting Plate, for use with one or two handles - extra handle not included)  
- Adjustable Balance Quick Release Camera Platform (with removable Lisand Type Camera Mounting Plate, for use with one or two handles - extra handle not included)  
- Pro Jr Flat Base  
- Claw Ball Base  
- Arri 16 Ball Base  
- Arri 35 Ball Base  
- Mitchell Base  
- 100 Inch-Pound Counterbalance Spring  
- 200 Inch-Pound Counterbalance Spring

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**Model 100-C**  
Including the following standard accessories.  
- Standard Handle (5/8" diameter, 15" length)  
- Fixed Camera Platform  
- Mitchell Base with tiedown assembly  
- 500 Inch-Pound Counterbalance Spring  

**Factory Order Options**  
Add the following amount when substituted for the above standard accessories.  
- Extended Handle for Video (3/8" diameter, 26" length)  
- Adjustable Balance Quick Release Camera Platform (Side-Mount) (with removable Camera Mounting Plate, for use with one or two handles - extra handle not included)  
- Pro Jr Base  
- Arri 35 Ball Base  
- Super Claw Ball Base  
- 300 Inch-Pound Counterbalance Spring  
- 700 Inch-Pound Counterbalance Spring

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**Model 150—XR**  
Including the following standard accessories.  
- Standard Handle (5/8" diameter, 15" length)  
- Adjustable Balance Quick Release Camera Platform, for use with one or two handles (extra handle not included)  
- Mitchell Base with tiedown assembly  
- 1000 Inch-Pound Counterbalance Spring  

**Factory Order Options**  
Add the following amount when substituted for the above standard accessories.  
- Extended Handle for Video (5/8" diameter, 26" length)  
- 1500 Inch-Pound Counterbalance Spring

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**FLUID CAMERA HEADS**

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**Prices and Specifications Subject to Change Without Notice.**
**ENGINEERING LABS, INC.**

- **Model C** ................................................. $795.00

  Including the following standard accessories

  - Standard Handle (½” diameter, 10” length)
  - Fixed Camera Platform with 3/8”-16 camera tiedown screw
  - Pro Jr Base with tiedown assembly
  - 50 Inch-Pound Counterbalance Spring

**Factory Order Options**

Add the following amount when substituted for the above standard accessories.

- Adjustable Spread Double Handle for Video (2 each ½” diameter, 16” length) .................................. $155.00
- Narrow (1” width) Fixed Camera Platform with ¼”-20 camera tiedown screw ........................................... 40.00
- Arri 16 Ball Base ........................................... N/C
- Claw Ball Base with tiedown assembly .................. N/C

**Accessories**

- **Handles**
  - Standard Handle for Models C or 30 (½” diameter, 10” length) ...................................................... $ 65.00
  - Adjustable Spread Video Double Handle for Model C (2 each ½” diameter, 16” length) ............................... 220.00
  - Standard Handle for Model 50 (½” diameter, 15” length) ................................................................. 75.00
  - Standard Handle for Model 100 (5/8” diameter, 15” length) ............................................................ 90.00
  - Extended Handle for Video for Models 100 or 150 (¼” diameter, 16” length) ........................................ 160.00

- **Camera Mounting Plates** (replacements)
  - Lisand Type for Models 30 or 50 .................................. $ 20.00
  - Cine 60 Type for Models 30 or 50 ................................ 25.00
  - O’CONNOR Type for Model 50 ...................................... 25.00

- **Adapters**
  - (from base of fluid head to top casting of tripod)
    - Pro Jr to Arri 16 for Models C, 20, 30 or 50 ........... $ 85.00
    - Pro Jr to Claw Ball for Models C, 20, 30 or 50 .......... 110.00
    - Pro Jr to Mitchell for Models 50 or 100 ................... 120.00
    - Mitchell to Super Calw Ball for Models 100 or 150 ...... 190.00
    - Super Claw Ball to Mitchell for Models 100 or 150 ...... 315.00

- **Tiedown Assemblies** (replacements for)
  - Pro Jr Base, or Pro Jr to Arri 16 Adapter .................. $ 25.00
  - Claw Ball Base ................................................ 40.00
  - Pro Jr to Claw Ball Adapter ................................. 40.00
  - Pro Jr to Mitchell Adapter ................................. 30.00
  - Pro Jr/Flat Base .............................................. 30.00
  - Arri 35 Ball Base ............................................. 25.00
  - Mitchell Base ................................................ 30.00
  - Pro Jr to Mitchell Adapter ................................. 30.00

**FLUID CAMERA HEADS AND ACCESSORIES**

- **Super Claw Ball Base** ........................................ 45.00
- Mitchell to Super Claw Ball Adapter ........................ 45.00

**Cases**

- Model C .................................................. $230.00
- Model 30 .................................................. 230.00
- Model 50 .................................................. 245.00
- Model 100 ............................................... 270.00
- Model 150 ................................................. 315.00
- Regular Claw Ball Tripod ................................... 140.00
- Baby Claw Ball Tripod ..................................... 130.00
- Standard and Regular Super Claw Ball Tripods ............. 215.00
- Baby Super Claw Ball Tripod ................................. 215.00
- Hydro-ped only ............................................ 415.00
- Hydro-ped with either Model 30 or 50 ....................... 435.00

**Bases**

- (with tiedown assemblies)
  - Flat Base for Model 30 ..................................... $ 55.00
  - Pro Jr Base for Model C ..................................... 115.00
  - Pro Jr Base for Models 30 or 50 .......................... 110.00
  - Pro Jr/FIat Base for Models 30 or 50 ..................... 110.00
  - Pro Jr Base for Model 100 .................................. 140.00
  - Arri 16 Ball Base for Model C ............................. 115.00
  - Arri 16 Ball Base for Models 30 or 50 .................. 115.00
  - Claw Ball Base for Models 30 or 50 ...................... 110.00
  - Arri 35 Ball Base for Models 30 or 50 ................. 125.00
  - Arri 35 Ball Base for Model 100 .......................... 140.00
  - Mitchell Base for Model 50 ................................ 140.00
  - Mitchell Base for Model 100 .............................. 140.00
  - Mitchell Base for Model 150 .............................. 140.00
  - Super Claw Ball Base for Model 100 ...................... 215.00

**Camera Platforms**

- Quick Release Camera Platform for Model 30 (with Removable Lisand Type Camera Mounting Plate) ................ $235.00
- Adjustable Balance Quick Release Camera Platform for Model 30 (with removable Cine 60 Type Camera Mounting Plate for use with one or two handles - extra handle not included) ............. 285.00
- Adjustable Balance Quick Release Camera Platform for Model 30 (with removable Lisand Type Camera Mounting Plate, for use with one or two handles - extra handle not included) .......... 285.00
- O’CONNOR Quick Release Camera Platform for Model 50 (with Removable Camera Mounting Plate) .................. 220.00
- Fixed Camera Platform for Model 50 ........................ 220.00
- Adjustable Balance Quick Release Camera Platform for Model 50 (with removable Cine 60 Type Camera Mounting Plate, for use with one or two handles - extra handle not included) .......... 285.00
- Adjustable Balance Quick Release Camera Platform for Model 50 (with removable Lisand Type Camera Mounting Plate, for use with one or two handles - extra handle not included) .......... 285.00
- Fixed Camera Platform for Model 100 ........................ 250.00
- Adjustable Sidemount Platform for M-100, for use with one or two handles ........................................ 625.00
- Adjustable Balance Quick Release Camera Platform, for use with one or two handles for Model 150 (extra handle not included) .......................... 625.00

Prices and Specifications Subject to Change Without Notice.
111B/1 Spring Reverberation (2 Channel)
Dual-channel spring reverb with six springs/channel for smoothness and natural sound. "Floating threshold" limiter attenuates "spring twang" and protects against overloads. Shelving bass and quasi-parametric midrange EQ. Unbalance input accepts line-level or semi-pro (medium level) gear. Transformer-balanced main output; unbalance "mixed" output allows use "in-line" without external mixers. Compact, rugged, and reliable. $1179.00

245E Stereo Synthesizer
Creates a seductive pseudo-stereo effect from mono original. Left and right channels sum back to original mono for total compatibility in disc cutting and FM stereo broadcast. Doesn’t affect the frequency balance of the mono original. Easy to use; only three operating controls. Unbalance line-level input and outputs. $399.00

418A Stereo Compressor/Limiter
Famous OPTIMOD-FM circuitry adapted for production and recording applications. Exceptionally smooth sound with adjustable program-controlled release time. Separate high frequency limiter with four selectable breakpoints from 25 to 75us. Simple, easy-to-use stereo ganged controls. Accurate stereo tracking. Balanced line-level inputs; unbalanced outputs. Ideal for processing complex program material in cassette duplication, broadcast production, and recording studios. $849.00

424 Gated Compressor/Limiter/D-esser
Production AGC device which achieves high average loudness without undesirable artifacts. Separate Compressor/Limiter and De-Esser control loops, with program-controlled parameters. Defeatable gate with adjustable threshold freeze gain. Adjustable attack-time, release time, and compression ratio. Independent De-Esser similar to the 526A De-Esser. Low distortion Operation. 25 dB gain reduction. Better than 25 dB de-ess gain reduction in addition to 25 dB compressor/limiter gain reduction. True peak-reading output level meter.. True peak-reading gain reduction meter. Selectable linear or exponential release time characteristics. Rugged all metal 19" rack-mount package. Available in mono stereo (channels independent or strappable). Exceptional RFI suppression. Balanced inputs and outputs and 115/230V, 50/60 Hz power supply standard. 424A $899.00 422A (Mono) $569.00

516EC Dynamic Sibilance Controller (3 Channel)
Three-channel de-esser with unbalance line-level inputs and outputs. Ideal for simultaneous de-essing of several voices in cinema, recording, or broadcast. Easy to adjust with single THRESHOLD control. De-essing constant over 15 dB input range. De-essing defeatable without clicks or pops. Outstandingly quiet and clean. $719.00

526A Dynamic Sibilance Controller (1 Channel)
Effective de-essing without audible "action". De-essing constant over 15 dB input level range. Easy to set up and use—only two operating controls (GAIN and THRESHOLD). Fully balanced transformer-coupled input and output with mic/line switching on input. Can be inserted and removed from circuit without clicks or pops. Convenient LED level and de-essing indicators. $469.00

622B Parametric Equalizer
A two channel parametric equalizer for use where continuous, non-interacting control over center frequency, bandwidth, and amount of peak boost or cut is desired. Four peaking bands per channel with "constant-Q" curves providing notch filtering capability; individual channel and band in/out switches; GAIN control; overload lamp. Line-level balanced input and unbalanced output. Output can be balanced by addition of optional transformer. 622A 1 Channel $509.00 622B 2 Channel $799.00

ACCESSORIES
*RET 6 Balanced output transformer. Order one per output $16.00

672A Mono Graphic Parametric Equalizer
A single channel quasi-parametric equalizer with continuous control over center frequency, bandwidth, and amount of peak or dip. Convenient graphic-style EQ controls provide reciprocal EQ in eight bands. Additional 12 dB/octave highpass and lowpass filters tune continuously over 100:1 frequency range. Additional lowpass output permits use as equalizer cascaded with electronic crossover. GAIN control; overload lamp; IN/OUT switches for equalizer and each filter. Line-level balanced input; unbalance outputs can be balanced with optional transformer(s). $629.00

ACCESSORIES
*RET 6 Balanced output transformer. Order one per output $16.00

674 Stereo Graphic Parametric Equalizer (with HP/LP Filters, Barrier Strip Terminals)
A two-channel version of the 672A. Controls are configured to facilitate accurate, easy adjustment of both channels simultaneously when equalizing stereophonic program. Each channel identical to the 672A, including all controls and overload indicator, with the exception that the electronic crossover outputs are arranged as "MAIN/LOWPASS" and "HIGHPASS" to provide further protection against accidental tweeter burnout should IN/OUT switches be incorrectly operated. $1179.00

ACCESSORIES
ACC 3 Plexiglass security cover for filter section controls $9.00
*RET 7 Balanced output transformers (2) for main outputs $32.00
*RET 8 Balanced output transformers (4) for both outputs $64.00
*RET 9 2 ckt phone jacks for inputs and main outputs $10.00
*RET 10 2 ckt phone jacks for inputs and all outputs $13.00
*RET 11 XLR-type connectors for inputs and main outputs $24.00
*RET 12 XLR-type connectors for inputs and all outputs $30.00

Prices and Specifications Subject to Change Without Notice.
Panasonic VIDEO SYSTEMS DIVISION

RECAM™ B-100 System Consisting Of In-Camera VTR with AK-100 Camera and AU-100 Recorder, Studio VTR Model AU-300 and Editing Controller Model AU-A30.

B-100 IN-CAMERA VTR
Self-Contained, Lightweight, and Properly Balanced for One Person Operation
The VTR (AU-100) and Camera (AK-100) lock together to form the B-100 In-Camera VTR. It is a self-contained unit that lets one person cover the action without the need for connecting cables, shoulder straps or pack frames. The B-100 is lightweight and compact. Weighs less than 22 pounds and is about the same size as an ordinary first generation portable broadcast camera. Its low center of gravity makes it well balanced. The B-100 gives you a full 20 minutes of recording on one NV-T120HG VHS cassette, and is powered by rechargeable battery (SQ-13F) for 60 minutes of continuous operation.

Broadcast Quality Picture
• New 1/2" M-Format
The RECAM’s professional quality results are made partly possible by a special recording process which records Y and I/Q information on separate video tracks. This means that Y and I/Q signals are delivered directly from the camera to the recorder. In addition, the I/Q signals are multiplexed for even greater freedom from intermodulation. Also contributing to the outstanding picture quality are the 4 video recording heads and the high tape speed of about 8 ips with a recording wavelength of 27,000 cycles per second. Although compact VHS tape is only 1/2" wide, the M-format recording system delivers broadcast quality video, 2 high quality audio tracks, a control track, and a time code track all on this space saving, easily available tape.

AU-300 Studio VTR
The RECAM system goes beyond the new B-100 Integrated Camera/VTR. The AU-300 is our state-of-the-art studio VTR for high quality playback and accurate program production. The AU-300 features complete direct drive operation, including head cylinder, capstan, and reel motors. It has head switching in vertical intervals and full dub capability (Y, I/Q). Designed with professional editing in mind, the AU-300 is vertically built for EIA 19" rack mounting or can be placed in just about any location. The front panel opens for access to plug-in circuit boards for easy servicing. The M-type tape transport is rugged, precise, and extremely smooth. The accurate search dial makes for quick tape point location, and all operation is of the direct control type so that mode changes can be made without having to go to stop.

Features
• M-format recording can produce broadcast quality results with the studio VTR AU-300
• Y and I/Q or NTSC video input and output
• Advanced microprocessor control for smooth tape transport and direct mode operation
• Vertical design for EIA rack mounting, easy operation, and easy internal access for servicing
• Insert or addembly editing
• Audio limiter built-in
• Y and I/Q direct dubbing input and output connectors for minimal loss of signal quality
• 4 servo controlled direct-drive motors
• 2 audio tracks plus a time code track
• Dial search control with jogging capability
• Multiple AC power source capability

Prices and Specifications Subject to Change Without Notice.
MODEL WV-777 COLOR VIDEO CAMERA
WITH THREE TUBE PRISM OPTICS SYSTEM

Model WV-777 contains three 2/3" SATICON image pick-up tubes and an efficient prism optics system for strikingly crisp and clear pictures, even under low light situations. The camera also offers a full range of high performance operating features.

Model WV-777 is designed for comfortable use, with a low profile that permits unobstructed vision for the user. It is attractively styled and weighs just 11 pounds with its weight evenly distributed to facilitate balancing. The camera is housed in a metal case for extra strength, protection for internal components and freedom from RF interference. Its magnesium die-cast chassis supports the internal components for durability, low weight and proper alignment of the optical system.

Panasonic Model WV-777 incorporates horizontal and vertical image enhancers that produce clear image boundaries and rich image crispness. The camera boasts a signal to noise ratio of 55dB and a horizontal resolution of 550 lines at center. Its automatic beam control reduces blooming and comet tailing and its digital auto-white and auto-black circuits with memory capability speed set-up time.

Model WV-777 consumes only 22 watts with a 1.5" viewfinder, providing extended running time when used with batteries, and operates from three different power sources: body-integrated NiCd battery; body-integrated AC power supply or optional RCU or VTR. It is compatible with all varieties of VHS systems, through Y, C and NTSC standard signal outputs. It is also studio adaptable with the optional 5" studio viewfinder, studio lens package and remote control unit with cable lengths up to 1000 feet. The Model WV-777 also comes in a studio configuration, WV-777ST, that can be converted to ENG/EFP use.

Among the camera’s convenience features are intercom level control, selectable audio gain for flexible microphone selection, built-in full color bar generation and an RS-170A Sync with Genlock for multi-camera set-ups. The unit’s viewfinder indicates color conversion warning, low battery, high gain flash, VTR start and stop and a system tally. All operating controls of Model WV-777 are mounted on the side and front of the camera so adjustments can be made without opening the camera’s side panel.

Camera model WV-777 is equipped with a 12:1 f/1.4 zoom lens, and Panasonic’s 14:1 f/1.4 or 10:1 f/1.4 lenses are offered as optional accessories to the WV-777X version that comes without a lens.

Video camera Model WV-777 provides a +6 and +12 dB high gain selection switch and has a switchable audio output level of -20dB or -70dB. It is Gamma correction adjustable from .45 to 1.0 and provides a stand-by switch for reduced power consumption during idle modes. Full function controls are also provided for R, G, B, horizontal and vertical R and B registration, auto/manual iris, R and B gain pedestal and total pedestal.

$7750.00

Prices and Specifications Subject to Change Without Notice.
ENG/EFP PORTABLE COLOR CAMERA

AK-710. New prism picture quality, self-contained ENG/EFP color video camera, the AK-710. This compact and lightweight camera is available with either three Saticon or Plumbicon tubes, and a high-index prism optical system with a built-in bias light. There is a horizontal resolution of 500 TV lines at center, and a 52dB signal-to-noise ratio at the standard illumination of 200 FT Cd at f/3.5. Another outstanding feature is Feedback Beam Control (FBC), which reduces the chances of comet-tailing by stabilizing scene highlights.

QUALITY ENGINEERING FEATURES:

PRISM OPTICAL SYSTEM — The AK-710 utilizes a high-index, prism optical system. Bias lights are built into the camera for reduced lag. The camera is offered with either three 1/3" Saticon or Plumbicon tubes.

DIE-CAST CHASSIS — The AK-710 is protected by a durable die-cast chassis, for rigid alignment of the camera’s optical system, allowing the AK-710 to function in demanding portable operations.

FEEDBACK BEAM CONTROL — The FBC circuitry greatly reduces comet-tailing, by providing the beam current necessary to stabilize scene highlights exceeding normal white levels. This also extends the dynamic range of the camera, and allows it to retain full resolution without additional noise. The AK-710 uses DBC selectively, so that demands for high beam occur only during the highlight interval, to help lengthen tube life, and preserve edge geometry.

RS-170A INTERNAL SYNC AND BUILT-IN GENLOCK CIRCUIT — The AK-710 features an RS-170A internal sync system, and a built-in genlock operation for video system situations. The camera also incorporates adjustable horizontal and vertical blanking intervals.

ENCODER — The AK-710 offers a Y/1Q encoder.

AUTOMATIC WHITE BALANCE — For color picture stability, the AK-710 utilizes an automatic analog memory white balance circuit. A white set button is positioned on the camera front. The optional RCU also sets the white level automatically. The white balance is also visible in the camera viewfinder.

BUILT-IN COLOR CONVERSION FILTER — The camera offers a 4-position color conversion filter, and neutral density filter. 3200°K, 4700°K, 6000°K, and 25% ND filter and closed.

BUILT-IN COLOR BARS — There is a front-mounted control for full vertical color bars.

HIGH GAIN — The AK-710 functions in low light conditions, via its 2-position high gain switch (+6 dB, 12 dB), which is also front-mounted for fingertip control. A stand-by switch is also positioned there, to further simplify video operations.

CRT VIEWFINDER — The camera utilizes a detachable, and position-adjustable 1.5" CRT viewfinder (1-3/8" actual visual size, measured diagonally). The viewfinder has built-in video signal level and battery warning indicators, and a tally light.

ENG/EFP PORTABLE OPERATION — The AK-710 performs in a portable ENG/EFP system, along with any Panasonic 3/4" or 1/2" VCR.

SYSTEM OPERATION — For portable video situations, the AK-710 connects directly to any portable 3/4" or 1/2" VCR. This system can be powered by either a battery pack, or the NV-B50 AC adaptor.

STUDIO OPERATION — The AK-710 connects to the optional remote control unit (RCU) by a multi-pin cable. The RCU offers automatic cable compensation, subcarrier phase and horizontal phase controls, horizontal and vertical R and B centering, an intercom jack and a tally light. A 5" studio CRT viewfinder (4.5" actual visual size, measured diagonally) is optional for complete studio operations.

$7850.00

OPTIONAL ACCESSORIES — AK-760/EN and AK-710/EN

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Price</th>
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<tbody>
<tr>
<td>J13X9BIE</td>
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<tr>
<td>A12X9BERM</td>
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<td>WM-867</td>
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<td>Remote control unit (RCU)</td>
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<td>4.5&quot; Viewfinder</td>
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<td>RCU Cable for camera, 50 ft.</td>
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<td>RCU Cable for camera, 100 ft.</td>
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<td>VTR Extension Cable for camera, 25 ft.</td>
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<td>VTR Extension Cable for camera, 50 ft.</td>
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<td>Battery Pack (4 AH) with trickle charger and mounting adapater</td>
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<td>Carrying Case</td>
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<td>Tripod Mounting Adaptor</td>
<td>$225.00</td>
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<tr>
<td>Microphone</td>
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Prices and Specifications Subject to Change Without Notice.
AK-760. This self-contained, quality instrument employs three 2/3" newly advanced diode-gun Plumbicon® tubes, and high-index prism optics. These features will ensure the superior performance required for ENG or Studio applications. There is an excellent horizontal resolution of 600 TV lines at center, and a 54 dB signal-to-noise ratio, at the standard illumination of 200 Ft. Cd at f/4.0. Another quality feature is Feedback Beam Control (FBC), which reduces the chances of comet-tailing by stabilizing scene highlights. A standard 2-line vertical enhancer circuit is also included, to provide sharp and accurate pictures.

PERFORMANCE FEATURES:

PRECISION OPTICAL SYSTEM - The AK-760 utilizes a high-index, prism optical system. The camera incorporates three 2/3" diode-gun Plumbicon tubes. Bias lights are built into the camera for reduced lag.

ADVANTAGES OF THE DIODE-GUN PLUMBICON TUBE SYSTEM OVER CONVENTIONAL PLUMBICON TUBE SYSTEMS - Higher Resolution: The resolution is enhanced by the use of a thinner photoconductive layer in combination with a new diode-gun. There is an increased modulation depth, without influencing the lag properties of the AK-760. This allows better dynamic resolution and performance under low key conditions. The camera is equally effective in dynamic outdoor scenes, under different ambient temperature conditions. The AK-760 produces excellent static resolution as well. Lower Lag: Lag is minimized in the AK-760. The diode-gun system generates a lower beam resistance, and the process is aided by a built-in bias light. This affords low beam temperature performance even at high beam current, and results in a highly versatile camera suited to ENG, EFP and general studio application.

FEEDBACK BEAM CONTROL - The FBC circuitry greatly reduces comet-tailing, by providing the necessary beam current to stabilize scene highlights exceeding normal white levels. This also extends the dynamic range of the camera, and allows it to retain full resolution without additional noise. The AK-760 uses FBC selectively, so that demands for high beam occur only during the highlight interval, to help lengthen tube life, and preserve edge geometry.

EXCELLENT SENSITIVITY - The standard illumination of the AK-760 is 200 Ft. Cd at f/4.0, and the minimum illumination is 5 Ft. Cd at f/1.8 with +18 dB high gain. This allows shooting in low light sources without a considerable reduction in the depth of field. The built-in high gain switch (+9 dB, 18 dB) is mounted on the front of the AK-760.

HIGH RESOLUTION, HIGH SIGNAL-TO-NOISE RATIO - The AK-760 has an excellent horizontal resolution of 600 TV lines at center, and a 54 dB signal-to-noise ratio, at the standard illumination of 200 Ft. Cd at f/4.0.

APERTURE CORRECTION - The AK-760 has horizontal aperture correction, and a 2-line vertical enhancer circuit as standard features. These are built into the camera head to produce clear and accurate visuals.

Video Signal Features:
- RS-170A Internal Sync and Built-in Genlock Circuit
- Adjustable Blanking
- Gamma Range
- Encoder
- Phase Controls
- Test Signals

Operational Features:
- ECONOMY OF OPERATION AND MAINTENANCE
  - Built-in Color Conversion Filter
  - Automatic White Balance
  - Front Mounted Controls
  - CRT Viewfinders
  - Three-Way Power Supply
- Lens Mounts
- Microphone
- Operating Controls
- Maintenance Features

System Features:
- Self-Contained Portable ENG Operation
- Portable VTR Interface
- Studio Operation
- Chroma Key Generator
- Self-Contained EFP Operation

Additional Studio Options:
- CRT Viewfinder
- Studio Conversion

OPTIONAL ACCESSORIES—AK-760/EN and AK-710/EN

J13X9BIE 13X Zoom, auto iris, servo zoom, 9-118mm, f/1.6x extender ........................ $5,250.00
A12X9BERM 12X Zoom, auto iris, servo zoom, 9-108mm, f/1.7x extender .......................... 5,250.00
J10X11G 10X Zoom, f/1.6 auto iris, servo zoom, 11-110mm ................................. 1,700.00
A10X11BRM 10X Zoom, f/1.6 auto iris, servo zoom, 11-110mm ................................. 1,700.00
SPB-2076 Studio conversion kit for J13X9BIE and J10X11G includes rear manual focus control and rear servo zoom control .......................... 1,350.00
FC-A10 Studio conversion kit for A10X11BRM .................................................. 1,350.00
FC-A12 Studio conversion kit for A12X9BERM .................................................. 1,350.00
NV-850R AC adaptor for AK-760 or AK-710 and NV-9400 portable VCR ............. 475.00
AK-7260 Remote control unit (RCU) for studio operation ........................................ 1,950.00
AK-7460 4.5" Viewfinder ............................................................................. 995.00
22C-50 4RU Cable for camera, 50 ft ............................................................. 400.00
22C-100 4RU Cable for camera, 100 ft ............................................................. 600.00
SC-25 VTR Extension Cable for camera, 25 ft ............................................... 120.00
SC-50 VTR Extension Cable for camera, 50 ft ............................................... 200.00
BP-110 Battery Pack (4 AH) with trickle charger ............................................... 650.00
SO-13F Battery unit for BP-110 ................................................................. 500.00
PC-410 Carrying Case ................................................................................. 330.00
AKY-1033 Tripod Mounting Adaptor ........................................................... 225.00
WM-667 Microphone ....................................................................................... 225.00

Prices and Specifications Subject to Change Without Notice.
PORTABLE COLOR CAMERAS
SATICON TUBE

Series: WV-3890 and WV-3990

- WV-3890 ENG version "C" Mount $2495.00
- WV-3990 ENG version "S" Mount 2995.00
- WV-3990EN Studio version 4250.00
- WV-3890H Camera head only 1895.00

Four different color camera models, incorporating high performance (high-band) 7/3" Saticon pick-up tube.

Each listed model except WV-3890H camera head is a complete camera package ready to perform.

In addition with optional accessories the two ENG models (WV-3890/WV-3990) can be converted to studio configuration.

The WV-3890H camera head can be adapted to almost any configuration with optional accessories available except use with auto-iris 12:1 servo control power zoom lens, requires an S mount.

Features
- Improved color and picture quality
- Horizontal resolution — 300 lines
- Signal to noise ratio — 50 dB
- Digital auto white balance
- 3 position high gain switch (normal, +6 dB, +12 dB)
- Auto iris zoom lens — WV-3890 (12.5mm to 75mm) f/1.4 auto iris power zoom; WV-3990 (10mm to 120mm) f/1.6 ( + 12 dB); Built-in color bar generator • EIA standard RS-170A sync • HV blanking adjustable — H-10.8 μ sec; V-20 H • 4 position color temperature conversion filter wheel — 3200°K, 4500°K, 6000°K, 6000°K with 25% neutral density filter • (FBC) Feedback Beam Control for expanded dynamic range and also limits comet-tailing • 1 H type vertical enhancer • Two audio output level (-20 dB, -72 dB) • Internal mounted switch • VTR trigger polarity change SW • Aluminum die-cast construction

WV-3890 ENG Configuration Consists of:
- Camera head with handle, (WV-3891) • 1.5" electronic viewfinder
- 6:1 auto-iris power zoom lens, (WV-LZ 11/6) • Shoulder pad (WV-045) • Microphone (WM-665) • Grip (WV-GR11) • VTR Cable (WVC10x10) • Carrying Case (WV-CCIIV)

WV-3990 ENG Configuration Consists of:
- Camera head (WV-3991) • 1.5" electronic viewfinder • 12:1 auto-iris power servo zoom lens, (12XSRPZ) • Shoulder pad (WV-045) • Microphone (WM-665) • Soft case • Battery case with handle (WV-B10A) • Battery (NR-C-L5J) • VTR Cable (WVC10x10) • Carrying case (WV-CCIIV)

WV-3990EN Studio Configuration Consists of:
- Camera head (WV-3991) • 5" viewfinder (WV-3805A) • Remote control unit (WV-3806A) • Studio camera cable (19A-25) • 12 X power servo zoom lens (12XSRPZ) • Flexible lens control (WV-LK11)

ENG Kit WV-KT11 Contains:
- 1.5" viewfinder • Microphone • Shoulder pad • VTR cable

Optional Accessories
- WV-CC11/U Carrying Case $150.00
- WV-LZ11/6 6X Power Focal 350.00
- WV-GR11 Grip 70.00
- WV-KT11 ENG Kit 1-1/2" VF Mic VC-10, Shoulder Pad 430.00
- WV-3806A Remote CCU 450.00
- 19A-25 Cable Head/CCU 175.00
- 19A-50 Cable Head/CCU 250.00
- WV-LK11 Studio Lens Conversion Kit 450.00

Prices and Specifications Subject to Change Without Notice.
OMNIVISION II VHS COLOR CAMERA SYSTEMS

WV-3110. Self-contained, compact, portable ENG type color video camera. 5/8" stripe filter integrated vidicon tube. Lens mount is standard C-mount. Built-in 6:1 [12.5 - 75mm] f/1.4 power zoom lens with ALC (Automatic Light Control/Automatic Iris Control) as standard accessory. Automatic and manual (open-close) iris control. Automatic white balance setting. High sensitivity operation with minimum required illumination of only 7 footcandles (70 lux) at f/1.4. Built-in color temperature control allows for both indoor and outdoor use. Single Red and Blue gain control for color adjustment. Electronic viewfinder, detachable and tiltable for use by either right or left-handed operators. 1.5" (1-3/8" actual visual size, measured diagonally). Vidicon tube protection is provided by automatically closing iris when power is off. Built-in boom microphone, microphone jack for external microphone. Close-up operation at 4" with macro focusing. Stand-by switch. Signal-to-noise ratio of more than 45 dB. Built-in low light indicator, recording tally lamps, and white balance indicator on viewfinder. Resolution (luminance) of 240 TV lines at center. Video fade-in and fade-out switch for VTR recording. Adjustable handgrip with VCR trigger switch, and zoom lens control. Adjustable handstrap. Aluminum die-cast chassis. Optional power supply/AC adaptor available. $1075.00

WV-3160/WV-3150. Self-contained, compact, portable ENG type color video cameras. 5/8" stripe filter integrated NEWVIC® tube. Standard C-mount lens mounts + Built-in zoom lenses with AIC (Automatic Light/Iris Control) as standard accessories. WV-3160: 12:1 (10-120mm) f/2.0 power zoom; WV-3150: 6:1 [12.5-75mm] f/1.4 power zoom. Both cameras have selectable power zoom speeds + Automatic/manual iris controls + Automatic white balance setting + Highly sensitive operation with minimum required illumination of only 7 footcandles at f/2.0 for WV-3160, and just 4 footcandles at f/1.4 for WV-3150 + Built-in color temperature control for both indoor and outdoor use + Single red and blue gain control for color adjustment. Electronic viewfinder, detachable and tiltable for use by either right or left-handed operators. 1.5" (1-3/8" actual visual size, measured diagonally). WV-3160 $1395.00 WV-3150 $1575.00

ACCESSORIES—COLOR CAMERAS

PC-327. Hard shell carrying case. Use with WV-3300, WV-3310, WV-3350, WV-3360 $145.00
PC-360. Storage case. Use with WV-3300. 13.0 lbs. $85.00
PC-365. Hard shell carrying case. Use with WV-3300, WV-3320 $145.00
WV-3300: Power supply/AC adaptor. Use with WV-3300, WV-3310, WV-3350, WV-3360 $150.00
PC-328. Soft carrying case. Use with WV-3300, WV-3310, WV-3320, 8.0 lbs. $75.00


WV-3000. Self-contained, compact, portable ENG-type color video cameras. 2/3" strip filter WV-3300. Self-contained, compact, portable ENG-type color video cameras. 2/3" strip filter WV-3320. Portable Color Camera System. Single 1" Vidicon tube. Built-in 6:1 [17-102mm f/2] manual zoom lens with auto/manual iris. 1-3/8" CRT viewfinder mounted on top of camera. CRT doubles as monochrome playback monitor. Light intensity indicators and tally light located in viewfinder. Built-in electret condenser microphone. CCU features 4-position electronic color temperature conversion switch. Manually adjustable red (R) and blue (B) level on CCU. Camera has start/stop trigger switch built into camera handgrip to control VCR. S/N ratio of 45dB at recommended illumination of 140 foot candles at f/4. Horizontal resolution 250 lines at center. 15.0 lbs. $1345.00

WV-3320. Portable Color Camera System. Single 1" Vidicon tube. Built-in 6:1 [17-102mm f/2] manual zoom lens with auto/manual iris. 1-3/8" CRT viewfinder mounted on top of camera. CRT doubles as monochrome playback monitor. Light intensity indicators and tally light located in viewfinder. Built-in electret condenser microphone. CCU features 4-position electronic color temperature conversion switch. Manually adjustable red (R) and blue (B) level on CCU. Camera has start/stop trigger switch built into camera handgrip to control VCR. S/N ratio of 45dB at recommended illumination of 140 foot candles at f/4. Horizontal resolution 250 lines at center. 15.0 lbs. $1345.00
Eight new black and white CCTV cameras, the 1400 series are general purpose surveillance models, while the 1500 series are hi performance units.

The WV-1400 series includes two 2/3" M-M Vidicon models and two 2/3" M-M Newvicon models. The WV-1500 series has two 2/3" compound focus separate mesh (S-M) Vidicons models and two 2/3" compound focus separate mesh (S-M) Newvicon models.

**New Key Features** (WV-1400/1404 and WV-1450/1454)
- Sensitivity: WV-1400/1404 0.5 footcandle (5 lux) at F/1.4
- Sensitivity: WV-1450/1454 0.3 footcandle (3 lux) at F/1.4
- Synchronization: line locked random or/internal 2:1 RS-170 internally switchable.
- Horizontal resolution 550 lines.
- Signal to noise ratio 43 dB
- Automatic beam (ABC), auto focus (AFC), control
- Internal beam, focus, and target controls
- Internal 2:1/LL (line locked) sync switch
- (ALC) auto light control (WV-1400/1404)
- BNC connectors
- ¼" x 20 tapped mounting holes, top and bottom
- New metal case design, (rugged construction for less RFI)

**VIDICON CCTV CAMERAS-BLACK AND WHITE**
- WV-1400/1404 (2/3" Vidicon) $270.00
- WV-1450/1454 (2/3" Newvicon) $270.00
- WV-1450/1454 (2/3" Newvicon) $280.00
- WV-1500/1504 (2/3" Vidicon) $370.00
- WV-1504 (2/3" Newvicon) $360.00
- WV-1504X (2/3" Newvicon) $360.00

**NEWVICON CCTV CAMERAS-BLACK AND WHITE**
- WV-1450 $735.00
- WV-1454 $735.00
- WV-1550 $850.00
- WV-1554 $850.00

**VIDICON Models**
- WV-1800, 120 Volts AC $875.00
- WV-1804, 24 Volts AC $875.00

**ELECTRONIC MODELS**
- WV-1850, 120 Volts AC $1575.00
- WV-1854, 24 Volts AC $1575.00

**WV-1900 Series Ultra Low Light Level Cameras**

The four WV-1900 series cameras feature 1-inch separate mesh Newvicon tubes with fiber optics and an image intensifier unit, offering stable, high quality video pictures under extremely low light levels with much lower blooming effects of standard Silicon Intensifier Tube cameras.

Newvicon tubes produce burn-in free pictures in a wide range of applications. White clipper circuitry keeps highlights within preset levels, avoiding overdriving the monitor or VTR while Automatic Black Clamp circuits minimize excessive contrasts with sharply detailed images. The signal-to-noise ratio is more than 45 dB for the entire series.

**Lunar Lite Models**
- WV-1900, Horizontal Resolution is 600 lines at center. 120 Volt AC operation. Automatic light compensation is 1:10 with recommended auto iris lens. $6,400.00
- WV-1904, Horizontal Resolution is 600 lines at center. 24 Volt AC operation. Automatic light compensation is 1:10 with recommended auto iris lens. $12,500.00

**1800/1850 Series High Resolution Cameras**

The 1800/1850 series of black and white high resolution closed circuit television cameras is designed for various critical applications. The WV-1800/1850 series cameras can be used for such diverse applications as broadcast CCTV operations, CATV film chains, TV microscopy and other medical research, educational and instrumentation purposes, and security surveillance.

The four cameras in the series feature EIA standard RS-170 sync with LSI circuitry, a full range of automatic control circuits to assure stable, adjustment-free quality pictures, genlock capability through composite sync or a composite video signal, Auto-Black/AGC circuits for sharp focus pictures in poor contrast situations, automatic switching of internal/external sync modes, and separate protection circuitry preventing tube damage. In addition, models with the Extended Red Newvicon tube are usable in a super-low light environment. All cameras in the series are built into a heavy duty die-cast chassis designed to prevent handling damage and prevent electrical interference.

**Prices and Specifications Subject to Change Without Notice.**
NV-8500 VHS Editing System
The Panasonic VHS video editing system provides full video capability for users of the VHS format.
The system features microcomputer-aided editing with such functions as have mainly been available in ¾” and 1” editing systems.
The Panasonic system consists of video editing recorders (NV-8500) and an editing controller (NV-A500).

- Easy frame-searching at variable speed from 1/25 to 10 times normal speed (both in forward and reverse)
- Flying erase head for frame-by-frame editing
- Editing point presetting and automatic editing point positioning functions
- Both assembly-mode and insert-mode editing functions with an accuracy of +/−2 frame deviation
- 2-ch audio for stereo sound recording and bilingual narration
- Stable and accurate tape running mechanism by DD (Direct Drive) motor
- Field-still function for editing point searching
- AC multi-power sources

NV-8500 (need two) $3250.00
NV-A500 1500.00
NV-A505 750.00
**NV-A960 Editing Controller**

Micro-processor-based logic control. Sequential speed search dials for tape searching on both the source and editing decks. Search in FWD and REV and 1/20X, 1/5X, 1X, 2X, 5X speeds plus PAUSE (with still picture). Dial pull lock to selected tape speed; push to automatically return to pause. Two LED Address/Time/Lap Time indicators display tape positions in hrs./min./sec./frame. Tape search memory is available for the specific entry and exit point selected for an individual edit- anywhere on the tape. Editing mode selection is made from the editing controller. PREVIEW mode allows rehearsal of an edit prior to the actual editing procedure. REVIEW MODE: A GO TO button sends the editor to the exit point of the last previously performed edit. May be used with multiple voltages: 100V/120V/220V/240V AC, either 60 Hz or 50 Hz. Use with NV-8200, NV-8170, NV-9240, NV-9600, NV-9200A, NV-9500A. 40.7 lbs. Weight: 31.9 lbs. Dimensions: 17-1/8" x 9-1/4" x 17" (WHD)

**NV-A970 SMPTE Time Code Editing Controller**

Model NV-A970 is equipped with microprocessor based logic control to allow insert and assembly editing on Panasonic 3/4" B2 and G2 models AU-700, NV-9600, NV-9200, NV-9500A and NV-9200A and also permits 1/2" VHS assembly editing using Panasonic models NV-8170 and NV-8200.


**NV-A970 Time Code Editing Controller**

$2995.00

**NV-9600 High Performance 3/4" Videocassette Editing Recorder**

46 dB color, 50 dB monochrome; horizontal resolution of 250 lines of color, 330 lines monochrome. Direct drive video head cylinder and a direct drive capstan servo for maintaining precise head-to-tape speed. Video switching during vertical interval. Microprocessor-based system controls: governs the non-locking pushbutton controls: allows direct mode changes without passing through the STOP mode; and permits use with optional Panasonic editing controllers NV-A960 and NV-A950. New DUB IN and DUB OUT connectors. Electronic digital tape counter provides beltless tape drive system. Die-cast aluminum chassis. External sync/subcarrier inputs and FM output for use with a time base corrector (TBC). Voltage selector can be switched to 100V/120V/220V/240V AC and the deck can operate on either 60 Hz or 50 Hz. Supplied dubbing cable 6.6 ft. 90.2 lbs. Separate editing of audio CH1, audio CH2 and video. Audio channel 1 may be used for time code information. Weight: 77 lbs. Dimensions: 26-1/8" x 18-3/4" x 9-3/8" (WHD)

**NV-9600 3/4" Videocassette Editing Recorder**

$6950.00

**Standard Accessories:** AC power cord, 6-6A, dubbing cable, Dust cover for NV-9240, NV-9600

**NV-9240 High Performance 3/4" Videocassette Recorder**

Two audio channels. Elevator tape loading system. Auto rewind at end of tape. Auto repeat playback mode. Auto search mode stops fast forward or rewind when tape counter reads zero. Non-locking pushbutton controls. Still framing with still frame adjustment. Remote control operation with optional NV-A152. Viewing on conventional TV with optional RF modulator, NV-U134, Ch. 3 or 4 switchable. Dropout/noise compensator. 76.0 lbs. Color and Black and White, S/N 47 dB NV-9240 uses a direct-drive video head cylinder and direct-drive capstan servo for high stability. Pushbutton operations and direct mode changes provided by microprocessor. Audio CH1 can accept time code information. Video head switching is performed in the vertical interval. Four-digit LED tape counter. Dubbing connectors. Produces high resolution of 330 lines monochrome, 240 color. FM output for DOC/TBC. Works on multiple voltages: 100V/120V/220V/240V AC, 60 or 50 Hz. Weight: 90.2 lbs.

**NV-9240 3/4" Videocassette Recorder**

$4500.00

**COMPONENTS EDITING SYSTEMS**

Deluxe 3/4" Editing Systems: NV-9600 (2 units), NV-A960. Panasonic introduces a system package providing the ultimate in advanced-feature editing. The system includes two NV-9600 3/4" high performance editing recorders and one NV-A960 editing controller combined in a total system package. 221 lbs. (3 ctn. total). $16,895.00

High Performance 3/4" Editing System: NV-9600, NV-9240 and NV-A960. A practical approach to the many demands of modern-day video production and editing. A single package of exceptional Panasonic 3/4" equipment designed for precision results throughout the use of one NV-9240 production recorder as source, one NV-9600 3/4" high performance editing recorder and one NV-A960 editing controller. 221 lbs. (3 ctn. total) $14,445.00

Prices and Specifications Subject to Change Without Notice.

151
Panasonic proudly presents our most sophisticated ¾" video cassette editing system ever: Direct Drive Editing Recorder AU-700 and Programmable Editing Controller AU-A70. Performing high quality insert and assembly edits, the AU-700 features a die-cast chassis, direct drive video head cylinder and a direct drive capstan servo. This deck also incorporates a separate time code track, XLR audio connectors and microprocessor-based system control. Controller AU-A70 can be programmed to govern up to 20 separate edits, automatically. Once programmed, these edits are performed without the need for an operator in attendance. And when used with multiple source adapter AU-J10, the AU-A70 can accept two source player inputs and a line input. For convenience and versatility, the AU-A70 can be used with Panasonic ¾" decks NV-9600, NV-9240, NV-9500A, NV-9200A, and ½" VHS decks NV-8200 and NV-8170. Both the AU-700 and AU-A70 are compatible with various line voltages: 100V/120V/220V/240V AC, 60 Hz or 50 Hz.

AU-700 Editing Recorder
- High quality video performance: signal-to-noise ratio of 46 dB color, 50 dB monochrome; horizontal resolution of 260 lines color, 330 lines monochrome. * Direct drive video head cylinder for high stability and a direct drive capstan servo for maintaining precise head-to-tape speed. * Microprocessor-based system control: governs the non-locking pushbutton controls; allows direct mode changes without passing through the STOP mode and permits use with Panasonic editing controllers AU-A70 and NV-A960. * XLR audio connectors. * Audio input level selector. * Select line high/low (±1 dB, -20dB) and mic (-20dB). * New DUB IN and DUB OUT connectors (separate V/C signals) enhance the quality of multi-generation dubs. * Special APC circuitry automatically switches OFF during Video-to-Video edits or duplication. * Video frequency response is provided for normalizing the playback picture. * Video head switching has been moved to the vertical interval removing it from the picture area. * Two BNC video outputs and B-pin monitor connectors. * Separate time code track. * Audio track I can be used either for audio or as a time code track (switchable). * Electronic digital tape counter counts controls pulses (CTL) and provides LED readout in minutes and seconds. * Indicator lamps are provided for servo lock, frame lock, stand-by and time code use. * AUTO-OFF indicator flashes to show tape slack, or stays on steady to indicate dwe problems. * A flying erase head helps ensure the quality of edits performed. * Includes frame servo and horizontal phase adjustment. * Individual editing selection switches for insert and assembly edits. * Single field advance when used with AU-A70. * A recessed front panel features controls for frequency response, color, horizontal resolution and frame servo ON/OFF. * Deck includes 6 DC motors and provides beltless tape drive system. Motors are: direct drive video head cylinder motor, direct drive capstan motor, reel drive motor, skew motor, loading motor and elevator motor. * Die-cast aluminum chassis for strength and stability. * External sync/subscribe inputs and FM output for use with a time base corrector (TBC). * Loop-through video input connectors with 75 ohm termination switch. * Elevator tape loading system. * An hour meter for monitoring operating hours. Reads up to 1000 hours. * Works on multiple voltages: 100V/120V/220V/240V AC, 60 Hz or 50 Hz. * Optional remote controllers NV-A152 and NV-A810. * Optional Auto-Search Controller NV-A800. $9250.00

AU-Programmable Editing Controller
- Microprocessor-based logic control allows use with ¾" models AU-700, NV-9600, NV-9240, NV-9500A, NV-9200A and ½" VHS models NV-8200 and NV-8170. * Sequential speed search dials for tape searching on both the source and editing decks. Search in FWD and REV at 1/20X, 1/5X, 1X, 2X, 5X speeds, plus PAUSE (with still picture). * Single field advance when used with AU-700. * CTL pulse or SMPTE time code editing control. * Program up to 20 separate edits at one time. * Includes built-in SMPTE time code generator and reader. * Two Address Time/Label Time indicators display tape positions in hours/minutes/seconds including IN time, OUT time and RESET button. * Edit number indicator. * Entry and exit points reached by tape search or by specific address points via 10-key board. * Editing Frame Shift. * Individual SMPTE time code IN/OUT terminals. * Programmable editing and tape search functions include: program check; program exchange; insert programming; and an overflow indicator. * Accepts two source recorder connections when used with multiple source adaptor AU-J10. Also accepts audio/video line inputs when used with AU-J10. * Permits parallel (A + B roll) playback of two source VTR's when used with AU-J10. * PREVIEW mode allows rehearsal of an edit prior to the actual editing procedure. * A RETURN button sends both the source and editing decks to the proper entry point. * A REVIEW mode allows you to quickly check an edit by having the editing deck "run" the edited portion. * A GO TO button sends the editor to the exit point of the last previously performed edit. * To keep from processing an incorrectly programmed edit, the AU-A70 will not perform unless the proper information is entered. Error codes pinpoint any procedural errors. * Entry and exit points of a specific edit may be reset independently. * May be used with multiple voltages: 100V/120V/220V/240V AC, either 60 Hz or 50 Hz. $6650.00

AU-J10 Multi Source Adaptor
The AU-J10 interfaces the signal logic of one or two source players or line inputs to the editing recorder. All units are compatible with 100, 120, 220, 240 VAC, 60/50Hz power line voltages. $590.00

Prices and Specifications Subject to Change Without Notice.
NV-8110
- Two hours playback time on NV-T120 cassette; 60 minutes (NV-T60) and 30 minutes (NV-T30) cassette are also available.
- Timer-controlled playback capability.
- Variable playback mode: still-frame, frame advance, double-speed and variable speed (1/5-1.5) playback.
- Auto rewind and auto repeat. (For repeating playback automatically)
- Remote controlled capability; still-frame and frame advance playback can be activated from a distance.
- Playback through any conventional TV set.
- May be used with multiple voltages: 110V/120V/220/240V AC.

Weight: 32.1 lbs. (14.5 kg)
Dimensions: 19-1/8"(W) x 15-13/16"(H) x 7-5/16"(D) 485(W) x 402(H) x 178 (D)mm
Accessories Supplied: 1 pc. 300 ohm-75 ohm transformer, 1 pc. VHF matching box 75ohm-300ohm transformer, 1 pc. coaxial cable with one touch type F connector
Optional Accessories: 1/2" Video Cassette Tape: NV-T120; Approx. 810 ft. (247m) 120 min., NV-T60; Approx. 417 ft. (127m) 60 min., NV-T30; Approx. 210 ft. (64m) 30 min.

$850.00

NV8350
- Two hours playback time on NV-T120.
- Two audio channels, for stereo sound, bilingual applications, or audio dubbing. Dual audio meters for accurate level control.
- Dolby Noise Reduction System significantly reduces tape hiss, increases the dynamic range of the audio signal and improves S/N ratio to 45 dB.
- Convenient high speed (9X) search in forward or reverse makes it easy to find desired scenes on the tape while looking at the picture.
- Clear, sharp still pictures of crucial scenes can be viewed slowly and thoroughly by means of the Pause/Still playback.
- Frame Advance Playback makes it possible to view and analyze scenes one frame at a time.
- Standard wired Remote Controller governs: Record, Play, Stop, Rewind, FF, pause, Frame Advance, Slow (1/30-1/5), Cue/Review Channel Selection
- Four video heads for high performance.
- Noise free slow motion at 1/30 — 1/5X speed.
- Quick movements can be observed slowly at any desired speed (1/5-1/30) thanks to the Variable Slow Playback.

Prices and Specifications Subject to Change Without Notice.
OMNIVISION II VHS VIDEOCASSETTE SYSTEM

NV-8170. 2 Hr. 1/2" Video Cassette Player. Color or black and white playback of 1/2" VHS cassettes. Solenoid operated. Compatible with all other VHS systems. Designed for use as source player with the optional Panasonic NV-A820 interface adapter and optional NV-A950 or NV-A960 Automatic Editing Controller. Random numerical access with optional Auto Search Controller. Feather touch non-locking pushbuttons. Two audio tracks for stereo or bilingual operation. S/N ratio of 45 dB, Horizontal resolution: 300 lines black and white, 240 lines color. Dropout/noise compensator. Annealed aluminum die-cast chassis. Direct drive video head cylinder (DDC). Capstan servo system. Unit can be used with either 60 or 50 Hz. PAUSE/STILL mode. Automatic still frame compensation (ASC). Frame advance button. Variable speed playback from 0.2-1.5x normal speed. Double speed playback. Built-in RF modulator. Optional timer for unattended playback. BNC and 8-pin connectors for video output; RCA and 8-pin connectors for audio output. Tracking control. Dew detector. Front headphone jack. Damped eject mechanism. 41.0 lbs. $1250.00

NV-8200. 2 Hr. 1/2" Video Cassette Recorder/Player. Color or black and white recording and playback of 1/2" VHS cassettes. Solenoid operated. Compatible with all other VHS systems. Designed for use as assemble recorder or source player with the optional Panasonic NV-A960 Automatic Editing Controller. Random numerical access with optional Auto-Search Controller. Feather touch non-locking pushbuttons. Two audio tracks. Full remote control capability with optional remote control unit. Automatic functions: Auto Rewind, Auto Repeat. S/N ratio of 45 dB, Horizontal resolution: 300 lines black and white, 240 lines color. Dropout/noise compensator. Annealed aluminum die-cast chassis. Direct drive video head cylinder (DDC). Capstan servo system. Automatic still frame compensation (ASC). Frame advance. Variable speed playback from 0.2-1.5x. Double speed playback. Optional timer for unattended recording or playback. Keyed automatic gain control (AGC) for video. Manual gain control with level meters or limiter for audio. BNC and 8-pin connectors for video; RCA and 8-pin connectors for audio. Built in RF modulator. Unswitched AC outlet. Built-in handle. UL listed for commercial use. Unit can be used with either 60 or 50 Hz. 42.0 lbs. $1550.00

NV-8420. In performance and lightweight portability, Panasonic's new NV-8420 is a sure video winner. In fact, the NV-8420 is today's lightest 1/2" VCR, thanks to weight reduction in all areas including the battery. Nevertheless, you get two full hours of continuous recording time with a single battery pack. This remarkably portable deck is compatible with most Panasonic cameras, and recording can be controlled from the camera itself. An anti-rolling mechanism adds to operational stability when shooting on the move. "Fine editing" makes smooth connections between shots.

Playback convenience is another major attraction of the NV-8420. 12-function remote control is standard equipment, and the soft-touch operations are of the fast, microprocessor-controlled type. Speed-search, still-frame, frame-advance, and variable-slow modes give this deck the flexibility of larger conventional VCR's.

Price on Request

NV-A850. The automatic search controller permits the dividing of a recorded video tape into random program segments for automatic search and playback. With the built-in microprocessor, up to 64 tape segments can be memorized by this controller, and their position data can be recorded on the VHS video cassette tape at the beginning of the tape, for later reference. The search controller is also equipped with push buttons for the remote-controlled operations of the tape transport functions of the connected video tape recorder. The NV-A-850 is designed for use with the VHS-format VTR models NV-8200 and NV-8170 or the 3/4" VTR models NV-9240 and NV-9600. $420.00

ACCESSORIES—NV-8170/NV-8200

NV-A800. Auto Search Controller. Address a number and by numerical access it will search and locate forward or backward any segment on a 2 hour VHS cassette tape; with 6 foot connection cable. 3.0 lbs. $350.00

NV-A810. Remote Controller. For remote operation of deck, controlling all major operating functions: PLAY, REWIND, FAST FORWARD, STOP, PAUSE/STILL, SLOW/FAST, FRAME ADVANCE, 2X speed. RECORD and AUDIO DUB on NV-8200 only. Non-locking pushbuttons; with a 10 foot connection cable. 2.2 lbs. $125.00

NV-A820. Editing Interface Adaptor. Used between the optional Panasonic NV-A950 Editing Controller and the NV-8200/8170 as source player in combination with 3/4" NV-9500A/NV-9600 editor. Two NV-A820 required in a 1/2" VHS to 3/4" VHS system. 8.0 lbs. $650.00

NV-C80. Extension Cable. To extend distance between the deck and either remote controller or auto search controller (16.4 foot length). Up to three NV-C80's may be used. For NV-A800. 2.2 lbs. $95.00

NV-H80. Soft carrying case, vinyl, with adjustable shoulder strap. 5.5 lbs. $85.00

PC-810. Hard-shell carrying case. $135.00

Prices and Specifications Subject to Change Without Notice.
NV-9100A ¾" Videocassette Player.

$1475.00

NV-9300A ¾" Videocassette Recorder/Player.

$2150.00

NV-9200A High Performance ¾" Videocassette Recorder/Player.
Color and Black and White, two audio level meters, one for each channel; elevator tape loading system. Video level and tracking meters. Direct drive video head cylinder motor, capstan servo system, still frame playback; can be used as source player in videocassette editing system with NV-A950/NV-A960 editing controller; Ext. sync RF carrier output for drop out compensator (DOC) of time base corrector (TBC) and subcarrier input for use with TBC. Auto rewind at end of tape; auto search mode. Remote control operation with optional NV-A152. Weight: 88.0 lbs. Dimensions: 26-3/16" x 18-15/16" x 4-5/16" (WHD).

$2500.00

NV-9200E High Performance ¾" U-Format VCR.
INTERNATIONAL MODEL
Record and playback with PAL/SECAM signals; playback only with modified NTSC (4.43 MHz subcarrier). Operates at 100V, 120V, 220V, 240V AC, 60 or 50 Hz. Weight: 88.0 lbs. Dimensions: 26-3/16" x 18-15/16" x 4-5/16" (WHD).

$3000.00

ACCESSORIES — ¾" VIDEOCASSETTE SYSTEMS


$100.00

NV-U134. RF Modulator Channel 3 or 4 switchable. Use with NV-8150/NV-8160, NV-8300/NV-8310, NV-9100A, NV-9300A. Weight: 0.6 lbs.

$80.00

NV-P20. ¼" Video Cassette head cleaner tape (approx. 13 ft., 40 sec.). (use when playback picture becomes snowy or indistinct, use no more than 15 seconds for each cleaning). 2.0 lbs.

$19.50

NV-P23. ¼" Video Cassette tape, 611 ft., 30 min. 2.3 lbs.

$30.00

NV-P26. ¾" Video Cassette tape, 1,175 ft., 60 min. 2.6 lbs.

$40.00

Prices and Specifications Subject to Change Without Notice.
CT-110M  $485.00
10” Diagonal Color Video Monitor Quintrix II in-line picture tube optimizes picture quality. ColorPilot electronic color control system. It incorporates 100% solid-state IC chassis for high performance and reliability. The light weight and new sleek design allow the CT-110M to be handled with professional ease, and make the unit ideal for versatile table-top operation. BNC Video, RCA audio connectors grip. Commercial UL listing.

CT-1320M  $495.00
The Panasonic CT-1320M is a 13” (measured diagonally) color video monitor incorporating the most recent advancements in TV technology. This video monitor uses the Quintrix II in-line picture tube for a clear, sharp picture with a jet black background for excellent contrast. This video monitor features; 100% solid-state IC chassis; ColorPilot that receives the incoming color and tint signals and adjusts the color quality to pre-selected levels; Quick-on picture tube; Panabrite for color, contrast and brightness; Sharpness control. CT-1320M has BNC connectors for video input and output, RCA-type audio connectors and 8-pin connector for use with VTR, video cartridge and cassette recorders and 4” round speaker.

CT-1320V  $595.00
The Panasonic CT-1320V is a 13” (measured diagonally) color video receiver/monitor incorporating the most recent advancement in TV technology. This video receiver/monitor features ColorPilot to receive the incoming color and tint signals and automatically adjust the color quality to your pre-selected levels; Quick-on picture tube; Panalock Automatic Fine Tuning; Panabrite for automatic color, contrast and brightness control; Connectors for input and output; Video BNC, RCA-type audio connectors and an 8-pin connector for VTR. It also features single-axis electronic tuning, impedance on/off switch, whiteness enhancer, monitor out and of course, our famous Quintrix II in-line picture tube for the best in video entertainment.

Prices and Specifications Subject to Change Without Notice.
COLOR MONITORS

CT-500V  $475.00
5" (Measured diagonally) AC/DC color video receiver/monitor. This compact, lightweight color monitor is ideal for ENG (Electronic News Gathering) monitoring on the spot. 3-way operation (AC/car battery/rechargeable battery or dry batteries) permits use almost anywhere. Panabrite control system performs simultaneous adjustment of proper brightness, contrast and color saturation. Built-in VHF/UHF tuner permits standard broadcast reception. TV/Line select switch. TV video/audio out. (Optional accessories: TY-A26 battery case; TY-3611R Panaloid rechargeable battery).

CT-700M  $495.00
The Panasonic CT-700M is an AC or DC-operated 7" (measured diagonally) color video monitor. This video monitor uses the Quintrix II in-line picture tube for a clear, sharp picture with a jet-black background for excellent contrast. It also features: 100 percent solid-state IC chassis; Quick-on picture tube; Panabrite dial for manual adjustment of color, contrast and brightness; BNC video connectors; RCA audio connectors; earphone jack; and a built-in 2-1/2" round speaker. The CT-700M may be used indoors, in an office or studio application powered from an AC outlet or outdoors, in ENG field operation to check camera color quality, or anywhere a 12 or 24 volt DC power source is available. In DC operation the monitor automatically adjusts to the 12 or 24 volt DC input. A car adaptor is furnished as standard and the monitor has a front-mounted LED to warn of inadequate voltage input.

A convenient fold-down handle is provided for easy carrying of the CT-700M.

CT-110MA  $475.00
10" (Measured diagonally) Color Video Monitor. It features Quintrix II in-line picture tube, 100% solid-state IC chassis, ColorPilot electronic color control system, quick-on, metal cabinet and Panabrite control for simultaneous adjustment of color, contrast and brightness. A carrying handle makes it easy to transport from place to place. The rear panel outputs including BNC video, RCA audio and 8-pin connector for VTR/VCR connection. Horizontal AFC select VTR or normal. Commercial UL listing.

Prices and Specifications Subject to Change Without Notice.
Panasonic VIDEO SYSTEMS DIVISION

COLOR MONITORS

CT-1350MG  $585.00
13" (measured diagonally) NTSC/RGB Rackmountable Color Video Monitor. This color monitor is specifically engineered to satisfy the industrial, professional, educational demands with computer and VTR/VCR applications. NTSC composite and RGB inputs are provided for professional studio or RGB computer applications. Video input: 1.0 Vp-p 75 ohms unbalanced, loop through, BNC connector. RGB Output: TTL level 4.0 Vp-p, 8-pin connector. Selection between the two modes is performed with a simple pushbutton. (Optional accessory: CT-T30 rackmount adaptor). Commercial UL listing.

CT-1920M  $645.00
19" (measured diagonally) Color Video Monitor. High performance NTSC color monitor with ColorPilot system that receives the incoming color and tint signals and adjusts color quality to pre-selected levels. The Panabrite control system performs simultaneous adjustment of brightness, contrast and color. Quintrix II in-line picture tube delivers a clear, sharp picture at all times with 320 line resolution for finer picture detail. Comb filter improves resolution and color definition by reducing color noise. Quick-on feature eliminates warm-up time. Inside, the 100% solid-state IC chassis is used to guarantee excellent reliability. Equipped with BNC connectors for video input and output, 8-pin VTR connector and RCA-type audio connectors. Commercial UL listing.

CT-2000M  $995.00
Panasonic introduces a 19" (measured diagonally) 4 system color video monitor incorporating many of the most up-to-date innovations in TV technology for high quality viewing in educational and industrial applications. The CT-2000M Color Monitor offers 4 System capability, enabling the monitor to receive PAL/SECAM/3.58NTSC/4.43NTSC signals — significantly simplifying international use of the different standards of video cassette recorders. The CT-2000M also features of the Quintrix II In-Line picture tube with a Black Matrix configuration and ColorPilot for bright realistic color reproduction, outstanding contrast and linearity — all adding up to exceptional picture quality. A varied array of connection possibilities are incorporated including BNC connectors for video input and output, RCA-type audio connectors, and an 8-pin connector for use with VTR and cassette recorder — affording high versatility in studio operations. The unit accepts line voltage inputs from 80V to 290V and adjusts to that power source automatically. This durable model incorporates 100% Solid State IC chassis to help assure reliability. The CT-2000M Color Monitor exemplifies the Panasonic commitment to state-of-the-art engineering and superb performance. This monitor may be used with the NV-9200E PAL/SECAM recorder, and 1/2" VHS NV-8200E PAL recorder/player or NV-8170E PAL/NTSC (4.43 MHz) player.

Prices and Specifications Subject to Change Without Notice.
COLOR MONITORS

CT-2000M
$995.00
19” Diagonal 4-System Color Video Monitor. The CT-2000M is a four-system color monitor for PAL, SECAM, 3.58NTSC, and 4.43NTSC for an unprecedented degree of versatility. It is capable of receiving all the world’s major broadcasts with optional tuners, PAL/SECAM/NTSC and playing back PAL/SECAM/NTSC and playing back PAL/SECAM/NTSC recorded video tapes. The switchover is automatic and manual. “AC Auto” system adjusts the monitor to power sources from 80V to 290V automatically. Quintrix II in-lines picture tube provides clear, sharp picture with an extra prefocus lens. For excellent reliability and ease of maintenance, the chassis is 100% IC solid-state. A full array of inputs and outputs with a loop-through capability permits use in almost any types of application.

PROJECTION TV

General Features
- Available in floor, ceiling mounted, and rear projection types, the CT-17000 series is ideal for any location
- Image size is completely adjustable: 50” x 100” (Diagonal) with the CT-10000M; 120” x 170” (Diagonal) with the CT-17000M series
- Strikingly sharp and bright picture quality thanks to 3-tube system employing 13” (17000M series) and 7” (10000M) CRTs and precision wide projection lenses
- Handles every type of video input, from color cameras and VTRs to computer graphics
- Simple operation—as easy to use as color monitors
- Needs no special screen. Any high quality screen will provide satisfactory results. (Silver screen recommended)
- Equipped with built-in high voltage protection circuitry

CT-10000M
$7000.00
For high image quality on a screen size between 50” and 100” (diagonal) (adjustable but preset at the factory for 50” 72” or 100” on request), this ceiling mounted 3-tube video projector is ideal. Any screen on the market can be used. Saves floor space and has dual input signal mode functions for easy interfacing with any RGB/composite signal source.

CT-17000M
$35,000.00
A floor-use model mounted on casters to provide an image from 120” to 170” (diagonal) (preset for 120” or 170” use) with a short throw distance (161/3 feet) to allow a large audience to sit behind the projector.

Three 13” CRTs and direct through-the-lens projection assure very high resolution, a bright image and comfortably viewable picture over a very wide angle.

Prices and Specifications Subject to Change Without Notice.
BLACK AND WHITE CCTV MONITORS

TR-930. 9" (measured diagonally) desktop monitor front panel operating controls more than 700 lines at center; all solid state*. 11.2 lbs. $185.00

TR-931. 9" (measured diagonally) CCTV monitor in rack mount chassis with blank panel for additional equipment front panel operating controls more than 700 lines at center; all solid state. 17.2 lbs. $220.00

TR-932. Dual 9" (measured diagonally) CCTV monitor in rack mount chassis; front panel operating controls more than 700 lines at center; all solid state*. 27.8 lbs. $400.00

TR-195MB. 184 sq. in. (19" diagonal), all solid state'; UHF, RCA and 8 -pin connectors for VTR playback function. 49.5 lbs. $330.00

WV -52008 16 sq. in. (15" diagonal), all solid state'; more than 600 lines at center; Int or Ext sync. Short H. AFC. 15.0 lbs. $270.00

WV -5351. 9" (measured diagonally) CCTV Monitor in a rack mount chassis with blank panel for additional equipment; more than 700 lines at center; DC restoration; all solid state*. 28.1 lbs. $320.00

WV -5361. Deluxe 9" (measured diagonally) rack mounted Video Monitor. Includes blank panel for a Tektronix 528 waveform monitor (not supplied) 700 lines at center; DC restoration; 8 -pin connector; cross-pulse; all solid state*. 28.8 lbs. $445.00

WV-5362. Dual deluxe 9" (measured diagonally) Video monitor in a rack mount chassis. More than 700 lines resolution at center; underscan and DC restoration; 8 -pin connector; cross-pulse; all solid state*. 41.1 lbs. $795.00

Prices and Specifications Subject to Change Without Notice.
Special Effects Generator
AS-6100 For a self-contained broadcast quality special effects generator, Panasonic introduces model AS-6100, the latest generation of advanced color video signal equipment. AS-6100 features ten video inputs, 4 input buses, two sets of fade/wipe levers, fourteen wipe patterns, positioner, spotlight, colorizer, two downstream key inputs, two external inputs plus auxiliary inputs. All this provides a wide variety of special effects for creative television programming. This special effects generator is ideal for use with the Panasonic AK-920 and AK-750 broadcast quality cameras, and can be used with any NTSC color television production system. And because it is a self-contained special effects generator, it is also ideal for a mobile production unit.

Chroma Key Generator
AS-2000 The AS-2000 chroma key generator adds an extra dimension of special effects to the AS-6100 SEG. It can also be used with other special effects generators that accept external key signals. Coarse and fine hue adjustments are provided by a rotary switch and variable resistor; the key signal delay is adjusted by a second variable resistor. Non-composite RGB inputs are required.

Color Sync Generator
AS-1000 The AS-1000 color sync generator produces broadcast-stable EIA RS-170 sync using a crystal oscillator. It also genlocks to incoming, non-synchronous composite video signals or composite sync. For studio adjustments it generates encoded EIA RS-189 and full field color bars with adjustable phase. AS-1000 also has a built-in subcarrier distribution amplifier to provide four subcarrier outputs: one with fixed phase and three with independently adjustable phase.

Economical Color Special Effects Generator
WJ-4600A Inputs: 6 program inputs, 1 super (internal key) input, 1 external key (monochrome) input. Functions: Vertical interval switching, Fades and dissolves, Six wipe patterns, Super (internal key), External key. Non-locking pushbuttons light up when pressed to show inputs and function selected. "CUT" pushbutton transfer program and preview buses. Built-in sync and color bar generator. Accepts composite or non-composite inputs (all must be same type). BNC connectors. Effect, preview, and two program outputs. Supplies intercom power to six cameras. Supplies tally light on/off switch to all eight inputs. Requires just 5¼" of standard EIA rack space. RS170A Sync + Blackburst Output.

Deluxe Color Special Effects Generator
WJ-5500A Inputs: 7 program inputs, 1 aux input for VTR, 1 key input, 1 for internally-generated color bars or black burst. Functions: SWITCH/MIX — Vertical interval switching, WIPE — Nine wipe patterns, KEY. Non-locking pushbuttons light up when pressed to show inputs and function selected. "CUT" pushbutton transfers program and preview buses. Built-in sync, color bar, and black burst generator. Can mix composite and non-composite inputs. BNC connectors. Effect, preview, and two program outputs. Supplies intercom power to seven cameras. Supplies tally light on/off switching to eight cameras. Requires 8¾" of standard EIA rack space. RS170A Sync + Blackburst Output.

Prices and Specifications Subject to Change Without Notice.
Panasonic
VIDEO SYSTEMS DIVISION

SINGLE CABLE COMPACT CCTV CAMERA SYSTEMS

WV-1600/KT1. Single-cable Vidicon Camera with 16mm. F/1.6 C-mount lens, internal line lock random interlace. Comes with AC power Camera Control box, AC 120V, 60Hz. 1.3 lbs. $800.00

WV-1650/KT2. Single-cable Newvicon Camera (body only; without lens). C-mount (optional Auto Iris lens required), internal random interlace. Comes with DC power Camera Control box, DC 12V. 1.2 lbs. $880.00

WV-1780

WV-1790

WV-1600

WJ-200

WJ-205

WJ-200R

WJ-205R

WJ-220

WJ-225

WJ-225R

MN-518

MN-815

KF-85A

KF-16A

KF-25A

KF-50A

WJ-510A

WJ-507A

WJ-506A

WJ-510A

WJ-507A

WJ-506A

Passive Switchers
- Designed for reliability; premium quality switch utilized to provide positive, trouble-free switching.
- Compact and economical.
- Mechanical switching.
- All inputs are terminated with 75 ohms (excepts one whose corresponding pushbutton is pressed).
- Lock/release-type switch. Card holder permits each input to be labeled.

WJ-200 6 input—desk mount 1¾"H x 8¼"W x 5¾"D $95.00
WJ-200R 6 input—rack mount 1¾"H x 19"W x 5¾"D $95.00
WJ-205 12 input—desk mount 1¾"H x 16½"W x 5¾"D $175.00
WJ-205R 12 input—rack mount 1¾"H x 19"W x 5¾"D $175.00

Sequential Switchers
WJ-506A (six inputs), WJ-507A (ten inputs), and WJ-510A (six inputs plus alarm) are full-automatic sequential switchers for multi-camera CCTV systems. Features spot monitor/auto/bypass switch, and adjustable time display (1 to 30 seconds). Switching can also be controlled by the time lapse VTR, NV-8030, or by another switcher. WJ-510A is an auto alarm switcher ideally mated for NV-8030 time lapse VTR; includes inputs for six cameras and six alarm sensors.
WJ-510A $825.00
WJ-507A $1475.00
WJ-506A $1375.00

Active Switchers
- Designed for reliability, with solid state circuitry.
- Excellent picture reproduction, with minimum crossstalk and low frequency transients.
- Electronic, vertical interval switching.
- Unterminated loop-through video inputs. Illuminated, non-locking pushbuttons. Card holder permits each input to be labeled.

WJ-220 6 input—desk mount 1¾"H x 8¼"W x 5¾"D $225.00
WJ-220R 6 input—rack mount 1¾"H x 19"W x 5¾"D $225.00
WJ-225 12 input—desk mount 1¾"H x 16½"W x 5¾"D $350.00
WJ-225R 12 input—rack mount 1¾"H x 19"W x 5¾"D $350.00

C-Mount Lenses
MN-815 8.5mm f/1.5, wide angle $95.00
MN-518 50mm f/1.8 telephoto lens $80.00

Automatic Iris Control Lenses
KF-85A F:1.5 Wide angle lens f:8.5mm $350.00
KF-16A Normal lens F:1.6 f:16mm $320.00
KF-25A Telephoto lens F:1.4 f:25mm $340.00
KF-50A F:1.8 f:50mm $340.00

Prices and Specifications Subject to Change Without Notice.
CAMERA MOUNTING BRACKETS AND HOUSINGS

**WV-7010.** Ceiling bracket, lightweight duty, indoor, universal head. Use with WV-1000/1000A series w/fixed focal lens. WV-7120 Housing. 0.8 lbs. $17.50

**WV-7015.** Wall bracket, lightweight duty, indoor, universal head. Use with WV-1000/1000A series w/fixed focal lens. WV-7120 Housing. 1.8 lbs. $25.00

**WV-831.** Wall bracket, medium weight, indoor, universal head. Use with WV-1000/1000A series w/zoom lens. WV-7130 Housing. 3.5 lbs. $40.00

**WV-7030.** Wall mount, heavy duty indoor. Use with WV-7220 Pan mechanism, WV-7230 Pan/tilt mechanism, WV-7130 Housing. 6.2 lbs. $55.00

**WV-7060.** Outdoor mount, heavy duty. Mounts on flat surface. Has pan and tilt adjustments. Use with WV-7150 Housing or WV-7160 Housing. 9.4 lbs. $37.50

**WV-7120.** Dustproof indoor housing, mounts from top. Use with WV-1000/1000A series w/fixed focal lens. 3.5 lbs. $60.00

**WV-7130.** Dustproof indoor housing, mounts from top. Use with WV-1000/1000A series w/zoom lens. 8.7 lbs. $110.00

**WV-7150.** Outdoor camera housing. Contains thermostatically controlled heater and fan. Use with WV-1000/1000A series TV camera w/zoom lens. WV-7060 Mount. 28.6 lbs. $350.00

**WV-7160.** Outdoor camera housing. Contains thermostatically controlled heater and fan. Built-in defroster. Use with WV-1000/1000A series TV camera w/zoom lens. WV-7060 Mount. WV-7260 Pan/tilt mechanism. 34.2 lbs. $450.00

**WV-ZW.** Wiper assembly. Use with WV-7160 Camera housing. 7.3 lbs. $150.00

**WV-7170 (not shown).** Outdoor, drip-free housing for single cable cameras. Use with WV-1500 or WV-1550. 6.5 lbs. $85.00

Specifications Subject to Change Without Notice.
**PANNING UNITS**

**WV-7220.** Standard Indoor Panning Head; mountable on ceiling or bracket-mount on flat surface; adjustable panning angle 20° - 320°. Requires optional remote control unit, WV-7320. 6.3 lbs. $186.00

**WV-7220.** Deluxe indoor remote controlled Pan/Tilt mechanism head, ceiling or bracket mount on flat surface; adjustable panning angle: tilting angle up 45° down 45°; pan speed 6.0°/sec; tilt speed 3.0°/sec; supplies 24V AC power to low voltage camera. Requires remote control unit (WV-7320, WV-7430 or WV-7460 with relay box WV-7465). 17.6 lbs. $488.00

**WV-7260.** Heavy duty outdoor, remote controlled pan/tilt mechanism head; requires bracket mount on flat surface; adjustable panning angle 10° - 360°; tilting angle; up 15°, down 60°; pan speed 7.0°/sec. Supplies 24V AC power to low voltage camera and housing. Requires remote control unit (WV-7360, WV-7460 or WV-7490 with relay box WV-7465). 81.5 lbs. $860.00

**REMOTE CONTROL UNITS AND RELAY BOXES**

**WV-7230.** Remote Control unit for operating optional WV-7220 panning head. Controls on/off (24V AC) power for TV camera and panning mechanism, rack mountable with optional rack mount frame. 6.6 lbs. $136.00

**WV-7330.** Remote Control unit for WV-7230 pan/tilt mechanism. Controls on/off (24V AC) power for TV camera, zoom, focusing and iris for zoom lens and pan/tilt mechanism, Rack mountable with optional rack mount frame. Joystick control for pan and tilt. 7.7 lbs. $286.00

**WV-7430.** Remote Control unit for WV-7220. Controls on/off (24V AC) power for TV camera, zooming, focusing, iris for zoom lens and pan/tilt mechanism. Rack mountable with optional rack mount frames. Joystick control for panning and tilting. Requires relay box WV-7435. 5.5 lbs. $125.00

**WV-7360.** Remote Control unit for WV-7260 controls on/off (24V AC) power for TV camera, zooming, focusing, iris for zoom lens, pan/tilt mechanism, defroster and wiper for outdoor housing. Rack mountable with optional rack mount frame. Rack mountable with optional rack mount frame. Joystick control for panning and tilting. 8.8 lbs. $340.00

**WV-7460.** Remote Control unit for WV-7260. Controls on/off (24V AC) power for TV camera, zooming, focusing, iris for zoom lens, pan/tilt mechanism, defroster and wiper for outdoor housing. Rack mountable with optional rack mount frame. Joystick control for pan and tilt. Requires relay box WV-7465. 5.5 lbs. $186.00

**WV-7490.** Remote Control unit for WV-7260 and WV-7230. Controls on/off (24V AC) power for TV camera, zooming, focusing, iris for zoom lens, pan/tilt mechanism, defroster and wiper for outdoor housing; controls 6 sets of pan/tilt mechanism, zoom lenses and housings. Rack mountable with optional rack mount frame. Joystick controls for pan and tilt; requires relay box WV-7465 (indoor) or WV-7465 (outdoor). 8.8 lbs. $396.00

**WV-7435.** Relay Box, indoor, with 24V, AC power. For use with WV-7230 pan/tilt mechanism; WV-7490 remote control, or WV-7490 remote control. 11.0 lbs. $286.00

**WV-7465.** Relay Box, outdoor. Extends control between pan/tilt mechanism and remote control unit. For use with WV-7260 pan/tilt mechanism; WV-7460 remote control; WV-7490 remote control. 16.8 lbs. $360.00

*Prices and Specifications Subject to Change Without Notice.*
INTERACTIVE VIDEO TRAINING SYSTEM

The system is particularly suited to corporate and industrial training programs, and is outstanding in flexibility and simplicity of operation. The system combines advanced computer and video technologies to provide a unique efficient, self-paced learning technique designed for educational and institutional applications also.

The Interactive Video Training System personalizes video training. It allows for constant testing and evaluation of a student's results, and offers built-in review capabilities. The course and pace of the training tape is determined by each student's capability and comprehension, as the system tests him while the tape proceeds. The student's answers to particular questions posed during the tape directs the computer to proceed to the next segment, back up to review remedial information or skip to a more advanced section of the tape.

This flexible system allows for comprehension test questions to be posed at any point on the tape. Based on the student's responses, the micro-processor computer system can access up to 199 specific segments on a video tape. The system is easy to use, as the student only works with a monitor and hand-held remote control unit. By utilizing a Panasonic industrial VHS Machine, up to two hours of program material can be used.

The Interactive Video System is also easy for the trainer to use. A trainer with no knowledge of computers or computer language can learn to format the video tape in a matter of hours. Existing linear instruction tapes can be turned into basic interactive training tapes without the need for complicated video edits, because the digital computer information is logged onto one of the tape's audio channels. The new Panasonic system can produce simple tapes or sophisticated programs through its "branching" properties. This branching capability allows the varying quality of a student's answer to trigger switches to segments of the training tape at corresponding skill levels. This capability generates widely diverse tracks of learning to help assure inclusive understanding of the training material.

The Interactive Video Training System consists of a student system with an Interactive Computer, a Student address Unit and a printer. The Master Tape Programming System has a printer, Master Tape Programmer and a Text Writer. All of these work in conjunction with any Panasonic VHS 2-channel full logic solenoid video recorder or player and any Panasonic video monitor/receiver or standard TV. The microprocessor-controlled Interactive Computer is compact and sits under a Panasonic VHS NV-8170 or NV-8200 player or recorder. The Student Address unit is an easy-to-use 18 button key pad that plugs into the computer and is the only control the student needs. The system's Master Tape Programmer provides step-by-step instructions for formatting the master tape, with the instructions displayed on the monitor screen. The Text Writer, similar to a typewriter, generates a single page of 32 characters by 16 lines. The Text Writer enables text to be added after the video editing process is complete, and can reformat or update the tape at any time or revise questions without video editing.

An optional printer is available with the Interactive Video Training System. This printer provides hard copy verification of the student's answers, time taken to answer questions, degree of correctness and score achieved for particular questions. The printer also aids in the preparation of tapes, providing the instructor hard copy verification of all entered data in the master programming sequence.

In addition to standard NV-8170, NV-8200, NV-8500 1/2" VHS tape format machines, Panasonic's Interactive Video Training System is also compatible with NV-9240 and NV-9600 3/4" player/recorder machines, and the broadcast AU-700 series.

Master Programmer ........................................... $2300.00 (approx.)
Text Writer ......................................................... 750.00 (approx.)
Computer with Addresser .................................... 900.00 (approx.)
Printer ............................................................ 600.00 (approx.)

Prices and Specifications Subject to Change Without Notice.
1100 SERIES
VTR RECORDING MICROPHONES

This low-cost microphone series, designed primarily for tape recording use, features five models: WM-1100 for non-musical applications; WM-1150 for voice applications; WM-1151 for clear speech recording; WM-1181 for outdoor speech and interviewing; and the WM-1610 tie-clip model for use in high fidelity sound applications for television or lectures.

WM-1100. Omni-directional dynamic microphone. Impedance 400 ohms. Suitable for non-musical VTR recording. 1/4" phone plug and 6.5 ft. cable. Desk stand included. 1.5 lbs. $18.96

WM-1150. Uni-directional dynamic microphone with cardioid directional response. Impedance 400 ohms. Suitable for voice VTR recording. ON-OFF talk switch. 1/4" phone plug and 9.8 ft. cable. Stand adaptor included. 1.5 lbs. $27.96

WM-1151. Uni-directional dynamic microphone with cardioid directional response. Impedance 400 ohms. Suitable for clear speech VTR recording. ON-OFF talk switch. 1/4" phone plug and 6.4 ft. cable. Stand adaptor and desk top stand included. 2.2 lbs. $32.96

WM-1181. Uni-directional dynamic microphone with cardioid directional response. Impedance 400 ohms. Suitable for outdoor voice recording. 1/4" phone plug and 16.4 ft. cable. Stand adaptor included. 1.5 lbs. $49.96

WM-1610. Omni-directional miniature electret condenser microphone. Impedance 600 ohms. Designed for hand-free operations in television, video recording, lecture and other applications. Tie-clip holder and H-C mercury cell battery and 10 ft. cable supplied. 1.5 lbs. $29.96

1300 SERIES
GENERAL PURPOSE MICROPHONES

This general purpose 1300 series contains five models: WM-1315 for use in public address systems; WM-1323 for use in meeting rooms or auditoriums; WM-1325 for vocal or percussion pick-up in school music rooms, bars or discos; WM-1326 for music applications, including voice, brass and percussion instruments; and WM-1400 for use in large halls, auditoriums or theaters.

WM-1315. Uni-directional dynamic microphone. Impedance 200 ohms, unbalanced. Suitable for clear voice applications in public address. 15 ft. cable with a 1/4" phone plug. A stand adaptor supplied. 1.4 lbs. $49.96

WM-1323. Uni-directional dynamic microphone. Impedance 200 ohms or 20k ohms switchable, unbalanced or balanced type changeable. Designed for very directional and clear crisp voice reproduction. ON-OFF talk switch, 15 ft. cable with a cannon connector and a 1/4" phone plug. A stand adaptor supplied. $79.95

WM-1326. Uni-directional dynamic microphone. Impedance 400 ohms. Unbalanced or balanced type changeable. Suitable for vocal or percussion sound pick-up. ON-OFF talk switch. 15 ft. cable with a cannon connector and a 1/4" phone plug. A stand adaptor supplied. 1.8 lbs. $84.95

WM-1325. Uni-directional dynamic microphone. Impedance 200 ohms. Unbalanced or balanced type changeable. Suitable for vocal or percussion sound pick-up in school music rooms and music studios. ON-OFF talk switch, 15 ft. cable with a cannon connector and a 1/4" phone plug. A stand adaptor supplied, 1.9 lbs. $94.96

WM-1400. Uni-directional dynamic microphone. Impedance 200 ohms. Unbalanced or balanced type changeable. Suitable for crisp, clear voice pick-up in speech or interviewing. A 15 ft. cable with cannon connectors and a stand adaptor supplied. 1.8 lbs. $124.96

WM-1565. Uni-directional dynamic microphone with wide frequency response for realistic sound reproduction. Find its accepted place in the broadcast studio as a hand-held microphone. Impedance 250 ohms, balanced. 15 ft. cable with cannon connectors and stand adaptor supplied. 2.0 lbs. $299.96

MICROPHONE ACCESSORIES

WM-1122P. Desktop Stand. 1.7 lbs. $8.96

WM-C5. Microphone extension cable. 16.5 ft. phone plug. WM-1100 Series and WM-1300 Series Microphones. 0.5 lbs. $9.96

WM-C10. Microphone extension cable, 33 ft. phone plug. 0.8 lbs. $14.96

WM-C20. Microphone extension cable, 65 ft. phone plug. 1.5 lbs. $24.96

1500 SERIES
PROFESSIONAL MICROPHONES

The Panasonic high quality 1500 series consists of five models: WM-1505 is best used for vocal and music pick-up; WM-1506 is a studio quality microphone with a wide frequency response; WM-1520 for voice pick-up, speech and interview applications; WM-1521 for a wide range of speech applications; and the WM-1556 for studio and broadcast applications.

WM-1505. Uni-directional dynamic microphone. Impedance 200 ohms, balanced. Suitable for vocal and music pick-up in school music rooms and music studios. 15 ft. cable with cannon connectors, a stand adaptor provided. 1.8 lbs. $94.96

WM-1506. Uni-directional dynamic microphone. Impedance 200 ohms, balanced. Suitable for vocal and music pick-up in school music rooms and music studios. 15 ft. cable with cannon connectors, a stand adaptor provided. 1.9 lbs. $119.96

WM-1520. Uni-directional dynamic microphone. Impedance 200 ohms or 20k ohms switchable, unbalanced or balanced type changeable. Designed for very directional and clear crisp voice reproduction. ON-OFF talk switch, 15 ft. cable with a cannon connector and a 1/4" phone plug. A stand adaptor supplied. 1.8 lbs. $99.96

WM-1521. Uni-directional dynamic microphone. Impedance 200 ohms or 20k ohms switchable, unbalanced or balanced type changeable. Designed for very directional and clear crisp voice reproduction. ON-OFF talk switch, 15 ft. cable with a cannon connector and a 1/4" phone plug. A stand adaptor supplied. 1.8 lbs. $99.96

WM-1566. Uni-directional dynamic microphone with wide frequency response for realistic sound reproduction. Provides an accepted place in the broadcast studio as a hand-held microphone. Impedance 250 ohms, balanced. 15 ft. cable with cannon connectors and stand adaptor supplied. 2.0 lbs. $299.96

AUDIO MIXER

The Panasonic WR-450 mixer is an excellent mate for Panasonic video equipment. Six sliding fader controls mix high or low level input sources, including mikes and phonographs. Each input has a low cut filter to help minimize low frequency noise. A VU meter tracks the overall volume level and a tone oscillator provides a reference signal to help set levels. WR-450 has a monitor amplifier and front panel speaker. The Monitor circuitry can also be used for studio talk back purposes.

WR-460. Deluxe audio mixer with six sliding fader controls mix low or high level input sources. Phonograph input adds RIAA equalization and can be used with mono or stereo cartridges. VU meters tracks the overall volume level. Unit has a monitor amplifier and front panel speaker. Completely solid state and fits standard 19" EIA racks. Use with all Mini-Studio Systems and Microphones. 15.4 lbs. $460.00

Prices and Specifications Subject to Change Without Notice.
WALL SWIVEL BRACKETS

Wall swivel brackets are Peerless' answer to the space problem. Save that desk or floor space and create an uncluttered look by mounting television receivers on the wall. Various sizes, styles and configurations of wall brackets have been designed for a variety of applications. Units that swivel, units that swivel and tilt; all available in a variety of sizes. Small screen black and white receivers can be accommodated equally as well as 25" large screen color units.

PEDESTAL STANDS

These sleek modern appearing units are built rugged enough to withstand years of abuse. Functional and attractive, these pedestals assemble easily and simply. Available in various sizes and heights to satisfy whatever the requirements may be. Some models will adapt to casters. A variety of styles insure the availability of a pedestal stand that is priced right for your application.

FURNITURE TOP SWIVEL MOUNTS

Here's an ideal way to give a Television receiver mobility yet still keep the unit tied down. The exclusive Peerless one piece swivel design enables one to swivel the T.V. at a touch of the finger. Many receivers can be secured either with a lock or tamper proof screws to give the installation the security that may be required. A variety of universal sizes to fit every T.V. receiver are available from stock.

CEILING MOUNTS

Choose from a variety of styles and types of ceiling mounts that have been designed, engineered and developed after years of actual experience in the field. One of the more unique models makes it possible to suspend up to a 25" large color set in areas where drop ceilings have been installed without having to bridge down from the slab above. Other more conventional styles of ceiling mounts are also available from stock for any size receiver.

EDUCATIONAL T.V. CARTS

Peerless E.T.V. carts have been designed specifically to handle classroom requirements in the safest manner possible and are available from stock. These units all incorporate a flaired leg design for exceptional stability. Models to handle 25" color monitors as well as 19" B/W receivers are available. Thousands of these units being used across the country today demonstrate the acceptability of the Peerless ETV Cart Design.

VIDEO TAPE RECORDER CARTS

Unique modular design permits purchase of V.T.R. cart components to match the equipment in your system. Start with a basic general purpose VTR cart and build it into a mini console, complete with rack mount and camera mount. Fashioned and designed with black vinyl shelves and chrome legs to compliment the most sophisticated V.T.R. components.

Prices and Specifications Subject to Change Without Notice.
## MANUAL FIXED FOCAL LENSES

### 2/3" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-J4.5T</td>
<td>4.5mm wide angle f2.0, no iris</td>
<td>141.00</td>
</tr>
<tr>
<td>HF5.5A</td>
<td>5.5mm wide angle f1.6</td>
<td>200.00</td>
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<tr>
<td>HFBA</td>
<td>9mm wide angle f1.4</td>
<td>84.00</td>
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<tr>
<td>HF16-A</td>
<td>16mm lens f1.4</td>
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<td>HF35-A</td>
<td>35mm lens f1.7</td>
<td>73.00</td>
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### 1" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>M6.5-T</td>
<td>6.5mm wide angle f1.4</td>
<td>160.00</td>
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<tr>
<td>CF8-A</td>
<td>8mm wide angle f1.8</td>
<td>300.00</td>
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<td>CF12.5-A</td>
<td>12.5mm wide angle f1.4</td>
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<tr>
<td>CF25-B</td>
<td>25mm lens f1.4</td>
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<tr>
<td>CF25-L</td>
<td>25mm lens f0.86</td>
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<tr>
<td>CF50-B</td>
<td>50mm lens f1.4</td>
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<td>CF50-L</td>
<td>50mm lens f0.7</td>
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<td>CF75-A</td>
<td>75mm lens f1.8</td>
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## MOTORIZED IRIS FIXED FOCAL LENGTH

### 2/3" FORMAT

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<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>TV-HFBA</td>
<td>9mm wide angle motorized iris f1.4</td>
<td>320.00</td>
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<tr>
<td>TV-HF16A</td>
<td>16mm wide angle motorized iris f1.4</td>
<td>320.00</td>
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<tr>
<td>TV-HF35A</td>
<td>35mm motorized iris f1.7</td>
<td>320.00</td>
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### 1" FORMAT

<table>
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<tr>
<th>Lens Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>TV-CF12.5A</td>
<td>12.5mm wide angle motorized iris f1.4</td>
<td>340.00</td>
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<tr>
<td>TV-CF25B</td>
<td>25mm motorized iris f1.4</td>
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<tr>
<td>TV-F50B</td>
<td>50mm motorized iris f1.4</td>
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<tr>
<td>TV-F75A</td>
<td>75mm motorized iris f1.8</td>
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## MOTORIZED IRIS FIXED FOCAL LENGTH WITH N.D. SPOT FILTER

### 2/3" FORMAT

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<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>TV-HF9A-ND</td>
<td>9mm motorized iris with N.D. spot filter</td>
<td>360.00</td>
</tr>
<tr>
<td>TV-HF16A-ND</td>
<td>16mm motorized iris with N.D. spot filter</td>
<td>360.00</td>
</tr>
<tr>
<td>TV-HF35A-ND</td>
<td>35mm motorized iris with N.D. spot filter</td>
<td>360.00</td>
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### 1" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>TV-CF12.5A-ND</td>
<td>12.5mm motorized iris with N.D. spot filter</td>
<td>390.00</td>
</tr>
<tr>
<td>TV-CF25A-ND</td>
<td>25mm motorized iris with N.D. spot filter</td>
<td>390.00</td>
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<tr>
<td>TV-F50A-ND</td>
<td>50mm motorized iris with N.D. spot filter</td>
<td>390.00</td>
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<tr>
<td>TV-F75A-ND</td>
<td>75mm motorized iris with N.D. spot filter</td>
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## AUTO-IRIS FIXED FOCAL LENGTH LENSES WITH N.D. SPOT FILTER

### 2/3" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>TV-HF9A-SND</td>
<td>9mm auto-iris with N.D. spot filter</td>
<td>410.00</td>
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<tr>
<td>TV-HF16A-SND</td>
<td>16mm auto-iris with N.D. spot filter</td>
<td>410.00</td>
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<tr>
<td>TV-HF35A-SND</td>
<td>35mm auto-iris with N.D. spot filter</td>
<td>410.00</td>
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### 1" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>TV-CF12.5A-SND</td>
<td>12.5mm auto-iris with N.D. spot filter</td>
<td>430.00</td>
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<tr>
<td>TV-CF25B-SND</td>
<td>25mm auto-iris with N.D. spot filter</td>
<td>430.00</td>
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<tr>
<td>TV-F50B-SND</td>
<td>50mm auto-iris with N.D. spot filter</td>
<td>430.00</td>
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<tr>
<td>TV-F75A-SND</td>
<td>75mm auto-iris with N.D. spot filter</td>
<td>430.00</td>
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## MANUAL ZOOM LENSES

### 2/3" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>M-JSF</td>
<td>5x zoom lens 20-100mm f1.8</td>
<td>270.00</td>
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<tr>
<td>M-J6F</td>
<td>6x zoom lens 15-100mm f2.5</td>
<td>270.00</td>
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<tr>
<td>M-J6F-1.8</td>
<td>6x zoom lens 15-100mm f1.8</td>
<td>700.00</td>
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<tr>
<td>M-BC-1.6</td>
<td>6x zoom lens 10-100mm f1.6</td>
<td>830.00</td>
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<tr>
<td>M-5F</td>
<td>8x zoom lens 10-144mm f2.0</td>
<td>1020.00</td>
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<tr>
<td>M-10C</td>
<td>10x zoom lens 15-150mm f2.8</td>
<td>960.00</td>
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<tr>
<td>M-10F</td>
<td>10x zoom lens 16-160mm f2.5</td>
<td>1130.00</td>
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<tr>
<td>M-10F-1.8</td>
<td>10x zoom lens 16-160mm f1.8</td>
<td>1600.00</td>
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<tr>
<td>M-14F</td>
<td>14x zoom lens 25-350mm f2.5</td>
<td>3160.00</td>
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**ALL MANUAL ZOOM LENSES AVAILABLE WITH N.D. SPOT FILTER INSTALLED**

**Prices and Specifications Subject to Change Without Notice.**

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**Prices and Specifications Subject to Change Without Notice.**
LENSES

MOTORIZED ZOOM LENSES

2/3" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Zoom Range</th>
<th>F-Stop</th>
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</thead>
<tbody>
<tr>
<td>TV-J6F</td>
<td>5x zoom lens 14-70mm f2.0</td>
<td>840.00</td>
</tr>
<tr>
<td>TV-J6F</td>
<td>6x zoom lens 12.5-75mm f1.8</td>
<td>930.00</td>
</tr>
<tr>
<td>TV-J8C</td>
<td>8x zoom lens 11.5-90mm f2.7</td>
<td>1030.00</td>
</tr>
<tr>
<td>TV-J8F</td>
<td>8x zoom lens 12.5-100mm f2.0</td>
<td>1170.00</td>
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<tr>
<td>TV-J10C</td>
<td>10x zoom lens 11.5-110mm f2.3</td>
<td>1270.00</td>
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1" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Zoom Range</th>
<th>F-Stop</th>
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</thead>
<tbody>
<tr>
<td>TV-5F</td>
<td>5x zoom lens 20-100mm f2.0</td>
<td>1040.00</td>
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<tr>
<td>TV-6F</td>
<td>6x zoom lens 18-106mm f2.6</td>
<td>890.00</td>
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<tr>
<td>TV-BT</td>
<td>6x zoom lens 15-90mm f1.9</td>
<td>920.00</td>
</tr>
<tr>
<td>TV-8F-1.9</td>
<td>6x zoom lens 18-106mm f1.8</td>
<td>1200.00</td>
</tr>
<tr>
<td>TV-9C-1.8</td>
<td>6x zoom lens 18-106mm f1.8</td>
<td>1430.00</td>
</tr>
<tr>
<td>TV-8F</td>
<td>8x zoom lens 18-144mm f2.8</td>
<td>1400.00</td>
</tr>
<tr>
<td>TV-10C</td>
<td>10x zoom lens 15-150mm f2.8</td>
<td>1560.00</td>
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<tr>
<td>TV-10F</td>
<td>10x zoom lens 18-180mm f2.5</td>
<td>1820.00</td>
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<tr>
<td>TV-10F-1.8</td>
<td>10x zoom lens 18-180mm f1.8</td>
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<tr>
<td>TV-14F</td>
<td>14x zoom lens 25-350mm f3.8</td>
<td>4400.00</td>
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N. D. SPOT FILTER AVAILABLE FOR ALL MOTORIZED ZOOM LENSES

150.00

CABLE DRIVE ZOOM LENSES (SPECIFY CAMERA)

1" FORMAT

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<tr>
<th>Camera Code</th>
<th>Zoom Range</th>
<th>F-Stop</th>
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<tbody>
<tr>
<td>CS x 20RW-2</td>
<td>20-100mm f1.9</td>
<td>1110.00</td>
</tr>
<tr>
<td>CB x 18RW-2</td>
<td>16-144mm f2.0</td>
<td>1480.00</td>
</tr>
<tr>
<td>C10 x 16RW-2</td>
<td>16-160mm f2.5</td>
<td>1790.00</td>
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2/3" FORMAT

<table>
<thead>
<tr>
<th>Camera Code</th>
<th>Zoom Range</th>
<th>F-Stop</th>
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</thead>
<tbody>
<tr>
<td>HS x 12.5HW-1</td>
<td>12.5-75mm f1.8</td>
<td>680.00</td>
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<tr>
<td>H10 x 11HW-1</td>
<td>11-110mm f2.5</td>
<td>1150.00</td>
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PUSH ROD ZOOM LENSES (SPECIFY CAMERA)

2/3" FORMAT

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<tr>
<th>Camera Code</th>
<th>Zoom Range</th>
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<tr>
<td>HS x 14HP-2</td>
<td>14-70mm f2.0, 70mm pushrod</td>
<td>460.00</td>
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<tr>
<td>HS x 12.5HP-2</td>
<td>12.5-100mm f2.0, 70mm pushrod</td>
<td>870.00</td>
</tr>
<tr>
<td>H10 x 11 HP-2</td>
<td>11-110mm f2.5, 70mm pushrod</td>
<td>1060.00</td>
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1" FORMAT

C10 x 18HP-2 | 16-160mm f2.5, 70mm pushrod | 1550.00 |

RADIATION RESISTANT LENSES

1" FORMAT

<table>
<thead>
<tr>
<th>Lens Code</th>
<th>Zoom Range</th>
<th>F-Stop</th>
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<tbody>
<tr>
<td>TV-SL-RAD</td>
<td>30-150mm f2.7 motorized zoom</td>
<td>2400.00</td>
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<tr>
<td>CF12.5N</td>
<td>12.5mm fixed focal length f2.0</td>
<td>720.00</td>
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<tr>
<td>CF25N</td>
<td>25mm fixed focal length f2.0</td>
<td>600.00</td>
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<tr>
<td>CF50N</td>
<td>50mm fixed focal length f2.0</td>
<td>640.00</td>
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EXTENDERS FOR 2/3" AND 1" FORMATS

<table>
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<tr>
<th>Extender</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>F1.5x</td>
<td>1.5x range extender</td>
<td>110.00</td>
</tr>
<tr>
<td>F-2x</td>
<td>2x range extender</td>
<td>110.00</td>
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OPTIONS

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>ATZ</td>
<td>Position feedback modification available most models</td>
<td>135.00</td>
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<tr>
<td>LPS-1</td>
<td>12VDC power supply for auto-iris lenses</td>
<td>60.00</td>
</tr>
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Prices and specifications subject to change without notice
**PAN & TILTS**

**PT -250**  
"Mini" light duty pan/tilt 115 vac operation for loads up to 20 lbs.  
Use MPT-25 joystick control  
$360.00$

**PT -250-24P**  
"Mini" light duty pan/tilt 24 vac operation for loads up to 20 lbs.  
Use MPT-2524 joystick control  
$360.00$

**PT -77**  
Silent light duty pan/tilt 115 vac operation for loads up to 20 lbs.  
Use MPT-1577 joystick control  
$360.00$

**PT -77-24**  
Silent light duty pan/tilt 24 vac operation for loads up to 20 lbs.  
Use MPT-24 joystick control  
$540.00$

**PT -155-P**  
Medium duty pan/tilt 115 vac operation for loads up to 40 lbs.  
Use MPT-1500 joystick control  
$540.00$

**PT -155-24P**  
Medium duty pan/tilt 24 vac operation for loads up to 40 lbs.  
Use MPT-24 joystick control  
$540.00$

**PT -175-P**  
Medium duty pan/tilt 115 vac operation for loads up to 40 lbs.  
Use MPT-115 joystick control  
$540.00$

**PT -175-24P**  
Medium duty pan/tilt 24 vac operation for loads up to 40 lbs.  
Use MPT-24 joystick control  
$540.00$

**PT -550-P**  
Medium duty pan/tilt 115 vac operation for loads up to 40 lbs.  
Use MPT-1500 joystick control  
$1100.00$

**PT -550-24P**  
Medium duty pan/tilt 24 vac operation for loads up to 40 lbs.  
Use MPT-24 joystick control  
$1100.00$

**PT -2000-L**  
Extra heavy duty, 115 vac operation for loads up to 150 lbs.  
Use MPT-2000 joystick control  
$2000.00$

**PT -1050-P**  
Heavy duty pan/tilt 115 vac operation for loads up to 90 lbs.  
Use MPT-115 joystick control  
$1600.00$

**PT -1250-P**  
Heavy duty pan/tilt 115 vac operation for loads up to 100 lbs.  
Use MPT-115 joystick control  
$1600.00$

**PT -2000-1**  
Extra heavy duty, 115 vac operation for loads up to 150 lbs.  
Use MPT-2000 joystick control  
$2000.00$

**PT -2000-1-L**  
Extra heavy duty, 115 vac operation for loads up to 150 lbs.  
Use MPT-2000 joystick control  
$2000.00$

**EXPLOSION PROOF PAN AND TILTS**

**PT-550-PX**  
Explosion proof per MIL-E-5272C & MIL-STD810B specification and procedures. 115 vac operation for loads up to 40 lbs.  
Use MPT-1500 joystick control  
$1600.00$

**PT -570-P**  
Medium duty pan/tilt 115 vac operation for loads up to 40 lbs.  
Use MPT-115 joystick control  
$1600.00$

**PT-1250-P**  
Heavy duty pan/tilt 115 vac operation for loads up to 100 lbs.  
Use MPT-115 joystick control  
$1600.00$

**PT -1250-24P**  
Heavy duty pan/tilt 24 vac operation for loads up to 100 lbs.  
Use MPT-24 joystick control  
$1600.00$

**AP-2500**  
Antenna positioning system for antennas up to 6 foot in diameter.  
Comply with control, which includes Joystick, variable speed, digital read out meters.  
$5000.00$

**UNDER WATER PAN AND TILTS**

**PT-1000-UW**  
Under water pan/tilt 115 vac operation for depths up to 500'.  
Use MPT-1500 joystick control  
$5000.00$

**OPTIONS AND ACCESSORIES**

**/PP**  
Preset position modification (Available most models)  
$200.00$

**/AZL**  
Position read out modification (Available most models)  
$200.00$

**/SEC**  
Sector scan modification for PT1050L, PT1060LX, PT1250P, PT1250-24P.  
$150.00$

**/RAD**  
Radiation wiring and white epoxy paint for PT1050L, PT-550P.  
$200.00$

**/HB**  
$150.00$

**/FG**  
Special hi speed pars (Per function)  
$80.00$

**INDOOR SCANNERS**

**PS-5**  
"Mini" light duty scanners, 115 vac operation for loads up to 20 lbs.  
Furnished with 6 ft. line cord for auto-scan operation, only.  
$540.00$

**PS-5-24**  
Same as PS-5 except operates with a MPS-5 control.  
$130.00$

**PS-5-24**  
Same as PS-5A except operates on 24 vac. Use MPS-524 control.  
$130.00$

**OUTDOOR SCANNERS**

**PS-20**  
Medium duty outdoor 115 vac operation for loads up to 30 lbs.  
Furnished with 6 ft. line cord for auto-scan operation, only.  
$300.00$

**PS-20A**  
Medium duty outdoor scanner 115 vac operation for loads up to 30 lbs. Use MPS control.  
$300.00$

**PS-20-24**  
Medium duty outdoor scanner 24 vac operation for loads up to 30 lbs. Use MPS-24 control.  
$300.00$

Prices and Specifications Subject to Change Without Notice.
## CAMERA ENCLOSURES

### INDOOR ENCLOSURES

**EHTP-2**  
Indoor tamper proof. Mounting bracket included.  
Specify wall or ceiling.  
Price: 80.00

**EH-44**  
Indoor tamper proof for small 2/3" cameras with auto iris.  
Price: 60.00

### OUTDOOR ENCLOSURES

**EH-55**  
Environment enclosure with sun shroud (5/8" W x 5" H x 15" L).  
Price: 130.00

**EH-55 ACCESSORIES**
- B-55 Blower with thermostat control  
  Price: 40.00
- H-55 Heaters with thermostat control  
  Price: 40.00
- L-55 Tamper proof locks  
  Price: 38.00

**EH-66**  
Environment Enclosure (9" W x 8" H x 25" L).  
Price: 260.00

**EH-66X**  
Extra Long Environment Enclosure (9" W x 8" H x 36")

**EH-66, EH-66X ACCESSORIES**
- B-66 Blower with thermostat control  
  Price: 50.00
- H-66 Heaters with thermostat control  
  Price: 40.00
- S-66 Sun Shroud  
  Price: 30.00
- L-66 Tamper proof locks  
  Price: 220.00

**EH-1**  
Environment Enclosure (12" W x 10" H x 22" L).  
Price: 170.00

**EH-2**  
Environment Enclosure (12" W x 10" H x 26" L).  
Price: 240.00

**EH-2X**  
Environment Enclosure (12" W x 10" H x 34" L).  
Price: 270.00

**EH-1, EH-2, EH-2X ACCESSORIES**
- EH-C Mounting Cradle  
  Price: 20.00
- EH-TI Thermal Insulation  
  Price: 20.00
- EH-H Heaters and thermostat control  
  Price: 50.00
- EH-WD Window defroster used with EH-H  
  Price: 50.00
- EH-WO Windshield wiper outside blade  
  Price: 70.00
- EH-WW Windshield washer  
  Price: 80.00
- EH-TL Tamper proof locks  
  Price: 50.00
- S-1 Sun Shroud for EH-1  
  Price: 60.00
- S-2 Sun Shroud for EH-2  
  Price: 70.00
- S-2X Sun Shroud for EH-2X  
  Price: 60.00
- EH-RC Relay module for low voltage control (EH24 control)  
  Price: 60.00

### EXPLOSION PROOF ENCLOSURES

(Per N.E.C. Class I, Div I, Group C.D, Class II, Div I, Groups E.F.G.)

**EHX-6**  
Explosion proof enclosures 16" I. D. x 24" L.  
Price: 530.00

**EHX-8**  
Explosion proof enclosures 18" I. D. x 24" L.  
Price: 570.00

**EHX-10**  
Explosion proof enclosures 10" I. D. x 24" L.  
Price: 610.00

**EHX-12**  
Explosion proof enclosures 12" I. D. x 24" L.  
Price: 660.00

**EHX-S Sun Shroud - Speedy Model**  
Price: 60.00

**EHX-V Visor - Specify Model**  
Price: 20.00

**EHX-AF Air Funnel - Specify Model**  
Price: 20.00

**EHX-FT Purge Fitting - Specify Model**  
Price: 30.00

**EHX-S Sun Shroud - Specify Model**  
Price: 60.00

**EHX-H Heaters with thermostat control**  
Price: 80.00

**EHX-AL Alarm Thermostat, contact closure upon temperature rise**  
Price: 90.00

### DUST TIGHT WEATHERPROOF ENCLOSURES

**EHD-724**  
Dust tight enclosure (7" I. D. x 24" L) aluminum.  
Price: 270.00

**EHD-824**  
Dust tight enclosure (8" I. D. x 24" L) aluminum.  
Price: 290.00

**EHD-924**  
Dust tight enclosure (9" I. D. x 24" L) aluminum.  
Price: 330.00

**EHD-1024**  
Dust tight enclosure (10" I. D. x 24" L) aluminum.  
Price: 360.00

**EHD-SS-724**  
Dust tight enclosure (7" I. D. x 24" L) stainless steel.  
Price: 360.00

**EHD-SS-824**  
Dust tight enclosure (8" I. D. x 24" L) stainless steel.  
Price: 390.00

**EHD-SS-924**  
Dust tight enclosure (9" I. D. x 24" L) stainless steel.  
Price: 410.00

**EHD-SS-1024**  
Dust tight enclosure (10" I. D. x 24" L) stainless steel.  
Price: 430.00

**EHD ACCESSORIES**
- EHD-AF Air Funnel - Specify Model  
  Price: 100.00
- EHD-V Visor - Specify Model  
  Price: 20.00
- EHD-P Purge Fitting - Specify Model  
  Price: 30.00
- EHD-S Sun Shroud - Specify Model  
  Price: 60.00
- EH-H Heaters and thermostat control  
  Price: 80.00

**Special length per 6" increments**  
Price: 90.00

### WATER COOLED ENCLOSURES

**MT-10**  
Medium temperature enclosure with Pyrex glass.  
Price: 660.00

**HT-10P**  
High temperature enclosure with Pyrex glass.  
Price: 900.00

**HT-10V**  
High temperature enclosure with Vicor glass.  
Price: 990.00

**ACCESSORIES**
- WC-RC Reflective coating for Pyrex or Vicor glass  
  Price: 90.00
- WC-AF Air Funnel for Water Cooled Housing  
  Price: 150.00
- Pyrex Glass (4 11/16" Dia.)  
  Price: 20.00
- Vicor Glass (4 11/16" Dia.)  
  Price: 160.00
- WC-AL Alarm Thermostat, contact closure upon temperature rise  
  Price: 40.00

**UNDER WATER ENCLOSURES**

**UN-6**  
Under water enclosure (6" I. D. x 24" L).  
Price: 960.00

**LM-6**  
Under water enclosure (8" I. D. x 24" L).  
Price: 990.00

**LM-10**  
Under water enclosure (10" I. D. x 24" L).  
Price: 1200.00

**UNDER WATER ACCESSORIES**
- UW-AB Non-Browning glass  
  Price: Quote
- UW-GM Cradle mount for EH-66, EH-1, EH-2, EH-2X (Inverted Use)  
  Price: 50.00

**EHD-DF Duplex Outlet for EH-66, EH-1, EH-2, EH-2X**  
Price: 15.00

Prices and Specifications Subject to Change Without Notice.
### MOUNTS

#### Camera Mounts

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM-11</td>
<td>Light Duty Wall Mount with security ball swivel</td>
<td>16.00 ea.</td>
</tr>
<tr>
<td>CM-22</td>
<td>Medium Duty Wall Mount with security ball swivel</td>
<td>27.00</td>
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<tr>
<td>CM-U</td>
<td>Universal Wall Mount</td>
<td>50.00</td>
</tr>
<tr>
<td>UM-1</td>
<td>Universal Wall or Ceiling Mount</td>
<td>50.00</td>
</tr>
<tr>
<td>SF-1</td>
<td>Swivel Bracket for UM-1</td>
<td>10.00</td>
</tr>
<tr>
<td>CM101C</td>
<td>Heavy Duty Ceiling or Pedestal Mount</td>
<td>60.00</td>
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<tr>
<td>CM101W</td>
<td>Heavy Duty Wall Mount</td>
<td>60.00</td>
</tr>
<tr>
<td>AD-200</td>
<td>Inverted Camera Adapter</td>
<td>10.00</td>
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</table>

#### Enclosure Mounts

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>EM-22</td>
<td>Medium Duty Wall Mount for EH-44, EH-55, EH-66</td>
<td>30.00</td>
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<tr>
<td>MM103C</td>
<td>Heavy Duty Ceiling or Pedestal Mount</td>
<td>50.00</td>
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<tr>
<td>EM102W</td>
<td>Heavy Duty Wall Mount</td>
<td>66.00</td>
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<tr>
<td>ST-1</td>
<td>Optional Strut for EM102W</td>
<td>10.00</td>
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#### PAN AND TILT MOUNTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>PM-200W</td>
<td>Wall Mount for PT-250P, PS-5</td>
<td>20.00</td>
</tr>
<tr>
<td>PM-200C</td>
<td>Ceiling or Pedestal Mount for PT-250P</td>
<td>20.00</td>
</tr>
<tr>
<td>PM-105</td>
<td>Wall Mount for PT-77, PT155P, etc.</td>
<td>30.00</td>
</tr>
<tr>
<td>PM-109</td>
<td>Wall Mount for PT-550-P, etc.</td>
<td>30.00</td>
</tr>
<tr>
<td>PM102C</td>
<td>Ceiling or Pedestal Mount for PT-550-P, etc.</td>
<td>40.00</td>
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<tr>
<td>PM102W</td>
<td>Wall Mount for PT-550-P, etc.</td>
<td>50.00</td>
</tr>
<tr>
<td>PM10224</td>
<td>Additional Length per foot for PM102C, PM102W</td>
<td>10.00</td>
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#### Pan & Tilt Mounts

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>PM1000C</td>
<td>Ceiling or Pedestal Mount for PT1050L, PT2000L, PT1250P</td>
<td>70.00</td>
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<tr>
<td>PM1000W</td>
<td>Wall Mount for PT2000L, PT1250P</td>
<td>80.00</td>
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#### Monitor Mounts

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>MR-U</td>
<td>Universal Monitor Mounts</td>
<td>100.00</td>
</tr>
<tr>
<td>MRP-1</td>
<td>Pan for above 13&quot;W x 18 1/8&quot;H</td>
<td>Inc.</td>
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<tr>
<td>MRP-3</td>
<td>Pan for above 26&quot;W x 12&quot;H</td>
<td>Inc.</td>
</tr>
<tr>
<td>MRP-4</td>
<td>Pan for above 20&quot;W x 18&quot;H</td>
<td>Inc.</td>
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#### CROMEDOME ENCLOSURES

**INNER SPHERE CROMEDOME**

14" OUTER DOME 13-3/4" INNER DOME

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>IS-2</td>
<td>Passive Dome with fixed Camera Mount, CDM-1 (Camera &amp; Lens up to 13&quot;)</td>
<td>300.00</td>
</tr>
<tr>
<td>IS-2/5</td>
<td>Dome w/ PS-5 Scanner</td>
<td>400.00</td>
</tr>
<tr>
<td>IS-2/5AM</td>
<td>Dome w/ PS-5A Scanner &amp; MFS-5 Control</td>
<td>490.00</td>
</tr>
<tr>
<td>IS-2/5DAT</td>
<td>Dome w/ PS-5A Scanner &amp; MFS-5DT Control</td>
<td>470.00</td>
</tr>
<tr>
<td>IS-2/524M</td>
<td>Dome w/ PS-524 Scanner &amp; MPS-524 Control</td>
<td>470.00</td>
</tr>
<tr>
<td>IS-2/524DT</td>
<td>Dome w/ PS-524 Scanner &amp; MPS-524DT Control</td>
<td>490.00</td>
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</tbody>
</table>

22" OUTER DOME 21-1/2" INNER DOME

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>IS-3-250M</td>
<td>Dome with PT250P Pan/Tilt &amp; MFT25 Control &amp; PM-200C Mount</td>
<td>830.00</td>
</tr>
<tr>
<td>IS-3-250DT</td>
<td>Dome with PT250P Pan/Tilt &amp; MFT25-DT Control &amp; PM-200C Mount</td>
<td>830.00</td>
</tr>
<tr>
<td>IS-3-24M</td>
<td>Dome with PT250-24P Pan/Tilt &amp; MFT2524 Control &amp; PM-200C Mount</td>
<td>830.00</td>
</tr>
<tr>
<td>IS-3-24DT</td>
<td>Dome with PT250-24P Pan/Tilt &amp; MFT2524-DT Control &amp; PM-200C Mount</td>
<td>870.00</td>
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#### Cromedomes

**Fixed Camera Domes**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>CD-12</td>
<td>Accepts Cameras &amp; Lens up to 12 1/4&quot; Long w/Mount, CDM-1</td>
<td>200.00</td>
</tr>
<tr>
<td>CD-14</td>
<td>Accepts Cameras &amp; Lens up to 14&quot; Long w/Mount, CDM-1</td>
<td>220.00</td>
</tr>
<tr>
<td>CD-18</td>
<td>Accepts Cameras &amp; Lens up to 19&quot; Long w/Mount, CDM-2</td>
<td>230.00</td>
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**Scanner Domes**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>CD-14S</td>
<td>Accepts PS-5 Scanners &amp; Camera/Lens up to 15&quot; Long</td>
<td>200.00</td>
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**Pan/Tilt Domes**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>CD18P</td>
<td>Accepts PT250P and Camera/Lens up to 16 1/2&quot; Long</td>
<td>220.00</td>
</tr>
<tr>
<td>CD22P</td>
<td>Accepts PT155P and Camera/Lens up to 17&quot; Long</td>
<td>330.00</td>
</tr>
<tr>
<td>CD26P</td>
<td>Accepts PT/155 13&quot; High &amp; Camera/Lens 23&quot; Long</td>
<td>420.00</td>
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</table>
# Video Switchers
## Sequential Vertical Interval

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS504H</td>
<td>4 Position Homing Sequential Switcher</td>
<td>230.00</td>
</tr>
<tr>
<td>VS506H</td>
<td>6 Position Homing Sequential Switcher</td>
<td>290.00</td>
</tr>
<tr>
<td>VS508H</td>
<td>8 Position Homing Sequential Switcher</td>
<td>320.00</td>
</tr>
<tr>
<td>VS510H</td>
<td>10 Position Homing Sequential Switcher</td>
<td>360.00</td>
</tr>
<tr>
<td>VS512H</td>
<td>12 Position Homing Sequential Switcher</td>
<td>380.00</td>
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<tr>
<td>VS514H</td>
<td>14 Position Homing Sequential Switcher</td>
<td>430.00</td>
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<tr>
<td>VS516H</td>
<td>16 Position Homing Sequential Switcher</td>
<td>470.00</td>
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<tr>
<td>VS518H</td>
<td>18 Position Homing Sequential Switcher</td>
<td>510.00</td>
</tr>
<tr>
<td>VS520H</td>
<td>20 Position Homing Sequential Switcher</td>
<td>560.00</td>
</tr>
<tr>
<td>VS524 40H</td>
<td>24-40 Position Homing Sequential Switcher* (Increments of 4)</td>
<td>50/pos.</td>
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## Homing Looping Sequential Switchers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS504HL</td>
<td>4 Position Looping Input Homing Sequential Switcher</td>
<td>270.00</td>
</tr>
<tr>
<td>VS506HL</td>
<td>6 Position Looping Input Homing Sequential Switcher</td>
<td>320.00</td>
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<tr>
<td>VS508HL</td>
<td>8 Position Looping Input Homing Sequential Switcher</td>
<td>370.00</td>
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<tr>
<td>VS510HL</td>
<td>10 Position Looping Input Homing Sequential Switcher</td>
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<td>VS512HL</td>
<td>12 Position Looping Input Homing Sequential Switcher</td>
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<td>VS514HL</td>
<td>14 Position Looping Input Homing Sequential Switcher</td>
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<tr>
<td>VS516HL</td>
<td>16 Position Looping Input Homing Sequential Switcher</td>
<td>570.00</td>
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<tr>
<td>VS518HL</td>
<td>18 Position Looping Input Homing Sequential Switcher</td>
<td>620.00</td>
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<tr>
<td>VS520HL</td>
<td>20 Position Looping Input Homing Sequential Switcher</td>
<td>670.00</td>
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<tr>
<td>VS524 40HL</td>
<td>24-40 Position Looping Input Homing Sequential Switcher* (Increments of 4)</td>
<td>50/pos.</td>
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</tbody>
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## Bridging Sequential Switchers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS504B</td>
<td>4 Position Bridging Sequential Switcher</td>
<td>250.00</td>
</tr>
<tr>
<td>VS506B</td>
<td>6 Position Bridging Sequential Switcher</td>
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<tr>
<td>VS508B</td>
<td>8 Position Bridging Sequential Switcher</td>
<td>350.00</td>
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<tr>
<td>VS510B</td>
<td>10 Position Bridging Sequential Switcher</td>
<td>400.00</td>
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<tr>
<td>VS512B</td>
<td>12 Position Bridging Sequential Switcher</td>
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<td>VS514B</td>
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<td>VS516B</td>
<td>16 Position Bridging Sequential Switcher</td>
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<tr>
<td>VS518B</td>
<td>18 Position Bridging Sequential Switcher</td>
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<tr>
<td>VS520B</td>
<td>20 Position Bridging Sequential Switcher</td>
<td>650.00</td>
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<tr>
<td>VS524 40B</td>
<td>24-40 Position Bridging Sequential Switcher* (Increments of 4)</td>
<td>50/pos.</td>
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## Bridging Looping Sequential Switchers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>VS504BL</td>
<td>4 Position Looping Input Bridging Sequential Switcher</td>
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<tr>
<td>VS506BL</td>
<td>6 Position Looping Input Bridging Sequential Switcher</td>
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<td>VS508BL</td>
<td>8 Position Looping Input Bridging Sequential Switcher</td>
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<tr>
<td>VS510BL</td>
<td>10 Position Looping Input Bridging Sequential Switcher</td>
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<tr>
<td>VS512BL</td>
<td>12 Position Looping Input Bridging Sequential Switcher</td>
<td>490.00</td>
</tr>
<tr>
<td>VS514BL</td>
<td>14 Position Looping Input Bridging Sequential Switcher</td>
<td>540.00</td>
</tr>
<tr>
<td>VS516BL</td>
<td>16 Position Looping Input Bridging Sequential Switcher</td>
<td>590.00</td>
</tr>
<tr>
<td>VS518BL</td>
<td>18 Position Looping Input Bridging Sequential Switcher</td>
<td>640.00</td>
</tr>
<tr>
<td>VS520BL</td>
<td>20 Position Looping Input Bridging Sequential Switcher</td>
<td>690.00</td>
</tr>
<tr>
<td>VS524 40BL</td>
<td>24-40 Position Looping Input Bridging Sequential Switcher* (Increments of 4)</td>
<td>60/pos.</td>
</tr>
</tbody>
</table>

## Video Alarm Sequential Switchers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA504</td>
<td>4 Position Vid-Alarm Sequential Switcher</td>
<td>440.00</td>
</tr>
<tr>
<td>VA506</td>
<td>6 Position Vid-Alarm Sequential Switcher</td>
<td>490.00</td>
</tr>
<tr>
<td>VA508</td>
<td>8 Position Vid-Alarm Sequential Switcher</td>
<td>540.00</td>
</tr>
<tr>
<td>VA510</td>
<td>10 Position Vid-Alarm Sequential Switcher</td>
<td>590.00</td>
</tr>
<tr>
<td>VA512</td>
<td>12 Position Vid-Alarm Sequential Switcher</td>
<td>640.00</td>
</tr>
<tr>
<td>VA514-20</td>
<td>14-20 Position Vid-Alarm Sequential Switcher</td>
<td>690.00</td>
</tr>
<tr>
<td>VS524-40</td>
<td>24-40 Position Vid-Alarm Sequential Switcher* (Increments of 4)</td>
<td>70/pos.</td>
</tr>
</tbody>
</table>

## Video Alarm Looping Sequential Switchers

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA504L</td>
<td>4 Position Looping Input Vid-Alarm Switcher</td>
<td>480.00</td>
</tr>
<tr>
<td>VA506L</td>
<td>6 Position Looping Input Vid-Alarm Switcher</td>
<td>530.00</td>
</tr>
<tr>
<td>VA508L</td>
<td>8 Position Looping Input Vid-Alarm Switcher</td>
<td>580.00</td>
</tr>
<tr>
<td>VA510L</td>
<td>10 Position Looping Input Vid-Alarm Switcher</td>
<td>630.00</td>
</tr>
<tr>
<td>VA512L</td>
<td>12 Position Looping Input Vid-Alarm Switcher</td>
<td>680.00</td>
</tr>
<tr>
<td>VA514-20L</td>
<td>14-20 Position Looping Input Vid-Alarm Switcher</td>
<td>730.00</td>
</tr>
<tr>
<td>VS524-640L</td>
<td>24-40 Position Looping Input Vid-Alarm Sequential Switcher* (Increments of 4)</td>
<td>80/pos.</td>
</tr>
</tbody>
</table>

### Options for Sequential Switchers

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>/X</td>
<td>External Trigger Option</td>
<td>50.00</td>
</tr>
<tr>
<td>/CD</td>
<td>Digital Camera Display Option</td>
<td>30/pos.</td>
</tr>
<tr>
<td>/AMP</td>
<td>Output amplifier for monitor 2 output</td>
<td>30/pos.</td>
</tr>
</tbody>
</table>

**Prices and Specifications Subject to Change Without Notice.**
**VIDEO SWITCHERS MANUAL**

**MANUAL PASSIVE SWITCHERS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS504</td>
<td>4 Position Passive Switcher</td>
<td>$60.00</td>
</tr>
<tr>
<td>MS506</td>
<td>6 Position Passive Switcher</td>
<td>$100.00</td>
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<tr>
<td>MS508</td>
<td>8 Position Passive Switcher</td>
<td>$110.00</td>
</tr>
<tr>
<td>MS510</td>
<td>10 Position Passive Switcher</td>
<td>$130.00</td>
</tr>
<tr>
<td>MS512</td>
<td>12 Position Passive Switcher</td>
<td>$140.00</td>
</tr>
<tr>
<td>MS514</td>
<td>14 Position Passive Switcher</td>
<td>$170.00</td>
</tr>
<tr>
<td>MS516</td>
<td>16 Position Passive Switcher</td>
<td>$200.00</td>
</tr>
<tr>
<td>MS518</td>
<td>18 Position Passive Switcher</td>
<td>$240.00</td>
</tr>
<tr>
<td>MS520</td>
<td>20 Position Passive Switcher</td>
<td>$290.00</td>
</tr>
<tr>
<td>MS524</td>
<td>24-40 Position Passive Switcher</td>
<td>$320.00</td>
</tr>
</tbody>
</table>

**ILLUMINATED MANUAL PASSIVE SWITCHERS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS504G</td>
<td>4 Position illuminated passive switcher</td>
<td>$110.00</td>
</tr>
<tr>
<td>MS506G</td>
<td>6 Position illuminated passive switcher</td>
<td>$130.00</td>
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<tr>
<td>MS508G</td>
<td>8 Position illuminated passive switcher</td>
<td>$150.00</td>
</tr>
<tr>
<td>MS510G</td>
<td>10 Position illuminated passive switcher</td>
<td>$170.00</td>
</tr>
<tr>
<td>MS512G</td>
<td>12 Position illuminated passive switcher</td>
<td>$190.00</td>
</tr>
<tr>
<td>MS514G</td>
<td>14 Position illuminated passive switcher</td>
<td>$210.00</td>
</tr>
<tr>
<td>MS516G</td>
<td>16 Position illuminated passive switcher</td>
<td>$240.00</td>
</tr>
<tr>
<td>MS518G</td>
<td>18 Position illuminated passive switcher</td>
<td>$290.00</td>
</tr>
<tr>
<td>MS520G</td>
<td>20 Position illuminated passive switcher</td>
<td>$320.00</td>
</tr>
<tr>
<td>MS524G</td>
<td>24-40 Position illuminated switcher</td>
<td>$320.00</td>
</tr>
</tbody>
</table>

**MANUAL LOOPING INPUT SWITCHERS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS504L</td>
<td>4 Position Looping input switcher</td>
<td>$90.00</td>
</tr>
<tr>
<td>MS506L</td>
<td>6 Position Looping input switcher</td>
<td>$110.00</td>
</tr>
<tr>
<td>MS508L</td>
<td>8 Position Looping input switcher</td>
<td>$130.00</td>
</tr>
<tr>
<td>MS510L</td>
<td>10 Position Looping input switcher</td>
<td>$150.00</td>
</tr>
<tr>
<td>MS512L</td>
<td>12 Position Looping input switcher</td>
<td>$170.00</td>
</tr>
<tr>
<td>MS514L</td>
<td>14 Position Looping input switcher</td>
<td>$210.00</td>
</tr>
<tr>
<td>MS516L</td>
<td>16 Position Looping input switcher</td>
<td>$240.00</td>
</tr>
<tr>
<td>MS518L</td>
<td>18 Position Looping input switcher</td>
<td>$290.00</td>
</tr>
<tr>
<td>MS520L</td>
<td>20 Position Looping input switcher</td>
<td>$320.00</td>
</tr>
<tr>
<td>MS524L</td>
<td>24-40 Position Looping input switcher</td>
<td>$320.00</td>
</tr>
</tbody>
</table>

**ILLUMINATED MANUAL LOOPING INPUT SWITCHERS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS504GL</td>
<td>4 Position illuminated looping input switcher</td>
<td>$120.00</td>
</tr>
<tr>
<td>MS506GL</td>
<td>6 Position illuminated looping input switcher</td>
<td>$150.00</td>
</tr>
<tr>
<td>MS508GL</td>
<td>8 Position illuminated looping input switcher</td>
<td>$170.00</td>
</tr>
<tr>
<td>MS510GL</td>
<td>10 Position illuminated looping input switcher</td>
<td>$190.00</td>
</tr>
<tr>
<td>MS512GL</td>
<td>12 Position illuminated looping input switcher</td>
<td>$210.00</td>
</tr>
<tr>
<td>MS514GL</td>
<td>14 Position illuminated looping input switcher</td>
<td>$250.00</td>
</tr>
<tr>
<td>MS516GL</td>
<td>16 Position illuminated looping input switcher</td>
<td>$300.00</td>
</tr>
<tr>
<td>MS518GL</td>
<td>18 Position illuminated looping input switcher</td>
<td>$340.00</td>
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<tr>
<td>MS520GL</td>
<td>20 Position illuminated looping input switcher</td>
<td>$390.00</td>
</tr>
<tr>
<td>MS524GL</td>
<td>24-40 Position illuminated looping input switcher</td>
<td>$390.00</td>
</tr>
</tbody>
</table>

**OPTIONS**

- **/AF** Audio follow for non-illuminated passive switches up to 18 positions. SPST normally open switch closure for each position. 12/pos.
- **/BAF** Balanced audio follow for non-illuminated passive switches up to 18 positions. DPDT normally open switch closures for each switch. 25/pos.
- **/AMP** Output amplifier for looping manual switchers. For use with VTR's or monitors which must be terminated. 30.00

**Prices and specifications subject to change without notice.**

---

**Notes:**
- **/AF** or **/BAF** may be added to any passive switcher.
- **/AMP** may be added to any looping switcher.
- **/AF** and **/BAF** may not both be ordered on the same switch.
- **/AMP** may be ordered on any switch up to 20 positions.
- **/AF** or **/BAF** on switchers over 20 positions is subject to change.
- **/AF** or **/BAF** on switchers over 20 positions is subject to additional charges.
- **/AMP** on switchers over 18 positions is subject to change.
- **/AMP** on switchers over 18 positions is subject to additional charges.
- **/AF** or **/BAF** and **/AMP** are subject to change without notice.
- **/AF** or **/BAF** and **/AMP** are subject to additional charges.
- **/AF** or **/BAF** and **/AMP** are subject to change without notice.
- **/AF** or **/BAF** and **/AMP** are subject to additional charges.
CONTROLS
MEDIUM DISTANCE

A LOW VOLTAGE REMOTE CONTROL SYSTEM FOR CONTROL
UP TO 10,000 FEET ON 20 AWG CABLE FEATURING:

- OPERATES UP TO 20 MILES OVER A BALANCED TWISTED PAIR,
  VOICE GRADE TELEPHONE LINE, MICRO WAVE, OR AN RF LINK
- CONTROL UP TO 32 DIFFERENT LOCATIONS
- ORIGINATES UP TO 24 SEPERATE OR SIMULTANEOUS
  FUNCTIONS PER LOCATION
- SIGNAL PARITY CHECK
- DUAL SCAN PROTECTION

SELECTRONIC 7000
PANELS AND DESK TOP CABINETS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5C P</td>
<td>Rack Mount for up to 5 Modules 1 3/4” x 19”</td>
<td>50.00</td>
</tr>
<tr>
<td>M5C DT</td>
<td>Desk Top Cabinet for up to 5 Modules</td>
<td>50.00</td>
</tr>
</tbody>
</table>

CONTROL MODULES

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAD7000</td>
<td>Address Module up to 9 Locations</td>
<td>100.00</td>
</tr>
<tr>
<td>MPT7000</td>
<td>Pan/Tilt Joystick Control Module</td>
<td>90.00</td>
</tr>
<tr>
<td>VR7000</td>
<td>Variable Rate Joystick Control Module (2½’’ Panel Height)</td>
<td>300.00</td>
</tr>
<tr>
<td>MA7000</td>
<td>Autoscans Control Module</td>
<td>30.00</td>
</tr>
<tr>
<td>MV7000</td>
<td>Variable Speed Control Module</td>
<td>60.00</td>
</tr>
<tr>
<td>ML2700</td>
<td>Pelco Lens Control Module</td>
<td>60.00</td>
</tr>
<tr>
<td>MA1700</td>
<td>Auto Iris Zoom Lens Control Module</td>
<td>90.00</td>
</tr>
<tr>
<td>MEH7000</td>
<td>Enclosure Control Module</td>
<td>60.00</td>
</tr>
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</table>

JUNCTION BOX SUPPLY OPTIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT7000 J</td>
<td>Pan/Tilt Power Supply, in a weather proof Junction Box</td>
<td>380.00</td>
</tr>
<tr>
<td>AD7000 PS</td>
<td>Address Power Supply</td>
<td>150.00</td>
</tr>
<tr>
<td>A7000 PS</td>
<td>Auto Scan Power Supply</td>
<td>60.00</td>
</tr>
<tr>
<td>V7000 PS</td>
<td>Variable Speed Power Supply</td>
<td>90.00</td>
</tr>
<tr>
<td>L27000 PS</td>
<td>Pelco Lens Power Supply</td>
<td>90.00</td>
</tr>
<tr>
<td>A17000 PS</td>
<td>Auto Iris Zoom Lens Power Supply</td>
<td>280.00</td>
</tr>
<tr>
<td>EH7000 PS</td>
<td>Enclosure Power Supply</td>
<td>90.00</td>
</tr>
<tr>
<td>G7000 PS</td>
<td>Gate Power Supply</td>
<td>90.00</td>
</tr>
<tr>
<td>CCU7000 PS</td>
<td>Custom Camera Power Supply</td>
<td>Quotation</td>
</tr>
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Note: When using VR7000 order both PT7000 J and V7000 PS.

LONG DISTANCE

DIGITAL MULTIPLEXOR

PANELS AND DESK TOP CABINETS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5C P</td>
<td>Rack Panel for up to 5 Modules 1 3/4” x 19”</td>
<td>50.00</td>
</tr>
<tr>
<td>M5C DT</td>
<td>Desk Top Cabinet for up to 5 Modules</td>
<td>50.00</td>
</tr>
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</table>

CONTROL MODULES

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAD3200</td>
<td>Address Module for up to 32 Locations</td>
<td>60.00</td>
</tr>
<tr>
<td>MPT3200</td>
<td>Pan/Tilt Joystick Control Module</td>
<td>60.00</td>
</tr>
<tr>
<td>MA3200</td>
<td>Autoscans Control Module</td>
<td>60.00</td>
</tr>
<tr>
<td>MV3200</td>
<td>Variable Speed Control Module</td>
<td>60.00</td>
</tr>
<tr>
<td>ML23200</td>
<td>Pelco Lens Control Module</td>
<td>60.00</td>
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<td>MA13200</td>
<td>Auto Iris Zoom Lens Control Module</td>
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<tr>
<td>MEH3200</td>
<td>Enclosure Control Module</td>
<td>60.00</td>
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DIGITAL TRANSMITTER

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<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM32200 TX</td>
<td>Digital Multiplexer Transmitter</td>
<td>750.00</td>
</tr>
</tbody>
</table>

DIGITAL RECEIVER

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM3224 RX</td>
<td>Digital Multiplexer – up to 24 function Receiver</td>
<td>1150.00</td>
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</table>

POWER SUPPLIES FOR RECEIVERS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT3200 PS</td>
<td>Pan/Tilt Power Supply</td>
<td>150.00</td>
</tr>
<tr>
<td>A3200 PS</td>
<td>Autoscans Power Supply</td>
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<tr>
<td>V3200 PS</td>
<td>Variable Speed Power Supply</td>
<td>270.00</td>
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<tr>
<td>MV7000 PS</td>
<td>Pelco Lens Power Supply</td>
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<tr>
<td>A13200 PS</td>
<td>Auto Iris Zoom Lens Power Supply</td>
<td>120.00</td>
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<tr>
<td>EH3200 PS</td>
<td>Enclosure Power Supply</td>
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<tr>
<td>G3200 PS</td>
<td>Gate Power Supply</td>
<td>120.00</td>
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<tr>
<td>CCU3200 PS</td>
<td>Custom Camera Power Supply</td>
<td>Quotation</td>
</tr>
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Prices and Specifications Subject to Change Without Notice.
## Controls

### Short Distance

<table>
<thead>
<tr>
<th>Panel and Desk Top Cabinets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel M5-C</td>
</tr>
<tr>
<td>M3C-DT</td>
</tr>
<tr>
<td>M6C-DT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-250P Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M125-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M125 (Joystick Control Module)</td>
</tr>
<tr>
<td>MA1524 (Auto Scan Control Module)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-250-24 Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M125-24-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M125-24 (Joystick Control Module)</td>
</tr>
<tr>
<td>MA125-24 (Auto Scan Control Module)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-175-24 Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M124-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M124 (Joystick Control Module)</td>
</tr>
<tr>
<td>MA124 (Auto Scan Control Module)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-175P, PT-570P, PT-1250P Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M115-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M115 (Joystick Control Module)</td>
</tr>
<tr>
<td>MA115 (Auto Scan Control Module)</td>
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</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-155P, PT-550P, PT-1050L Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M115-24-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M115-24 (Joystick Control Module)</td>
</tr>
<tr>
<td>MA1524 (Auto Scan Control Module)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-175P, PT-570P, PT-1250P Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M115-24-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M115-24 (Joystick Control Module)</td>
</tr>
<tr>
<td>MA1524 (Auto Scan Control Module)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-2000L Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12900-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M12900 (Joystick Control Module)</td>
</tr>
<tr>
<td>MV2000 (Variable Speed Control Module)</td>
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<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-2000L Pan/Tilt</th>
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</thead>
<tbody>
<tr>
<td>M12900-DT (Desk Top Joystick Control)</td>
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<tr>
<td>M12900 (Joystick Control Module)</td>
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<tr>
<td>MV2000 (Variable Speed Control Module)</td>
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<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-2000L Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12900-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M12900 (Joystick Control Module)</td>
</tr>
<tr>
<td>MV2000 (Variable Speed Control Module)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pan &amp; Tilt Controls for PT-2000L Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12900-DT (Desk Top Joystick Control)</td>
</tr>
<tr>
<td>M12900 (Joystick Control Module)</td>
</tr>
<tr>
<td>MV2000 (Variable Speed Control Module)</td>
</tr>
</tbody>
</table>

### Scanner Controls

<table>
<thead>
<tr>
<th>Scanner Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5</td>
</tr>
<tr>
<td>SS5 DT</td>
</tr>
<tr>
<td>SS5-24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scanner Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS5-24</td>
</tr>
<tr>
<td>SS5</td>
</tr>
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<td>SS5</td>
</tr>
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</table>

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<tbody>
<tr>
<td>SS5</td>
</tr>
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<table>
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<tbody>
<tr>
<td>SS5</td>
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<td>SS5</td>
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<table>
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<tr>
<td>SS5</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Lenses for Pelco Motorized Zoom Lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLZS (Zoom Lens Control Module)</td>
</tr>
<tr>
<td>MLZS DT (Desk Top Zoom Lens Control)</td>
</tr>
<tr>
<td>MLZS DT (Auto Iris Zoom Lens Control Module)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enclosure Controls for PT-2000L Pan/Tilt</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEH (Enclosure Control Module)</td>
</tr>
<tr>
<td>MEH-24 (Enclosure Control Module 24Vac)</td>
</tr>
<tr>
<td>MEH-DT (Enclosure Control Desk Top 115Vac Camera On/Off)</td>
</tr>
<tr>
<td>MEH-24 DT (Enclosure Control Desk Top 24Vac Camera On/Off)</td>
</tr>
</tbody>
</table>

### Dual Station Controls

- **M1000S**: Dual Station Control Modules
  - One required for each control panel
  - Price: $60.00

- **DS100-J**: Dual Station Junction Box
  - One required per system
  - Price: $100.00

### Miscellaneous Controls

- **AZL**: Position Indication Meters used with AZL option in P/T
  - Price: $200.00

---

Prices and Specifications Subject to Change Without Notice.
TELEVISION OPTICAL TEST MEDIA

PORTA-PATTERN® TELECOMMUNICATIONS INDUSTRIES LIMITED

ELECTRONIC FIELD PRODUCTION 3 CHART SYSTEM

TEST CHART SYSTEM
- End the test pattern problem in studio or field with completely portable 9" x 12" charts
- Designed for self-standing or mounting on standard microphone or light stand
- Spirit level is an integral part of unit design for horizontal alignment accuracy
- Lightweight aluminum extrusion chart holder with three feel and alignment controls
- Each chart framed and recessed on high-impact acrylic plastic to assure protection from abrasion and water damage
- Each set contains one standard resolution, registration, and logarithmic reflectance chart

<table>
<thead>
<tr>
<th>Chart Name</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four Chart System with NO adapters</td>
<td>$285.00</td>
</tr>
<tr>
<td>Four Chart System with microphone stand adapter</td>
<td>$310.00</td>
</tr>
<tr>
<td>Four Chart System with light stand adapter</td>
<td>$320.00</td>
</tr>
<tr>
<td>Four Chart System with mic and light stand adapters</td>
<td>$335.00</td>
</tr>
<tr>
<td>Microphone stand adapter</td>
<td>$32.00</td>
</tr>
<tr>
<td>Light stand adapter</td>
<td>$36.00</td>
</tr>
<tr>
<td>Aluminum frame assembly, complete W/O adapters</td>
<td>$170.00</td>
</tr>
<tr>
<td>Dual system carrying case</td>
<td>$60.00</td>
</tr>
<tr>
<td>Single Chart Carrying Case</td>
<td>$55.00</td>
</tr>
<tr>
<td>Resolution Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>Linearity (Ball) Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>Registration Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>Nine-Step Log Chip Chart</td>
<td>$100.00</td>
</tr>
<tr>
<td>Production Slate</td>
<td>$60.00</td>
</tr>
<tr>
<td>Blank plastic chart frame</td>
<td>$50.00</td>
</tr>
<tr>
<td>Multi-Burst Chart, 8 MHz</td>
<td>$70.00</td>
</tr>
<tr>
<td>Window Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>Chess Board Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>Reverse Registration Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>BBC #81P Flesh Tone Reference Chart</td>
<td>$140.00</td>
</tr>
<tr>
<td>Pulse Bar Camera Chart</td>
<td>$150.00</td>
</tr>
<tr>
<td>CCH Linearly (Ball) Chart (Grass Valley)</td>
<td>$70.00</td>
</tr>
<tr>
<td>Auto-Registration Chart (Fernsen)</td>
<td>$70.00</td>
</tr>
<tr>
<td>Lens Focus Chart</td>
<td>$70.00</td>
</tr>
<tr>
<td>Depth of Modulation Chart (Amperex)</td>
<td>$70.00</td>
</tr>
<tr>
<td>Line Resolution Chart (CEI)</td>
<td>$70.00</td>
</tr>
<tr>
<td>Full-Field Color Bar Chart</td>
<td>$140.00</td>
</tr>
<tr>
<td>Eleven-Step Log Chip Chart (Available After June 1982)</td>
<td>$110.00</td>
</tr>
</tbody>
</table>

ENG 2 CHART SYSTEM

The PORTA-PATTERN ENG/EFP Chart System has been designed to provide basic alignment, registration, color balance and auto-white balance information for fast Electronic News Gathering or Field Camera set-up.

- The system consists of a Registration Chart and specially designed Color Balance Chart, mounted on durable white acrylic plastic. The two plastic frames are hinged together, and the charts are folded face-to-face when not in use. Black 'Velcro' provides a light and dirt seal when the system is closed, and the white plastic has a non-reflective surface for auto-white balance use.
- The Registration Chart is the standard PORTA-PATTERN Registration Chart in the 6-3" x 8-4" format, with the recommended target scan information surrounding the chart. The Color Balance Chart, in the same format, contains logarithmic grey scale information to set black level, gain, gamma and black and white clip (60% white, 13 4% gamma crossover and 3% black on a standard 12% background).
- The ENG-EFP Two Chart System is supplied with an expanded vinyl nylon coated storage case to protect the unit during transit and while on location.

<table>
<thead>
<tr>
<th>Chart Name</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG Portable Two-Chart System, Registration and Color Balance, including Carrying Case</td>
<td>$185.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.

ELECTRONIC FIELD PRODUCTION 3 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 catalogue. This system, when closed, takes up no more space than a simple PORTA-PATTERN Test Chart.

The system consists of three plastic frames, similar to those used for all individual PORTA-PATTERN Charts. Hinged end-to-end with a unique system which allows the plastic frames to be folded upon themselves, thus providing complete surface protection for all three charts.

The entire system is held closed by a 'Velcro' closure system, and an expanded vinyl-coated nylon case is included to provide a complete, three chart system in a package less than 15" high, 18" wide and 1 1/2 thick.

Since there are currently over 150 combinations of PORTA-PATTERN charts which can make up the system to each customer's requirements, it is imperative that your Purchase Order include the enclosed layout sheet, showing which Test Chart you wish in each of the three positions.

<table>
<thead>
<tr>
<th>Chart Name</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFP Three Chart System with three Black and White Geometric Test Patterns, including case</td>
<td>$205.00</td>
</tr>
<tr>
<td>EFP Three Chart System with two Black and White Geometric and one Nine-Step Log Chip Chart, including case</td>
<td>$230.00</td>
</tr>
<tr>
<td>EFP Three Chart System with one Black and White Geometric, one Log Chip and one of either Color Bar, BBC #81P Flesh Tone or Pulse Bar chart, including case</td>
<td>$260.00</td>
</tr>
</tbody>
</table>

NOTE: To add Production Slate to rear of center panel of any of the above EFP Three Chart Systems add $45.00 to List Price shown.

PORTA-FLECTOR™ FIELD LIGHT REFLECTOR/ AUTO-WHITE STANDARD

The PORTA-FLECTOR™ has been designed primarily for use by ENG and EFP field crews to provide a lightweight, portable reflector for use on exterior interviews, 'stand-uppers', etc when a small amount of reflected light, especially from below, will provide a more even facial illumination on the on-camera personnel.

Further, the reverse side of this unit will provide camerapersons with a constant, known white matte-finish surface for use with those cameras utilizing an Auto-White Color Balance System.

The unit is manufactured of flexible 0.060 white vinyl, with the Auto-white side being of a dull, matte non-reflective finish.

The reflector side of the unit is covered with Roscoflex™ reflector material manufactured by Rosco Laboratories, Inc. The reflectance characteristics of this material are strongly directional, and retain much of the characteristics of the original light source.

The PORTA-FLECTOR™ is manufactured in two sizes for ease of usage in existing PORTA-PATTERN® Systems. The larger size is manufactured in the same size as all our standard test charts, and will fit in either the aluminum holder of the standard four chart system, or in the case of the EFP Three Chart System.

The smaller unit is designed to be used in conjunction with the PORTA-PATTERN ENG Two Chart System. Additionally, this smaller unit has been designed to be fit in the carrying case of most field type video tape recorders, between the recorder and the case, thus eliminating the need for additional pieces of loose equipment.

<table>
<thead>
<tr>
<th>Chart Name</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORTA-FLECTOR™ field light reflector Auto-White Standard 12&quot; x 15&quot;</td>
<td>$65.00</td>
</tr>
<tr>
<td>PORTA-FLECTOR™ as above 9&quot; x 12&quot;</td>
<td>$55.00</td>
</tr>
</tbody>
</table>
VIDEO PROMPTER SYSTEMS

VPS-100
CONSOLE TRANSPORT

We have simplified prompting! By eliminating elements such as the large-size typewriter, special paper, special ribbons, replacing broken keys, typewriter adjustments, and transposing copy, we figured what can't go wrong, won't go wrong.

These unique 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 8½” 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, thus eliminating the need for 'taping'.

VPS-300
CONVEYOR TRANSPORT

Prompter copy is scanned by the vidicon camera and transmitted to one or more prompter/monitor read-outs 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.

The adaptability of the VPS systems over conventional prompting equipment enables you to derive maximum returns both technically and financially because of the reduction in preparation of prompter copy and general running costs.

Prices and Specifications Subject to Change Without Notice.
**Teleproduction Graphics Titler**

**Q-6**
- 24 Character Sizes — Selectable by Row
- Upper and Lower Case Font of Capital Letters Selectable by Character
- Character Resolution, up to 32 Horizontal Pixels
- Random Access to 192 Resident, Positionable Titles
- 6,000 Character Memory — Selectable Page Sizes
- Choice of 3 Character Fonts
- Absolute Centering by Row or Page
- Incremental Horizontal Character Positioning by Row
- Roll to Fixed Display or Full Screen
- Crawl and Title in any Raster Position
- 2 Speed Roll, Crawl and Flash
- Insert/Delete and Open/Close Editing

**Q-6/B**
- Save or Exchange Rows or Pages
- Line and Block Graphics
- 6 Background Colors Plus Gray and Black Selectable by Row
- Color Graphic Separators
- Sync-Lock and Color Phase-Lock or Stand Alone
- Memory Protect Nicad Batteries and Charger
- Built-In Maintenance "De-Bug" Analyzer

*Not Applicable in Monochrome Q-6/A

**Prices and Specifications Subject to Change Without Notice.**

Q-6/A, English Keyboard ........................................ $6,995.00
Q-6/A, International Keyboard ................................ 8,495.00
Q-6/B, English Keyboard .......................................... 8,495.00
Q-6/B, International Keyboard .................................. 9,995.00

$6,995.00
The Q-7A/R rack mount configuration was developed for applications requiring multiple remote keyboards. All display capabilities of the Model Q-7A are provided with the addition of an RS-232-C input at 9600 Baud. Remote keyboards contain independent power supplies and interconnect via coaxial cable at distances up to 500 feet between keyboards. There are no practical limitations to the number of keyboards in the system. Keyboard delegation is accomplished by switch function at each keyboard with “on line” and “busy” LED indicators on each keyboard bezel. Priority is assigned to the keyboard that is first in the series. There is also a “request” capability from any keyboard that indicates busy.

EXTENDED MEMORY SYSTEMS: Rack mount single and dual mini disc storage systems with 6-inch monochrome edit monitors (NTSC only) for storage compartment are available for Q-7A/R.

DIMENSIONS: Q-7A/R electronics: 19” W x 5 1/2” H x 19 1/2” D; Single or dual disc: 19” W x 8 1/4” H x 19 1/2” D; Remote keyboard: 17” W x 5” H x 12” D.

Q-7A/R Rack mount electronics with software for English ................................................. $16,495.00
Q-7A/R Rack mount electronics with software for International .............................................. 18,495.00

QVII

CHARACTER DISPLAY
• 20 nsec character resolution with NANO-LOG™
• Multiple upper and lower case resident fonts selectable by character • 20 character size selections of all fonts by row • Font raster line heights from 8 to 64
• Common height font intermix by character

RESIDENT MEMORY
• 192-row memory — 6,144 total character capacity • 12, 16-row pages — operator selectable page sizing • Memory protect battery and charging circuit

COMPOSITION AND OPERATION
• High resolution, color, edit/status output • Erase from cursor to end of row, page or memory • Automatic, absolute centering by row, page or memory • Horizontal text positioning by row • Insert/delete and open/close editing • Text relocation by row or page • Automatic font change by row, page or memory • Full raster vertical title positioning • Random or sequential page access • 32 tab positions • Self-diagnostic maintenance program

COLOR AND EFFECTS
Colorized characters by row • Colorized background by row • Full borderline or shadow edging by row • Color graphic separators • 8 color selections including black and white or gray • Character and/or back ground color matte over video

DYNAMIC AND SPECIAL DISPLAY
Roll any length message up to 192-row resident memory • Roll to fixed display or full screen • Crawl any raster position, any font and with fixed text • 2 speed control roll, crawl and flash • Roll and crawl simultaneously • Auto page fade — 0 to 2 seconds • Real time clock positionable in any display row • Line and box graphics • International alphabets optional — all fonts • Custom logo capability
QVII, English keyboard ................................................................. $11,995.00
QVII, International keyboard ......................................................... 13,995.00

Prices and Specifications Subject to Change Without Notice.
FONT LOADABLE TITLING SYSTEM

Q-8

Microcomputer based, high resolution, broadcast quality titling from an extensive library of type faces and fonts on single disc load and dual disc read/write memory... multiple type faces and fonts in one resident load... logos... color background and characters... borderlines... shadow and more.

Standard Features

- Up to 18 fonts loadable in resident memory
- 3 different type faces per resident load
- Multiple font sizes per type face per load
- Disc library of type faces and font sizes
- Expandable library selection
- Custom font design capability
- Custom design logo capability
- Proportional characters and spacing
- 26.1 nsec base character resolution
- 16 to 96 raster line height character display
- Regular, condensed and extended type faces
- Random and sequential access to both 100 page discs
- Unlimited "next disc" sequencing
- Full disc redundancy and copy capability
- Colorized characters by row
- Colorized backgrounds by row
- Full borderline and shadow edging by row
- Color graphic separators
- Colorized graphic blocks and underline
- 8 color selections including black and white or gray
- Character and/or background color matte over video
- Rollar... "high" message
- Crawl any raster position and with fixed text
- 4-speed roll, crawl and flash
- High resolution color edit/status output
- Erase from cursor to end of row or page
- Automatic absolute centering by row or page
- Automatic right margin justification by row
- Horizontal text positioning by row
- Interword spacing control
- Selectable intercharacter spacing control
- Interrow spacing control
- Insert/delete and open/close editing
- Page or row save buffer
- Full raster vertical title positioning
- 32 unique tab positions
- Keyboard delegation for multiple remote keyboards

Q7A

1 channel/dual 8" floppy disc... 27,995.00
2 channel/dual 8" floppy disc... 39,995.00
Add keyboard... 3995.00

TELEPRODUCTION GRAPHIC TITLER

Q-7A

A new dimension in broadcast graphic titling... true proportional typography integrated with microcomputer efficiency in a self-contained low cost system.

- 16 resident fonts
- Proportionally structured and spaced characters
- 20 nsec, effective start point resolution

VIDEO TYPOGRAPHY

- True proportional characters and spacing
- 20 nsec character resolution with NANO-LOG
- 16 resident fonts
- "Bolt Bold" large and small caps by row
- Font raster line heights from 8 to 64
- Common height font intermix by character

Extended Memories

Flexible Disc Memory Accessory: Single or dual mini-disc storage systems provide random or sequential (next/prior) access to 100 pages per disc with page access time of less than 5 seconds. Each page contains total data storage (text, attributes and program control) for 100, 16-row pages. In addition, each disc stores a data Block of the entire 5120 character memory for credit rolls, team titles, etc. Total storage per disc is 56,320 characters.

Q7B

Same Features As Q7A Only:
- Your Choice of any 2 fonts
- Word by word color will colorize from space to space

Q7A

Q7A-EM... 14,495.00
Q7A-EM/MDM-2... 17,995.00

Q7B

Q7B-EM... 15,495.00
Q7B/EM/MDM-2... 18,995.00

Q7A to Q7B Update... 1495.00

MICROGEN

STANDARD

16, 12-row pages of internal resident memory. Over 6,000 characters (32 x 16 pixel character matrix) 2 horizontal character sizes selectable on a row by row basis. 24 or 32 characters per row. Title mode of 64, 3-row titles, positionable at any raster location. Automatic page sequencing in durations from 0 to 99 seconds. Roll mode allows continuous or one-time roll of entire 192-row memory. 10 selectable roll speeds. Crawl mode up to 6,000 characters. Positionable at any raster location and with static information. Continuous or one-time crawl in any one of 34 selectable speeds. Flash on a character by character basis. Absolute centering by row or page. Right-hand justify by row or page. Left-hand justify by row or page. Random or sequential page access. Full borderline edging - selectable on or off. One row status display. Program on/off for keyboard preview. RAM memory protect battery and charging circuit. CMOS RAM for extended battery back-up fee. Automatic RAM memory check at power or. One row status display. Program on/off for keyboard preview. RAM memory protect battery and charging circuit. CMOS RAM for extended battery back-up fee. Automatic RAM memory check at power on or off.

OPTIONS

- Color/Sync option. 10 selectable character colors by row in downstream application. Complete second channel option allows composition while on air.

Microgen

Single channel M/G100S... $2995.00
Dual channel M/G100D... $4345.00
Color Sync option per channel... 350.00
Second channel option... 1350.00

Prices and Specifications Subject to Change Without Notice.
### INSTRUMENT-POSITIONING EQUIPMENT

#### SAMSON MOBILE PEDESTAL

<table>
<thead>
<tr>
<th>#4-74500-6</th>
<th>Load Capacity</th>
<th>40 lbs. (18.2 kg)</th>
<th>Maximum Height</th>
<th>76” (193 cm)</th>
<th>Minimum Height</th>
<th>34” (86.4 cm)</th>
<th>Column Rise</th>
<th>18” (45.7 cm)</th>
<th>Weight</th>
<th>23 lbs. (10.5 kg)</th>
<th>Wheel Circle</th>
<th>28” (71.1 cm)</th>
</tr>
</thead>
</table>

#### SAMSON MINI FLUID HEAD*

<table>
<thead>
<tr>
<th>#4-70501-0</th>
<th>Load Capacity</th>
<th>30 lbs. (13.6 kg)</th>
<th>Tilt Angle</th>
<th>65°</th>
<th>Pan Rotation</th>
<th>360°</th>
<th>Dimensions</th>
<th>4” x 6” x 6”</th>
<th>Weight</th>
<th>4.5 lbs. (2.0 kg)</th>
</tr>
</thead>
</table>

#### SAMSON FRICITION HEAD*

<table>
<thead>
<tr>
<th>#4-70505-3</th>
<th>Load Capacity</th>
<th>25 lbs. (11.4 kg)</th>
<th>Tilt Angle</th>
<th>45° up, 90° down</th>
<th>Pan Rotation</th>
<th>360°</th>
<th>Dimensions</th>
<th>5 ½” x 6 ½” x 6 ½”</th>
<th>Weight</th>
<th>2 ½ lbs. (1.1 kg)</th>
</tr>
</thead>
</table>

#### SAMSON CAM HEAD

<table>
<thead>
<tr>
<th>#4-72300-3</th>
<th>Load Capacity</th>
<th>40 lbs. (18.1 kg)</th>
<th>Tilt Angle</th>
<th>30° up, 40° down</th>
<th>Pan Rotation</th>
<th>360°</th>
<th>Dimensions</th>
<th>8 ½” x 6 ½” x 4 ½”</th>
<th>Mountings</th>
<th>¼” x 20 Camera Screw, Adjustable Fore and Aft</th>
</tr>
</thead>
</table>

#### HERCULES HYDRO FLUID HEAD*

<table>
<thead>
<tr>
<th>Load Capacity</th>
<th>50 lbs. (22.7 kg)</th>
<th>Tilt Angle</th>
<th>80°</th>
<th>Pan Rotation</th>
<th>360°</th>
<th>Dimensions</th>
<th>6” x 5” x 6”</th>
<th>Mountings</th>
<th>3/8” x 24 Camera Screw, Adjustable Fore and Aft</th>
</tr>
</thead>
</table>

#### HUSKY DOLLY

<table>
<thead>
<tr>
<th>Load Capacity</th>
<th>50 lbs. (22.7 kg)</th>
<th>Wheel Size</th>
<th>4” x ¾” (10.2 x 1.9)</th>
<th>Wheel Circle</th>
<th>42” (105.7 cm)</th>
<th>Folds to</th>
<th>6 ½” x 7 ½” x 21 ½”</th>
<th>Weight</th>
<th>9 lbs. (4.1 kg)</th>
</tr>
</thead>
</table>

#### HUSKY DOLLY

<table>
<thead>
<tr>
<th>Load Capacity</th>
<th>50 lbs. (22.7 kg)</th>
<th>Wheel Size</th>
<th>4” x ¾” (10.2 x 1.9)</th>
<th>Wheel Circle</th>
<th>42” (105.7 cm)</th>
<th>Folds to</th>
<th>6 ½” x 7 ½” x 21 ½”</th>
<th>Weight</th>
<th>9 lbs. (4.1 kg)</th>
</tr>
</thead>
</table>

#### Accessories

<table>
<thead>
<tr>
<th>4-7510-3</th>
<th>Side Arm - 12” Offset</th>
<th>50 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-7530-5</td>
<td>Hi-Hat</td>
<td>80 lbs.</td>
</tr>
</tbody>
</table>

#### Prices and Specifications Subject to Change Without Notice.

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*Note: Specifications and prices are subject to change without notice. Always check the latest information from the manufacturer or supplier.*

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### HUSKY

1. **T.V. Husky**
   - Husky Tripod w/ Counterbalance Head, 2 Section Legs...
   - Price: $170.00

2. **Husky Tripod w/ Counterbalance Head, 3 Section Legs...
   - Price: $180.00

3. **Husky Tripod w/ Counterbalance Head, 4 Section Legs...
   - Price: $190.00

4. **Husky Tripod w/ Counterbalance Head, Struts, 2 Section Legs...
   - Price: $190.00

5. **Husky Tripod w/ Counterbalance Head, Struts, 3 Section Legs...
   - Price: $230.00

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### Dolly

1. **Husky Dolly, 4 Wheels w/ Center Locking Device...
   - Price: $90.00

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### Heads Only

1. **Husky Safaris TV Head for Tripod...
   - Price: $36.00

2. **Husky 30 Head for Tripod...
   - Price: $160.00

3. **Husky Tripod Only...
   - Price: $110.00

4. **Husky Tripod with Column, 3 Section Legs...
   - Price: $130.00

5. **Husky Tripod with Column, 5 Section Legs...
   - Price: $230.00

6. **Husky "LIF" 3 Section Legs...
   - Price: $190.00

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### SAMSON

1. **Husky Elevator 3 Section Legs...
   - Price: $200.00

2. **Husky "Stubby" 4 Section Legs...
   - Price: $216.00

3. **Husky "Hi Boy" 4 Section Legs...
   - Price: $230.00

4. **Husky "LIF" 3 Section Legs...
   - Price: $190.00

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### Tripods, Pedestals, Trolleys

1. **ENG/FP Tripod...
   - Price: $200.00

2. **Tripod w/ Elevation...
   - Price: $200.00

3. **3/4 Size Tripod w/ Elevation...
   - Price: $220.00

4. **Mobile Pedestal...
   - Price: $400.00

5. **Trolley...
   - Price: $330.00

6. **Stationary Column Unit...
   - Price: $190.00

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### Heads

1. **Frisco Head w/ Standard Counterbalance Spring...
   - Price: $150.00

2. **Frisco Head w/ Heavy Duty Counterbalance Spring...
   - Price: $180.00

3. **3 Section Head...
   - Price: $375.00

4. **Soft Head...
   - Price: $129.00

5. **Geesar Soft Head...
   - Price: $229.00

6. **Geesar Movie Head...
   - Price: $299.00

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### Dollys, Cable Guards

1. **3-Section Dolly, for use with 4-7010-7 Tripods...
   - Price: $120.00

2. **3 Section Dolly w/ Heavy Duty Ears...
   - Price: $36.00

3. **3 Section Cable Guards...
   - Price: $36.00

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### Adapters

1. **Husky Elevator Column to Pro Jr. Tripod...
   - Price: $80.00

2. **Husky Column to Husky Tripod...
   - Price: $80.00

3. **Husky Column to Hercules Pedestal...
   - Price: $36.00

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### Hercules

1. **Husky Elevator Column to Pro Jr. Tripod...
   - Price: $80.00

2. **Husky Column to Husky Tripod...
   - Price: $80.00

3. **Husky Column to Hercules Pedestal...
   - Price: $36.00

4. **Husky Column to Hercules Pedestal...
   - Price: $42.00

5. **Transit Adapter (3/4” x 8” X 8”...""
   - Price: $160.00
SL-1015 Quartz Synthesizer Direct Drive Turntable System
The Technics SL-1015 is a high-performance turntable system consisting of the SP-15 Quartz Synthesizer Direct Drive Turntable, the SH-15B1 anti-resonant Turntable Base, and the EPA-500 System Tonearm with arm base and electronic stylus pressure gauge. The System Tonearm has special significance to the audiophile because of its interchangeable arm assembly. Optional arm units of various masses can be purchased and used to accommodate virtually any cartridge compliance.

Discriminating audiophiles will be pleased with this turntable system that brings together a turntable with selectable, quartz pitch control (adjustable in three speeds in 0.1% steps to +/−9.9% for a total of 597 possible steps), a single molded, heavy-rubber material base, and a tapered, tubular System Tonearm. The sum of these components adds up to a very remarkable turntable system — even more remarkable than an examination of its individual parts might suggest.

Features
- Full cycle detection frequency-generator and integral rotor-platter direct-drive motor.
- Very efficient pulsed power supply circuit.
- Good connection between arm unit and arm base thanks to a slide-in, self-cleaning connector with gold-plated terminals.
- Low capacitance (41.5 picofarads per meter) and low resistance (39.5 milli-ohms per meter) phono cable.
- Pitch lock device for locking speed selector and pitch controls.

SL-1200MK2 Quartz Synthesizer Direct Drive Turntable System
The SL-1200MK2 represents the next generation of the popular SL-1200, incorporating numerous improvements over the original. In addition to begin quartz-locked direct drive, it permits continuous speed adjustment under quartz control (within a range of +/−8%). Its starting torque is a high 1.5 kg·cm (1.3 lbs·in), with the platter reaching rated speed within 0.7 second from standstill. It also maintains a tighter lock on the selected speed than did the original SL-1200. The SL-1200MK2 should also be virtually feedback-proof because of its special base design. The platter itself is damped on both sides to avoid ringing.

Features
- Precise tonearm height adjustment up to 20mm is possible with 12-spiral helicoid.
- Large, rugged base of diecast zinc.
- Advanced, damped cueing system for smooth raising and lowering of the tonearm.
- Precise anti-skating device acts in lateral axis of tonearm movement.
- Sturdy, integrated headshell designed for minimum resonance and low weight.

EPA-500 System Tonearm
The EPA-500 tonearm system is probably the most thorough solution to the problem in existence today. The tonearm is actually five different ones with optimized damped counterweight assemblies for each. The basic arm assembly's effective mass is 8 grams, which is suitable for most cartridges now on the market. Should you wish to use a very high-compliance cartridge, you can purchase the optional "E" arm unit, whose lower effective mass will keep the system resonance around 10 Hz. Or should you want to use a cartridge with lower-than-average compliance, you can select the appropriate "M", "L" or "G" arm units. In each case, the right arm system will place the resonant frequency at or very near 10 Hz, while the built-in counterweight damping system will attenuate any resonances that occur at that point. Furthermore, the arm units are quickly and easily interchanged.

And every arm unit is made from titanium nitride, a material that combines lightness with very high strength. This material is also very non-resonant, so it is unlikely to transmit airborne or mechanical vibrations to the stylus, a fact which contributes to the extreme clarity and sonic neutrality that can be achieved with this arm.

Supplied with this tonearm system is a unique and valuable accessory, the Technics Stylus Pressure Gauge. Operating on the semiconductor strain gauge principle, this purely electronic device employs two semiconductor strain gauge elements and two transistors to give highly accurate readings on a large meter. The gauge is sensitive to very slight variations in tracking force so that you can obtain the optimum adjustment for each of your cartridges.

Features
- Precise tonearm height adjustment up to 20mm is possible with 12-spiral helicoid.
- Large, rugged base of diecast zinc.
- Advanced, damped cueing system for smooth raising and lowering of the tonearm.
- Precise anti-skating device acts in lateral axis of tonearm movement.
- Sturdy, integrated headshell designed for minimum resonance and low weight.

Prices and Specifications Subject to Change Without Notice.
A Major Breakthrough in Speaker System Technology that Clearly Improves Musical Reproduction.
The most obvious difference between the Technics honeycomb disc speaker system and conventional speaker systems is that the speaker units are flat instead of conical. This flat sound-radiating surface at last puts an end to much of the distortions inherent in the traditional cone-shaped design.
The honeycomb disc greatly simplifies linear phase speaker system construction because of two reasons.
First, the honeycomb disc speaker offers a wide, flat and smooth frequency response so that the crossover network can be simplified. And secondly, the acoustic center of a honeycomb disc speaker is clearly defined (it extends across the whole surface of the driver) instead of centering vaguely around the voice coil, as is the case with cone-shaped drivers. This means that there is no need for staggering the speaker units from top to bottom of the front baffle.
As a safety precaution all of the honeycomb disc speaker systems are equipped with separate thermal relays that operate to shut off input signals to individual drivers when coil area temperature rises above a certain safe limit. The thermal relays are easily resettable. An LED load indicator lights up to indicate the input limit is being approached. When more than one of the thermal relays are activated, their indicator will be more brightly lit.

SB-3 2-Way System
Specifications:
- Configuration: 2-way, 2-speaker
- Speaker units: Woofer: 9" (22cm); Honeycomb Disc Tweeter: 1-1/8" (2.8 cm) Honeycomb Disc
- Impedance: 8 ohms
- Input power: 75W, music; 50W, DIN
- Output level: 87 dB/W (1.0m)
- Frequency range: 45 Hz—35 kHz (-10 dB)
- Crossover frequency: 2000 Hz
- Dimensions: 10-5/8”W x 17-3/8”H x 9-3/8”D (27 x 44 x 23.7cm)
- Weight: 19 lbs. (8.6 kg)
$450.00/pair

SB-5 3-Way System
Specifications:
- Configuration: 3-way, 3-speaker
- Speaker units: Woofer: 9" (22cm) Honeycomb Disc Midrange: 3-1/8” (8 cm); Honeycomb Disc Tweeter: 1-1/8” (2.8cm) Honeycomb Disc
- Impedance: 8 ohms
- Input power: 110W, music; 75W, DIN
- Output level: 87 dB/W (1.0m)
- Frequency range: 38 Hz—35 kHz (-10 dB)
- Crossover frequencies: 800 Hz, 4500 Hz
- Dimensions: 12-3/8”W x 22-7/8”H x 12-1/2”D (31.5 x 58 x 31.8 cm)
- Weight: 31 lbs. (14 kg)
$325.00 each

SB-7 3-Way System
Specifications:
- Configuration: 3-way, 3-speaker
- Speaker units: Woofer: 10" (25cm) Honeycomb Disc; Midrange: 3-1/8” (8cm) Honeycomb Disc; Tweeter: Leaf tweeter
- Impedance: 8 ohms
- Input power: 130W, music; 90W, DIN
- Output level: 87 dB/W (1.0m)
- Frequency range: 34 Hz—125 kHz (at 10 dB below average level)
- Crossover frequencies: 900 Hz, 4500 Hz
- Dimensions: 14-1/8”W x 24-3/4”H x 12-1/2”D (36 x 63 x 31.8 cm)
- Weight: 42 lbs. (19kg) (including grille)
$400.00 each

SB-10 3-Way System
Specifications:
- Configuration: 3-way, 3-speaker
- Speaker units: Woofer: 12-4/5” (32cm) Honeycomb Disc; Midrange: 3-1/8” (8cm) Honeycomb Disc Tweeter: Leaf tweeter
- Impedance: 8 ohms
- Input power: 150W, music; 100W, DIN
- Output level: 87 dB/W(1.0m)
- Frequency range: 28 Hz — 125 kHz (at 10 dB below average level)
- Crossover frequencies: 400 Hz, 4000 Hz
- Dimensions: 15-7/8”W x 28”H x 12-1/2”D (40.2 x 71.1 x 31.8cm)
- Weight: 70.5 lbs. (32 kg) (including grille)
$700.00 each

Prices and Specifications Subject to Change Without Notice.
**AUDIO MIXER**

**RAMSA WR-130 8 IN/2-OUT AUDIO MIXER**

The WR-130 is a portable, versatile mixer which is suitable for remote broadcasts, recording, or sound reinforcement. Its design offers high fidelity performance characteristics, extended frequency response, wide dynamic range, and noise free performance. The WR-130’s high reliability and durable construction are designed to withstand abusive handling on the road.

**Quality Engineering Features**

Portable and ruggedly constructed. Can be connected to CUE or echo effect unit through PREMIX OUTPUTS. Can be connected to an echo effect unit through FROM ECHO and TO ECHO.

**Input**

Inputs 1 to 8 with XLR type connectors, offer a balanced input system which is created by RAMSA’s sophisticated operational amplifier circuit. This reduces input noise to a maximum of -128 dB. The input level for inputs 1-4 can be selected at -70, -60, -50, -40 and -20 dBs while the input sensitivity of inputs 5-8 can be selected at -70, -60, -50, -40, -30 and -20 dBs. Inputs 1-4 are equipped in parallel with -52 dBs phono inputs connectors so that two stereo turntables can be connected. Inputs 1-8 are equipped with panpots for control of each input for both A and B program outputs. Inputs 7 and 8 have two pairs of connectors in parallel so that either XLR type connectors or phone plugs can be employed. Inputs 1-8 are equipped with equalizers which allow + / -12 dB variation in the levels at 100 Hz and 10 kHz. Inputs 1-8 are provided with peak level indicators which indicate input levels that exceed -3 dB before a clipping level.

**Output**

The rated output is + 4 dBm, and the maximum output is +20 dBm. A and B program outputs accept either XLR connectors (balanced) or phone plugs (unbalanced). The outputs of master faders A and B contain equalizers which control + / -12 dB at both 100 Hz and 10 kHz. Two -20 dBs AUX IN terminals with an input impedance of 10 kohms are provided for the connection of a sub-mixer or tape deck. Pin Jacks for A and B REC OUT are provided. Headphone output is switchable between PRE MIX and PGM for flexible monitoring.

$995.00

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**MIXING CONSOLE**

**RAMSA WR-8816 RECORDING MIXING CONSOLE**

Ramsa has developed the WR-8816, a mixer specifically designed for recording applications. With it, the recording engineer has all the flexibility he requires at his disposal. The WR-8816 is designed to perform all its functions quickly and effectively, with a minimum of time wasted re-patching cords and changing set-ups.

The Input modules accommodate 16 LINE IN inputs. There are also 16 direct line outputs. The input signals may be mixed using the tape monitor controls in the Group modules with no changes in the wiring arrangements. The Send controls in the Group modules enable signals to be routed directly from the LINE IN inputs to the L and R cue Send busses in the Master module. Using the monitor section, the mic inputs may be employed without altering the patch connections, so recordings can be made while monitoring the actual input signals. With a total of 10 mixing buss lines (4 Group, 2 Master, 2 Send, and 2 Echo), all necessary outputs are provided. For additional flexibility, Ramsa has provided 16 insertion jacks on the Input modules. The user can exercise extremely precise control over each Input module; separately adjustable 3-band equalizer controls, echo controls, left and right send controls, and input faders are all included in each module.

Complete access to all 16 inputs via direct monitoring lines permits simultaneous monitoring without altering patch cord connections. The WR-8816 also allows monitoring of up to 16 channels. With the Solo switch, the post-fader signal may be monitored individually. The Send facility provides a pre-fader, pre-EQ signal for musician headphone monitoring. Playback monitoring is available.

Three individual equalizer controls are provided for each Input, with High, Mid, and Low frequency adjustments.

The WR-8816 includes refinements such as extensive use of ICs and transistors to reduce or eliminate many servicing problems. The modular design makes it easy to pinpoint most malfunctions.

The use of balanced input circuitry contributes to the low noise and frequency response exhibited by the WR-8816: Mic: 20 - 20,000 Hz + / -1 dB (60 dB Input level, 64 dB gain); Line: 20 - 20,000 Hz + / -0.5 dB (20 dB Input level, 24 dB Gain); Mic Input Noise: -128 dB (THD "A"

WTD, 150 ohm source); THD: Less than 0.05% (20-20,000 Hz +20 dBm Output Level, 64 dB Gain), Maximum Output Level: +22 dB, CMRR: Above 70 dB (1 kHz minimum), Above 80 dB (typical).

$4950.00

Prices and Specifications Subject to Change Without Notice.
RAMSA RECORDING CONSOLE WR-8210
10 Inputs 4 Group Outputs For 4 and 8 Track Recording

- 10 inputs and 4 channel outputs
- Input levels: Mic: -70 to -30 dB with 40 dB trim, Line: -20 to 0 dB with 20 dB trim
- 3 knob equalizer: High: 4k/12kHz +/−12 dB shelving, Mid: 500/1.5kHz +/−12 dB peaking, Low: 60/180 Hz +/−12 dB shelving
- EQ bypass switch
- Input channel mute switch
- Insertion patch point at each input
- Sub in with level control and pan on each input
- Two Sub mix sends pre or post
- Solo switch at each input
- Direct output at each input
- Peak indicator at each input
- Buss assignment switch with pan pot
- Smooth straight line fader
- Stereo effect input with level control and buss assignment switch
- 2 sub mix outputs
- 14 point 3 colored LED bar graph
- Meters for Group output
- Group master trim at each group
- Straight group fader
- Insertion patch point at each group
- Stereo monitor with buss assignment switch, level and balance control
- 1W + 1W (8 ohms) stereo headphone jack on panel
- XLR type connector for mic input
- RCA pin jack for other input and output

$1800.00

RAMSA WR-8112 12 x 4 x 2 x 1 AUDIO MIXING CONSOLE

The RAMSA WR-8112 is a compact, 12 x 4 x 2 x 1 high performance, professional mixing console designed both for sound reinforcement and multi-track recording applications. It has access jacks on each input as well as the group outputs, L & R master outputs and mono master output.

Designed in a compact format, it meets the requirements of a wide variety of sound reinforcement and recording applications. The WR-8112 is a human-engineered product, incorporating the latest circuit technology. Included in this concept is a modular approach to internal circuit boards, a built-in tape monitor function, and low noise electronically balanced Mic inputs.

The WR-8112 offers features such as Direct Outs, Access Point on each input, and Group and Master Outputs. It also includes L & R Monitor/Effect Outs, Send Out and Cue Send Out on the send section to connect both the echo unit and the musician's headphone amplifier. And on the 4 Group Outputs, either -10 dB or +4 dBm output is provided for compatibility with a wide variety of tape recorders.

On the master section, L & R outputs are provided with both +4 dB output level with 1/4 phone jacks and -10 dB output level with RCA pin jacks. Included on each input are: a peak-overload LED, a 3-band variable frequency EQ section, input selector with trim control, monitor/efffect send control, send control with pre and post selector switch, groups/master L & R assign switches, pan-pot, channel on-off switch, solo switch and 60 mm travel straight line fader.

On the Output section, the WR-8112 provides stereo effects returns, group outputs, master L & R outputs, mono master output, and the effect/monitor and cue send controls. 48V phantom power supply are also provided at each input. On the 12-point LED bargraph meter section, selectors for group outs 1 - 4, L & R master outs, send, mono master out and solo out are provided.

PRICE ON REQUEST

Prices and Specifications Subject to Change Without Notice.
CLOSED CIRCUIT
VIDEO EQUIPMENT

The TC1005 Series

"1" Premium Cameras for the Most Demanding CCTV Applications

TC1005 Series Cameras have been designed to provide both versatility and outstanding performance in the most demanding CCTV applications. Their "1" camera tubes give high sensitivity coupled with high resolution. Premium features include RS-170 sync, 2:1 Interface, phase lock loop, automatic beam control, auto-black and a wide dynamic range. Adjustible video output, and gamma correction, controlled distorsion, full drive loss protection, dual video outputs and a wide selection of fixed or zoom lenses or lens/camera systems make them adaptable to a wide variety of the more sophisticated CCTV systems.

1" Camera Tube

Scene Illumination
0.01 fc for usable picture. 0.043 fc for full video with Vidicon
0.7 fc for usable picture. 0.66 fc for full video with Ultroncon

Low Geometric Distortion

Adjustable Gamma Correction

Sync Out or 3-Way Genlock

Two Independent Video Outputs

Low Geometric Distortion

Phase Lock Loop synchronizes camera to power line.

Automatic Light Range (ALR) includes selectable AGC, variable gain/bandwidth amplifiers in all cameras for increased sensitivity and better signal-to-noise performance at lowest camera light levels. Internally adjustable for peak/average response weighting.

Vidicon Cameras 100,000:1 ALC/AGC includes 10,000:1 auto-target control with target voltage limiting to minimize tube lag and burn. Ultron Camera 660,000:1 ALC/AGC with f/1.4 to f/0.6 auto-focus lens.

Automatic Beam Control

Auto-Black plus Keyed clamp

Camera Tube Positioning Adjustment

Compact cameras, less lens only 3.5 x 5.5 x 11.75 — only 8 lbs.

Vidicon Cameras without Lens

TC1005/01 High performance camera. 800 lines resolution. 100,000:1 ALC 1" separate mesh, magnetic focus vidicon, internal RS-170 sync. Accepts external H & V drive sync or composite video for Genlock. 120 V, 60 Hz $910.00

TC1005/01F 24 V, 60 Hz version of TC1005/01 $965.00

TC1005/01R Same as TC1005/01 but with TC1430R Control Unit mounted on camera $1,995.00

TC1005/U75 With 75 mm fl 8 IS Series auto iris lens $535.00

TC1005/U12 With 12.5 mm fl 4 ES Series auto iris lens $295.00

TC1005/U25 With 25 mm fl 16 ES Series auto iris lens $1,925.00

TC1005/U49 With 50 mm fl 8 ES Series auto iris lens $1,995.00

TC1005/U75 With 75 mm fl 16 ES Series auto iris lens $2,315.00

Notes:
1. For 24 V, 60 Hz. version add suffix "F" to model number (same price).
2. For Newvicon camera tube, type 4906, change "U" to "N" in model number (same price).

Low Light Level Systems

Cameras with Zoom Lens and Auto-Iris Controller, Factory Installed and Adjusted

TC1005/U06 TC1005/U01 Ultricon (Silicon Target) camera with 18-108 mm (6x) fl 1.8 standard zoom lens with spot filter and separate TC1430 Controller $2,985.00

TC1005/UR8 Same as TC1005/U06 but with TC1430R Control Unit mounted on camera $2,985.00

TC1005/U08 Same as TC1005/U06 but with 16-144 mm (8x) f2.0 lens. Includes TC1430 Controller $3,575.00

TC1005/UR8 Same as TC1005/U08 but with 16-160 mm (10x) fl 1.8 lens. Includes TC1430 Controller $3,915.00

TC1005/U10 Same as TC1005/U08 but with 16-160 mm (10x) f1.8 lens. Includes TC1430 Controller $3,915.00

TC1005/U12 Same as TC1005/U06 but with 18-144 mm (8x) f2.0 lens. Includes TC1430 Controller $4,420.00

TC1005/U12 Same as TC1005/U12 but with 18-144 mm (8x) f2.0 lens. Includes TC1430R Control Unit on camera $4,720.00

Notes:
1. For Newvicon cameras tube type 4906, change "U" to "N" in model number (same price).
2. "UT-" and "UZ-" cameras require a separate controller such as the V1090C for ULTRICON cameras.

Cameras with Auto-Iris Zoom Lens, Factory Installed and Adjusted (No remote iris control)1

TC1005/U6T TC1005/U01 Ultricon (Silicon Target) camera with 18-108 mm (6x) f1.8 standard Auto-Iris Zoom lens $2,775.00

TC1005/UT8 Same as TC1005/U6T but with 18-144 mm (8x) f2.0 lens $3,230.00

TC1005/U76 TC1006/U01 Ultricon (Silicon Target) camera with 18-108 mm (6x) f1.8 standard Auto-Iris Zoom lens $2,775.00

TC1006/U12TC1006/U01 camera with 12.5 mm fl 4 auto iris lens $2,370.00

TC1006/U50 Same as TC1006/U12 but with 50 mm lens $2,370.00

TC1006/U75 Same as TC1006/U12 but with 75 mm lens $2,775.00

Cameras with Auto-Iris Zoom Lens. Factory Installed and Adjusted (No remote iris control)1

TC1006/U76 Same as TC1006/U75 with 18-144 mm (8x) f2.0 lens $4,420.00

TC1006/U96 With 18-144 mm (8x) f2.0 lens $4,720.00

TC1006/U16T TC1006/U06, same as TC1006/U6T but with 16-160 mm (10x) f1.8 lens $3,565.00

RCA TC1006 Camera Family —
Low Light Level Systems

Cameras in Environmental Housing, Factory Assembled, Adjusted and Presurized1

TC1006/U3 TC1006/U1 Camera with 12.5 mm auto iris lens with filters $2,350.00

TC1008/U25 Same as TC1006/U25 but with 25 mm lens $2,370.00

TC1008/U50 Same as TC1006/U50 but with 50 mm lens $2,370.00

TC1008/U75 Same as TC1006/U75 but with 75 mm lens $2,775.00

With Zoom Lens1

TC1006/U26 TC1006/U01 camera with 18-108 mm (6x) fl 1.8 zoom lens with spot filter $3,895.00

TC1006/U28 Same as TC1006/U26 but with 18-144 mm (8x) f2.0 lens $4,420.00

TC1006/U29 Same as TC1006/U28 but with 16-160 mm (10x) fl 1.8 lens $4,720.00

Notes:
1. For Newvicon camera tube, type 4906, change "U" to "N" in model number (same price).
2. "UT-" and "UZ-" cameras require a separate controller such as the V1090C, length of run exceeds 1000 ft. use of a relay box or a twisted-pair control system is recommended.
3. Sunshield. TC1366 available $57.00.

Prices and Specifications Subject to Change Without Notice.
TC2000 Series Cameras, the first in a new generation, have been designed using the latest, high reliability, LSI technology.

- Scene illumination: 0.25 fc for usable picture, 1.00 fc for full video with Vidicon; 0.03 fc for usable picture, 0.12 fc for full video with Newvicon; 0.02 fc for usable picture, 0.08 fc for full video with Ultricon.
- Resolution beyond 600 lines with Vidicon.
- Signal-to-Noise ratio better than 44 dB.
- EIA RS-170 Sync, 2.1 interlace, phase lock loop (PLL).
- RCA TC2000 RF output

**VIDEO EQUIPMENT CLOSED-CIRCUIT**

The TC2000 Series

**General Purpose 2/3” CCTV Cameras with Premium Camera Features and High Reliability LSI Technology**

**TC2000 Series Cameras**
- TC2011: Integral power supply, 120 V, 60 Hz, no lens.
- TC2011/8: with wide angle 8mm f1.6 lens (no iris).
- TC2011/12: with standard 16mm f1.6 lens (no iris).
- TC2012: Integral power supply, 24 V, 60 Hz, no lens.
- TC2012/8: with wide angle 8mm f1.6 lens (no iris).
- TC2012/12: with standard 16mm f1.6 lens (no iris).
- TC2021: Separate power supply, 120 V, 60 Hz, no lens.
- TC2021/8: with wide angle 8mm f1.6 lens (no iris).
- TC2021/12: with standard 16mm f1.6 lens (no iris).
- TC2022: Separate power supply, 24 V, 60 Hz, no lens.
- TC2022/8: with wide angle 8mm f1.6 lens (no iris).
- TC2022/12: with standard 16mm f1.6 lens (no iris).
- TC2055/C: 12 VDC camera crystal control, no lens.
- TC2055/8C: with wide angle 8mm f1.6 lens (no iris).
- TC2055/16C: with standard 16mm f1.6 lens (no iris).

**Notes:** For Newvicon camera tube type 4905 (S4075) change “U” to “N” in model number (same price).

**Low Light Level Cameras—Optional ES Series Lens as shown and Ultricon Camera Tube—Type 4833U**

**MODEL**
- TC2011/U: Integral power supply, 120 V, 60 Hz, no lens
- TC2011/U8: with 8.5mm f1.5 auto iris lens
- TC2011/U12: with 12.5mm f1.4 auto iris lens
- TC2011/U16: with 16mm f1.6 auto iris lens
- TC2011/U25: with 25mm f1.4 auto iris lens
- TC2011/U50: with 50mm f1.8 auto iris lens
- TC2011/U75: with 75mm f1.8 auto iris lens
- TC2011/U25: with 25mm f1.4 auto iris lens
- TC2011/U75: with 75mm f1.8 auto iris lens
- TC2011/U125: with 125-75mm (6x) f1.8 zoom lens
- TC2011/U220: with 11-110 (10x) f2.0 zoom lens
- TC2012/U: Integral power supply, 24 V, 60 Hz, no lens
- TC2012/U8: with 8.5mm f1.5 auto iris lens
- TC2012/U12: with 12.5mm f1.4 auto iris lens
- TC2012/U16: with 16mm f1.6 auto iris lens
- TC2012/U25: with 25mm f1.4 auto iris lens
- TC2012/U50: with 50mm f1.8 auto iris lens
- TC2012/U75: with 75mm f1.8 auto iris lens
- TC2012/U125: with 125-75mm (6x) f1.8 zoom lens
- TC2012/U220: with 11-110 (10x) f2.0 zoom lens
- TC2022/U: Separate power supply, 24V, 60 Hz, no lens
- TC2022/U8: with 8.5mm f1.5 auto iris lens
- TC2022/U12: with 12.5mm f1.4 auto iris lens
- TC2022/U16: with 16mm f1.6 auto iris lens
- TC2022/U25: with 25mm f1.4 auto iris lens
- TC2022/U50: with 50mm f1.8 auto iris lens
- TC2022/U75: with 75mm f1.8 auto iris lens
- TC2022/U125: with 125-75mm (6x) f1.8 zoom lens
- TC2022/U220: with 11-110 (10x) f2.0 zoom lens

**Standard Vidicon Cameras with Type 8844 Vidicon**

**MODEL**
- TC2011: Integral power supply, 120 V, 60 Hz, no lens
- TC2011/8: with wide angle 8mm f1.6 lens (no iris)
- TC2011/16: with standard 16mm f1.6 lens (no iris)
- TC2012: Integral power supply, 24 V, 60 Hz, no lens
- TC2012/8: with wide angle 8mm f1.6 lens (no iris)
- TC2012/16: with standard 16mm f1.6 lens (no iris)
- TC2021: Separate power supply, 120 V, 60 Hz, no lens
- TC2021/8: with wide angle 8mm f1.6 lens (no iris)
- TC2021/16: with standard 16mm f1.6 lens (no iris)
- TC2022: Separate power supply, 24 V, 60 Hz, no lens
- TC2022/8: with wide angle 8mm f1.6 lens (no iris)
- TC2022/16: with standard 16mm f1.6 lens (no iris)
- TC2055/C: 12 VDC camera crystal control, no lens
- TC2055/8C: with wide angle 8mm f1.6 lens (no iris)
- TC2055/16C: with standard 16mm f1.6 lens (no iris)

**NOTE:** For crystal control add suffix “C” to model number and $9.00 (Except TC2055 Series)

**CAN BE ORDERED 50/60 CYCLE 110/220V OPERATION**

Prices and Specifications Subject to Change Without Notice.
The TC1004 Series

Economical 1" General Purpose Cameras

- 1" Camera Tube. Separate mesh, magnetic focus and deflection
- Scene illumination (f/1.4 lens, 75% highlight reflectance)
  0.34 fc for usable picture, 1.32 fc for full video with Vidicon
  0.03 fc for usable picture, 0.12 fc for full video with Newvicon
  0.02 fc for usable picture, 0.08 fc for full video with Ultricon
- Resolution 700 TVL or better
- Signal to Noise better than 44dB
- Auto-Track Electronic Focus
- EIA RS-170 Sync. 2:1 Interlace
- Phase Lock Loop
- Genlock
- Auto-Black Plus Keaged Clamp
- Automatic Light Range
- Vidicon 50,000:1
- Ultricon/Newvicon 330,000:1 (f/1.4 to f/360 auto iris lens)

RCA TC1030/H SIT Cameras

for Very Low Light Levels

All the features of the TC1005 family plus—useful pictures with as little as quarter moonlight

- Scene illumination:
  3.3 x 10^-4 fc for usable picture
  1.0 x 10^-3 fc for full video
- RCA Low Bloom, Silicon Intensifier Target (SIT) Tube
- 100 Million:1 ALR with f/1.4 auto-iris lens
- Resolution 600 lines
- High voltage power supply integral with tube
- Built-in SIT tube protection

RCA TC1040/H ISIT Cameras

For Ultra Low Light Levels scene illumination as low as 2.7 x 10^-5. Price on request.

STANDARD VIDICON CAMERAS (Supplied less lens)

<table>
<thead>
<tr>
<th>Camera Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC1004/01</td>
<td>120V, 60 Hz</td>
<td>$550.00</td>
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</tbody>
</table>

LOW LIGHT CAMERAS (Optional ES Series lens as shown)

<table>
<thead>
<tr>
<th>Camera Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC1004/U01</td>
<td>1&quot; Ultricon (Silicon target) (less lens)</td>
<td>$1190.00</td>
</tr>
<tr>
<td>TC1004/U12</td>
<td>with 12.5 mm f/1.4 auto iris lens</td>
<td>$1475.00</td>
</tr>
<tr>
<td>TC1004/U24</td>
<td>with 25mm f/1.4 auto iris lens</td>
<td>$1465.00</td>
</tr>
<tr>
<td>TC1004/U49</td>
<td>with 50mm f/1.8 auto iris lens</td>
<td>$1500.00</td>
</tr>
</tbody>
</table>

Notes: 1) For 24V, 60 HZ version add "F" to model number (Same Price) 2) For Newvicon tube, change "V" to "N" in model number (Same price)

RCA TC1030/H SIT Cameras

for Very Low Light Levels

TC1030/H06 Includes 18-108 mm (6x) f/1.8 zoom/auto-iris lens with spot filter and separate TC1430 lens controller $7100.00
TC1030/H08 Same as above with 18-144 mm (8x) f/2.0 zoom/auto-iris lens and TC1430 controller 7650.00
TC1030/H08 Same as above with 16-160 mm (10x) f/1.8 zoom/auto-iris lens and TC1430 controller 8625.00
TC1030/H10 Same as above with 16-160 mm (10x) f/1.8 zoom/auto-iris lens and TC1430 controller 8625.00
TC1030/H10 Same as above with 16-160 mm (10x) f/1.8 zoom/auto-iris lens and TC1430 controller 8625.00
TC1030/H10 Same as above with 16-160 mm (10x) f/1.8 zoom/auto-iris lens and TC1430 controller 8625.00
TC1030/H10 Same as above with 16-160 mm (10x) f/1.8 zoom/auto-iris lens and TC1430 controller 8625.00

TC1030/H13 TC1030 in environmental housing, with 12.5 mm fixed focal length auto-iris lens 7500.00
TC1030/H25 Same as above with 25 mm f/1.4 fixed lens 6825.00
TC1030/H50 Same as above with 50 mm f/1.4 fixed lens 6825.00
TC1030/H75 Same as above with 75 mm f/1.8 fixed lens 6900.00
TC1030/H90 Available on special order for use in constant low light level applications 6650.00
TC1036/H13 TC1036 in environmental housing, with 12.5 mm fixed focal length auto-iris lens 7500.00
TC1036/H25 Same as above with 25 mm fixed lens 7415.00
TC1036/H50 Same as above with 50 mm fixed lens 7415.00
TC1036/H75 Same as above with 75 mm fixed lens 7500.00
TC1036/H90 Same as above with 75 mm fixed lens 7500.00
TC1036/H90 Same as above with 75 mm fixed lens 7500.00
TC1036/H25 Same as above with 25 mm fixed lens 7415.00
TC1036/H50 Same as above with 50 mm fixed lens 7415.00
TC1036/H75 Same as above with 75 mm fixed lens 7500.00
TC1036/H90 Same as above with 75 mm fixed lens 7500.00
TC1036/H25 Same as above with 25 mm fixed lens 7415.00
TC1036/H50 Same as above with 50 mm fixed lens 7415.00
TC1036/H75 Same as above with 75 mm fixed lens 7500.00
TC1036/H90 Same as above with 75 mm fixed lens 7500.00

Prices and Specifications Subject to Change Without Notice.
Effective March 30, 1982

**RENTAL RATES**

<table>
<thead>
<tr>
<th></th>
<th>Day</th>
<th>Week</th>
<th>Monthly*</th>
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<tbody>
<tr>
<td>½&quot; Portable</td>
<td>$50.00</td>
<td>$150.00</td>
<td></td>
</tr>
<tr>
<td>½&quot; Player</td>
<td>40.00</td>
<td>120.00</td>
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<tr>
<td>½&quot; Recorder</td>
<td>50.00</td>
<td>150.00</td>
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</tr>
<tr>
<td>¾&quot; Player</td>
<td>50.00</td>
<td>150.00</td>
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<tr>
<td>¾&quot; Recorder</td>
<td>60.00</td>
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<tr>
<td>¾&quot; Editor</td>
<td>150.00</td>
<td>450.00</td>
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<tr>
<td>¾&quot; Portable</td>
<td>75.00</td>
<td>225.00</td>
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<tr>
<td>¾&quot; Editing System w/Controller</td>
<td>300.00</td>
<td>900.00</td>
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<tr>
<td>1&quot; Portable</td>
<td>450.00</td>
<td>1350.00</td>
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Single tube-port. GP-5A, WV-3320, WV-3200
Single tube-port. high end WV-3890
Three tube-port. AK-710/FP-40
AK-760/SK-91/XC700
SK-80
Three tube-studio FP-60
9" B/W monitors
5-12" Color monitor
19" Color receiver
6' Projection television
25" monitor/receiver
Electrohome

TBC 1700D, T120
Character Generator

<table>
<thead>
<tr>
<th></th>
<th>Day</th>
<th>Week</th>
<th>Monthly*</th>
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</thead>
<tbody>
<tr>
<td>Tripods, lightweight</td>
<td>5.00</td>
<td>15.00</td>
<td></td>
</tr>
<tr>
<td>Tripods</td>
<td>20.00</td>
<td>60.00</td>
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</tr>
<tr>
<td>Mics.</td>
<td>10.00</td>
<td>30.00</td>
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<tr>
<td>Mixers</td>
<td>20.00</td>
<td>60.00</td>
<td></td>
</tr>
<tr>
<td>Lights (3)</td>
<td>25.00</td>
<td>75.00</td>
<td></td>
</tr>
<tr>
<td>Carts</td>
<td>10.00</td>
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</table>

Cables video and audio

<table>
<thead>
<tr>
<th></th>
<th>Rate/ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cables video and audio</td>
<td>.10/ft.</td>
</tr>
</tbody>
</table>

*Monthly rate = 2½ x weekly

Prices and Specifications Subject to Change Without Notice.
"TW" INTERCOM SYSTEM

The "TW" Intercom System is a high performance, closed circuit intercommunications system designed for use in entertainment and industrial operations. Proven performance in a variety of demanding applications has already established it as a standard in the field of communications.

MODEL BP300L/BP300 PORTABLE USER STATIONS (BELT PACKS)

RTS super-rugged belt packs are housed in an attractive lightweight aluminum package with a brushed, anodized finish and a wide belt clip. They feature two-channel operation, a mic On-Off switch, XLR-3 connectors for use with standard mic cables, and a powerful 2-watt headphone amplifier that enables any type of headset to be used; low Z or high Z phones, with dynamic or carbon mic.

Belt pack human engineering features include a built-in mic limiter for controlling levels, and tactile controls for ease of operation. The belt packs are truly portable but may also be used in semi-portable or fixed applications.

BP300L (with call light) $297.00
BP300 (without call light) $252.00

MODEL SPK300 SPEAKER UNIT USER STATION

RTS portable speaker unit user stations are mounted in sloped front aluminum enclosures with epoxy paint finish. The speaker is activated by the insertion of a desk-stand mic or a hand-held PTT mic. When a headset or handset is used instead of a mic, the speaker is automatically deactivated, allowing conventional operation. A rear mounted sidetone control cancels the mic signal in the speaker so that simultaneous operation of the microphone and speaker is possible.

$381.00

POWER SUPPLIES

Model PS-8 Power Supply 8 station power supply, portable or rack-mount. $378.00
Model PS-30 Power Supply 30 station power supply, rack-mount. $984.00
Model PS-60 Power Supply 60 station power supply, rack-mount. $1923.00

MODEL 801 MASTER STATION

The Model 801 Master Station is a multi-functional communications control center. It is designed for use where multi-channel party line intercommunication systems are utilized. It may be used to supplement existing intercom systems, e.g., RTS "TW" System, Clear Com, Davon, RCA, etc., or a number of Master Stations may be employed as a self-contained system.

The 801 is operationally flexible; it offers many salient features as well as simplicity in design and installation. Each unit is completely self-contained—there are no extra modules, central card frame, or processing units. $3951.00

MODEL 860 SYSTEM INTERCONNECT

The Model 860 System Interconnect is used to supplement the Model 801 Master Station system. It provides the following capabilities and functions:

- Eight Amphenol 50-pin connectors for point source interconnect to Master Stations
- Connects six intercom channels to RTS "TW" System
- IFB/SA outputs
- IFB/SA keying line outputs (relay contacts)
- Interfacing to external circuits
- Switching and level control for four program inputs to IFB and SA circuits

Standard rack mount package—3½” x 19” x 14” $1200.00

ADDITIONAL EQUIPMENT

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM300</td>
<td>Rack Mount User Station</td>
<td>$285.00</td>
</tr>
<tr>
<td>RM300L</td>
<td>Rack Mount User Station</td>
<td>$342.00</td>
</tr>
<tr>
<td>SCR-110</td>
<td>Special Camera User Station</td>
<td>$297.00</td>
</tr>
<tr>
<td>SPK300L</td>
<td>Speaker Unit User Station</td>
<td>$423.00</td>
</tr>
<tr>
<td>SPK300</td>
<td>Speaker Unit User Station</td>
<td>$381.00</td>
</tr>
<tr>
<td>BP320</td>
<td>Portable User Station—Belt Pack</td>
<td>$456.00</td>
</tr>
<tr>
<td>BP320L</td>
<td>Portable User Station—Belt Pack</td>
<td>$498.00</td>
</tr>
<tr>
<td>RMS300</td>
<td>Speaker Station (Rack Mount)</td>
<td>$522.00</td>
</tr>
<tr>
<td>RMS300L</td>
<td>Speaker Station (Rack Mount)</td>
<td>$591.00</td>
</tr>
<tr>
<td>CM300L</td>
<td>Console Mount User Station</td>
<td>$357.00</td>
</tr>
<tr>
<td>CM300</td>
<td>Console Mount User Station</td>
<td>$297.00</td>
</tr>
<tr>
<td>WM300L</td>
<td>Wall Mount User Station</td>
<td>$315.00</td>
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<tr>
<td>WMS300L</td>
<td>Wall Mount User Station</td>
<td>$384.00</td>
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<tr>
<td>TWI-224</td>
<td>2-Wire to 4-Wire Interface</td>
<td>$423.00</td>
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<tr>
<td>TW-6W</td>
<td>Passive Splitter</td>
<td>$81.00</td>
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<tr>
<td>CC61</td>
<td>Circuit Card</td>
<td>$144.00</td>
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<tr>
<td>CC-40</td>
<td>Circuit Card</td>
<td>$180.00</td>
</tr>
<tr>
<td>FS-1</td>
<td>Footswitch</td>
<td>$30.00</td>
</tr>
</tbody>
</table>
MIXER

HPM-41

The Model HPM-41 microphone mixer is a compact, lightweight unit, designed for professional applications ranging from location film and tape to major recording console input augmentation. A no-compromise design provides high performance electronic circuitry in a functionally efficient, durable package.

INPUT FEATURES
- Four balanced, transformer-isolated input positions with phase reverse switches and high quality Neutrik XLR-type connectors
- Switchable 12 V A-B and 48 V phantom power for condenser microphones
- Selectable pre-transformer pads for reduction of input levels
- Switchable dual-frequency high pass filters to cut rumble, wind noise, and pops
- Switchable limiter on each input prevents overdrive distortion without affecting other channels
- Auxiliary unbalanced line level input

OUTPUT FEATURES
- Balanced (floating) 600-ohm output available on binding posts for TelCo (telephone) feeds
- Balanced (floating) low impedance output on XLR-type connector is switchable between line and microphone level
- Powerful headphone amplifier with front panel volume control and output jack
- Two independent IHF line-level outputs available to feed external equipment such as: video cassettes, audio cassettes, consumer audio gear, etc.

$996.00

AMPS/PREAMPS

MODEL 405 PROFESSIONAL 2-CHANNEL PHONO PREAMPLIFIER

The Model 405 is a high-quality two-channel phono preamplifier designed for professional applications, including disc mastering rooms, broadcast stations and high quality commercial installations. It features adjustable cartridge termination, switchable rumble filter, two selectable sets of level controls and two output formats. $378.00

MODEL 410 10 WATT MONITOR AMPLIFIER

The Model 410 is a self-contained compact 10 watt power amplifier designed to power loudspeakers, headphones or 70-volt loudspeaker distribution systems. Its input is balanced and designed to bridge 600 ohm / +4 dBu program lines. The 410 features a front panel volume control and two separate outputs: a direct amplifier output available on push terminals and/or ¼-inch phone jack, and an optional transformer isolated output on a barrier strip, for 70-volt distribution. The input connection may be made via a 3-pin XLR type connector and/or ¼-inch phone jack. $288.00

MODEL 444 DUAL 2-CHANNEL BUFFER AMPLIFIER

The Model 444 is a dual, two-channel buffer amplifier designed to interface professional systems with semi-pro and home high-fidelity equipment. Although components designed for home use offer desirable features for studio applications, interconnections between the two kinds of equipment are complicated by differences in levels, impedances and balanced and unbalanced modes of operation. The 444 corrects these problems while maintaining signal integrity. $342.00

1400

The RTS 1400 is more than a microphone preamplifier; it is a unique and versatile tool. Its well-planned features, rugged construction and excellent specifications make it a professional problem solver, an audio "adapter" with countless applications.

The 1400's gain is continuously variable via a front panel control. At lower gain settings (minimum 23 dB) the 1400 will boost the level from a low-output microphone to drive low-gain mixers at their specified nominal level. At higher gain settings (56 dB maximum), the 1400 has ample gain to boost a mic output to line level. Because the 1400 has a high quality built-in limiter, it can be used to prevent overdrive of individual mic (or line) inputs while maintaining high average levels. These features make it useful in fixed or portable sound reinforcement, location recording, remote broadcasting, and broadcast production.

- Low Noise — 127 dBv E.I.N.
- Variable Gain 23-56 dB
- High Output Capability + 16 dBm
- Limiter
- Low Distortion .006% typ.
- Excellent Transient Response

$297.00

Prices and Specifications Subject to Change Without Notice.
SYSTEM DESCRIPTION

This IFB System is a one-way interruptible feedback communications system (a program interrupt system) created especially to meet the critical requirements of the television broadcast industry, as well as other live or recorded media applications. The system is comprised of User Stations, Central Electronics, and Control Panels. A modular approach allows each installation to be configured in a manner which best lends itself to the immediate requirements. Should the production requirements increase in complexity, additional system components may be added on to expand the system capability. A typical system may consist of the following: up to four Control Panels, one Central Electronics unit, four User Stations, and assorted cabling and interconnect units. The maximum standard configuration allows four Control Panels, three Central Electronics, and twelve User Stations.

MODEL 4010 CENTRAL ELECTRONICS

The Central Electronics unit contains all the necessary control functions and electronics to provide the active link between the Control Station and the User Station. It accepts the three program inputs, the four microphone inputs and switch keying signal inputs (from the Control Stations). In addition, it supplies the composite output feeds to the User Station belt packs, the line level audio feeds to the SA amplifier, the relay contacts for monitor muting, and the interconnection to the Control Stations.

MODEL 4020 USER STATION

The User Station, a small “belt pack” package, allows the talent to receive the audio signals designated by the Central Electronics and the Control Stations and may be worn by talent, such as newscasters, musicians, sportscasters, etc. Behind the scenes personnel may also find the IFB feeds useful for production coordination and control. Each belt pack contains the necessary electronics to provide a stereo audio signal to the user.

CONTROL STATION MODELS 4001, 4002, 4003

4001M, 4002M, 4003M

The Control Station is designed to mount in a console or equipment rack. It provides a given number of switch functions according to the model number. The 4001 offers IFB 1 thru IFB 4, IFB ALL and SA. The 4002 has IFB 1 thru IFB 8, IFB ALL, SA 1 and SA 2. Model 4003 supplies IFB 1 thru 12, IFB ALL, SA 1, SA 2 and SA 3. Each model number may be ordered with an “M” suffix. This includes a goose-neck microphone attached to the panel. Should an existing microphone be more suitable for operations, a connection on the Control Station microphone preamp circuit board may be used to accept a microphone or line level signal from that microphone.

Each Control Station is connected to the Central Electronics via a model 4025 Splitter and 50 conductor cable with blue ribbon connectors. All the Control Stations converge at the 4025 and a single cable then connects to the 4010. This configuration allows for up to four model 4001 Control Stations to connect to a single Central Electronics unit. If two Central Electronics units are used, the model 4002 may be employed in up to four locations. Three 4010's would require up to four model 4003 Control Stations. Priority of Control Station switch signals is programmable and may be set-up at the time of installation. The system may be used without priority switching if desired.

4001. A four-channel CONTROL PANEL with IFB-1, IFB-2, IFB-3, IFB-4, ALL-CALL and SA. $489.00
4001M. Model 4001 with gooseneck microphone. $654.00
4002. An eight-channel CONTROL PANEL with IFB-1 thru IFB-12, ALL-CALL, SA1 and SA2. $618.00
4002M. Model 4002 with gooseneck microphone. $783.00
4003. A twelve-channel CONTROL PANEL with IFB-1 thru IFB-12, ALL-CALL, SA1, SA2, and SA3. $756.00
4003M. Model 4003 with gooseneck microphone. $921.00
4010. CENTRAL ELECTRONICS for four channels of IFB, providing all switching, level adjustments and program inputs. Eight IFB channels require two 4010's. Twelve IFB channels require three 4010's. $1983.00
4015. CABLE ASSEMBLY. XX Foot, 50-Conductor cable with connectors. To calculate price, multiply the number of feet times $1.88 and add $30.00 for connectors and assembly.
4020. This USER STATION belt pack is the “talent” position electronics. A minimum of one is required for each channel of IFB. A maximum of three can be used on each channel. $297.00
4025. SPLITTER ASSEMBLY. One-by-four, 50-conductor “Blue Ribbon” connectors. $141.00

Prices and Specifications Subject to Change Without Notice.
### TO CONVERT DAYLIGHT

<table>
<thead>
<tr>
<th>Product#</th>
<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>141</td>
<td>Press Sun Br</td>
<td>Standard version correction at extra wide scale for preserve degradation. Optically clear.</td>
<td>58 x 100 90 x 90</td>
<td>$80.00</td>
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<tr>
<td>142</td>
<td>Press Sun Br (L)</td>
<td>Contains an extra wide scale. Optically clear.</td>
<td>58 x 100 90 x 90</td>
<td>$120.00</td>
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</tbody>
</table>

### TO REDUCE THE INTENSITY OF DAYLIGHT

<table>
<thead>
<tr>
<th>Product#</th>
<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>21A</td>
<td>Press Sun Br (L)</td>
<td>Reduces light intensity 6% and slightly reduces color temperature. Optically clear.</td>
<td>58 x 100 90 x 90</td>
<td>$80.00</td>
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<tr>
<td>21B</td>
<td>Press Sun Br (L)</td>
<td>Reduces light intensity 6% Optically clear.</td>
<td>58 x 100 90 x 90</td>
<td>$120.00</td>
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### TO CONVERT 3200 K TO DAYLIGHT

<table>
<thead>
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<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3702</td>
<td>Tough Blue 50’</td>
<td>Boxes 3000 K to 9300 K.</td>
<td>54 x 150 90 x 90</td>
<td>$80.00</td>
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<tr>
<td>3704</td>
<td>Tough Blue 80’</td>
<td>Increases 3000 K to 9300 K.</td>
<td>54 x 150 90 x 90</td>
<td>$120.00</td>
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<tr>
<td>3706</td>
<td>Tough Blue + Barette Blue</td>
<td>Increases 3000 K to 9300 K.</td>
<td>54 x 150 90 x 90</td>
<td>$140.00</td>
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<td>3708</td>
<td>Tough Blue + Barette Blue</td>
<td>Increases 3000 K to 9300 K.</td>
<td>54 x 150 90 x 90</td>
<td>$160.00</td>
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<tr>
<td>3710</td>
<td>Tough Blue + Barette Blue</td>
<td>Increases 3000 K to 9300 K.</td>
<td>54 x 150 90 x 90</td>
<td>$180.00</td>
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</tbody>
</table>

### TO MATCH DAYLIGHT, DICHRIOCS, OR 3200K LIGHT TO FLOURESCENTS

#### (Cool White or Daylight)

<table>
<thead>
<tr>
<th>Product#</th>
<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3294</td>
<td>Tough Phosphor</td>
<td>Cool white or daylight correction.</td>
<td>54 x 150 90 x 90</td>
<td>$95.00</td>
</tr>
<tr>
<td>3296</td>
<td>Tough Phosphor 50’</td>
<td>Converts 3200 K to daylight/florescent colors.</td>
<td>54 x 150 90 x 90</td>
<td>$95.00</td>
</tr>
</tbody>
</table>

### TO MATCH COOL WHITE OR DAYLIGHT FLUORESCENTS TO DAYLIGHT OR 3200 K LIGHTS

<table>
<thead>
<tr>
<th>Product#</th>
<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3298</td>
<td>Tough Fluorescent</td>
<td>Cool white or daylight correction.</td>
<td>54 x 150 90 x 90</td>
<td>$95.00</td>
</tr>
</tbody>
</table>

### TO FILTER CARBON ARCS AND HMI LIGHTS

<table>
<thead>
<tr>
<th>Product#</th>
<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3116</td>
<td>Tough MT 10</td>
<td>For carbon arcs and HMI 3200 K.</td>
<td>54 x 150 90 x 90</td>
<td>$95.00</td>
</tr>
<tr>
<td>3118</td>
<td>Tough MT 10</td>
<td>Converts 3200 K to 3200 K.</td>
<td>54 x 150 90 x 90</td>
<td>$95.00</td>
</tr>
</tbody>
</table>

### REFLECTION MEDIA

<table>
<thead>
<tr>
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<th>Product Name</th>
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<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>9601</td>
<td>Rosco B</td>
<td>Bright mirror surface long life.</td>
<td>54 x 150 90 x 90</td>
<td>$75.00</td>
</tr>
<tr>
<td>9602</td>
<td>Rosco B (L)</td>
<td>Bright mirror surface long life.</td>
<td>54 x 150 90 x 90</td>
<td>$75.00</td>
</tr>
</tbody>
</table>

### COLOR MEDIA FOR LIGHTING EFFECTS-SWATCHBOOKS

<table>
<thead>
<tr>
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<th>Product Name</th>
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<th>Price</th>
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<tbody>
<tr>
<td>8611</td>
<td>Rosco B (L)</td>
<td>Bright mirror surface long life.</td>
<td>54 x 150 90 x 90</td>
<td>$75.00</td>
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### LIGHT CONTROL MEDIA

<table>
<thead>
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<th>Product Name</th>
<th>Description</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>8611</td>
<td>Rosco B (L)</td>
<td>Bright mirror surface long life.</td>
<td>54 x 150 90 x 90</td>
<td>$75.00</td>
</tr>
</tbody>
</table>
This New Case is Changing 3/4” Videocassette Storage and Handling Throughout the Industry.

Individual system components available separately so you can tailor the system to your needs:

**Shipper/Storage Case** (C-125) $3.00 each
This sturdy C-125 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 also 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.

**Case Hanger** (CHB-4) $4.88/4 ft. length
This extruded aluminum bar comes in four-foot 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 pounds. We call it the Case Hanger.

**Cassette Hanger** (CH-10) $2.43/Bag of 10
In order to handle unboxed, bulk videocassettes, 3M has designed the Cassette Hanger to snap in and out of the case hanger bar providing a hook on which to place the videocassette. The Cassette Hanger is made of heavy duty plastic and will fit any case hanger bar, whether it is attached to a shelf, door, wall or mobile cart. Another flexible adaptation of the “Scotch” Hanger System.

**Six-Pack Hanger** (6 PH) $7.41 each
What else could you call a sturdy, aluminum frame that easily totes up to 6 videocassettes, with the case or without, than the “Six-Pack Hanger”? Simple to carry, lightweight and yet durable, the “Six-Pack Hanger” can be adapted to hold bulk cassettes by adding two Cassette Hangers and two Cassette Hanger Clips on the center bar.

It’s at the Center of the All-New “Scotch” Hanger System, Designed to Make Your Tape Storage and Handling Faster, Easier and More Systemized.

You’re looking at the videocassette case design that’s triggered a revolution in 3/4” videocassette storage and handling — it’s at the focal point of the all new “Scotch” Hanger System from 3M Company. The shipper/storage case (patents applied for) represents a whole new 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. So, “hang on” with the “Scotch” Hanger System.
<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>REORDER/PLAYER</th>
<th>UNITS</th>
<th>CARTON</th>
<th>REEL SIZE</th>
<th>1-19</th>
<th>20-49</th>
<th>50-99</th>
<th>100+</th>
</tr>
</thead>
<tbody>
<tr>
<td>360-1-3000-R97B</td>
<td>Ampex 4900, 5000, 6000, 7000</td>
<td>5</td>
<td>$98.82</td>
<td>1&quot; x 9'4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>360-1-2460-R91B</td>
<td>Sony EV-200, EV-300</td>
<td>5</td>
<td>95.34</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>361-1/2-1200-R148B</td>
<td>Sony, Panasonic, Concord, EIAJ Standard Recorders</td>
<td>10</td>
<td>33.08</td>
<td>6&quot; x 5'4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>361-1-2400-R152B</td>
<td>VIC 800 (B &amp; H RCA, GPL, Chester)</td>
<td>5</td>
<td>56.12</td>
<td>5' x 7'4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>361-1-2150-R139B</td>
<td>VIC VR 9000</td>
<td>5</td>
<td>74.65</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>371-2-2840-R150B</td>
<td>Empty Metal</td>
<td>2</td>
<td>209.19</td>
<td>2&quot; x 10'9&quot;</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>371-2-4900-R150B</td>
<td>Empty Plastic</td>
<td>2</td>
<td>288.20</td>
<td>2&quot; x 10'9&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>461-1-1200-R148B</td>
<td>Sony, Panasonic, Concord, EIAJ Standard Recorders</td>
<td>10</td>
<td>35.21</td>
<td>5' x 5'4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>461-1-2150-R139B</td>
<td>VIC</td>
<td>5</td>
<td>30.91</td>
<td>1&quot; x 12'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>461-1-3000-R91B</td>
<td>Ampex</td>
<td>5</td>
<td>95.34</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>461-1-4300-R150B</td>
<td>IVF-900</td>
<td>5</td>
<td>27.08</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>461-1-7500-R159B</td>
<td>5</td>
<td>27.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-1630-R172B</td>
<td>Bosch-Fernshe, (BCN), VIC. Philips, RCA</td>
<td>5</td>
<td>195.73</td>
<td>1&quot; x 12&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-3170-R172B</td>
<td>5</td>
<td>304.91</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-4650-R172B</td>
<td>5</td>
<td>289.87</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-5760-R174B</td>
<td>Bosch-Fernshe, BCN-20 Portable</td>
<td>5</td>
<td>195.18</td>
<td>1&quot; x 10'9&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-1630-R172B</td>
<td>Ampex VPR-1, 2, Sony</td>
<td>5</td>
<td>185.96</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-3170-R172B</td>
<td>BW-1000, Video</td>
<td>5</td>
<td>90.63</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>479B-1-4650-R172B</td>
<td>Memory VM-1000</td>
<td>5</td>
<td>195.18</td>
<td>1&quot; x 8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TAPE ACCESSORY DESCRIPTIONS**

- **B**: at end of catalog number indicates in box.
- **STR**: an EIAJ 1/2" x 5'4" self-threading reel designed for Sony AV-8400 color video recorder.
- **R-81**: is a 1/3" x 8" aluminum flange reel designed for Sony 1" VTR’s.
- **R-87**: is a 1" x 9" phenolic NAB hub by aluminum flanges.
- **R-100**: is a 1/2" x 4" plastic reel for all 1/2" portable VTR’s.
- **R-120**: is a 1/2" x 8" aluminum flange reel with aluminum flanges.
- **R-130**: is a 2" x 8", 10" NAB hub by heavy duty precision reel.
- **R-146**: is a 1/2" x 4" plastic reel designed for EIAJ VTR’s.
- **R-150**: is a cushion flange 2" x 10" NAB hub by heavy duty precision reel. It can replace R-143 reels.
- **R-155**: is a 1/2" x 4" white plastic reel.
- **R-159**: is a cushion flange heavy duty 1" x 12" NAB hub reel.
- **R-172**: is a cushion flange reel in box in sizes for 9" or 10" reels.
- **R-176**: is a 1" x 9" window reel with precision hub without friction ring.
- **R-178**: is a 1" x 9" or 1" x 10" heavy duty precision reel designed to be used for all 479 tape.
- **C-7**: is a high impact, shipping container for 1" NAB hub reels to 10" diameter.
- **C-88**: is a 2" x 14" shipping case for R-143 reels.
- **C-104**: is a plastic storage box for 1/4" x 5" plastic reels.
- **C-116**: is a plastic album U-Matic Format videocassette storage box.
- **C-120**: is a high impact shipping container for 2" x 10" Cushion flange NAB hub reels only.
- **C-122**: is a high impact shipping container for 2" x 10" Cushion flange NAB hub reels only.
- **C-124**: is a high impact shipping container for 2" x 10" NAB hub reels.
- **C-130**: is a cushion flange heavy duty 1" x 12" NAB hub reel.
- **C-131**: is a cushion flange reel in box in sizes for 9" or 10" reels.
- **C-159**: is a 1" x 9" or 1" x 10" heavy duty precision reel designed to be used for all 479 tape.
- **C-87**: is a high impact, shipping container for 1" NAB hub reels to 10" diameter.
- **C-88**: is a 2" x 14" shipping case for R-143 reels.
- **C-104**: is a plastic storage box for 1/4" x 5" plastic reels.
- **C-116**: is a plastic album U-Matic Format videocassette storage box.
- **C-120**: is a high impact shipping container for 2" x 10" Cushion flange NAB hub reels only.
- **C-122**: is a high impact shipping container for 2" x 10" Cushion flange NAB hub reels only.
- **C-124**: is a high impact shipping container for 2" x 10" NAB hub reels.
- **C-130**: is a cushion flange heavy duty 1" x 12" NAB hub reel.
- **C-131**: is a cushion flange reel in box in sizes for 9" or 10" reels.
- **C-159**: is a 1" x 9" or 1" x 10" heavy duty precision reel designed to be used for all 479 tape.

** Prices and Specifications Subject to Change Without Notice. **
### VIDEOCASSETTES

"Scotch" Brand UCA Videocassettes use a specially designed "cobalt energized" High Energy video tape which provides an excellent signal-to-noise ratio and greater RF output. The UCA series videocassettes are fully compatible with all % inch U-Matic videocassette systems and the permanent oxide lubrication and time proven backside treatment assure long wear, extended stop motion and maximum tape life.

"Scotch" Brand Mini-U-Matic videocassettes are designed for use with such recorders as the Sony VO-3800 and JVC CR-3400 portables. An "S" after the playing time (UCA-10S) indicates mini size. "Scotch" Master Broadcast U-Matic Series (MBU) provides a more rugged, longer product suitable for repetitive playback and inclement recording situations such as field (ENG) recording and editing applications. Other features are the same as the Standard Series UCA videocassettes.

Designated for use where playing time is key factor. This Extended Play U-Matic uses an extra thin polyester backing. Tape machines that are poorly aligned or with incorrect tensioning can cause damage to this product. Performance of this U-Matic on such equipment cannot be guaranteed by the 3M Company.

"Scotch Brand Mini-U-Matic videocassettes are also available in a special non-back coat oxide tape. These cassettes feature improved color, broadband RF response, improved RF output, low dropouts, very good stop motion capability, good runnability with repeat plays and very low head wear. "Scotch" Mini-U-Matic Formats are compatible with all %" videocassette recorders and playback units. Both Formats have multiple machine switch speeds.

These items permit the field reloading of damaged cassettes. The extra rugged U-Matic tape is supplied in the 155 (for Mini) and 30-minute (for Standard) reload kits. The 60-minute reload kits use UCA U-Matic tape.

"Scotch" Brand Mini-U-Matic videocassettes are designated for use with such recorders as Sony VO-3800 and the JVC CR-4400 portables. Features new COLOR PLUS oxide. An "S" after the playing time (UCA-10S) indicates mini size.

Master Broadcast U-Matic Series (MBU) provides a more rugged, longer product suitable for repetitive playback and inclement recording situations such as field (ENG) recording and editing applications. Other features are the same as the Standard Series UCA Videocassettes except MBU cassettes also have the new COLOR PLUS oxide. All MBU's are packaged in a distinctive case that affords immediate identification, plus one extra safety feature during critical editing operations.

Designated for use where playing time is key factor. Features new COLOR PLUS oxide. This Extended Play U-Matic uses an extra thin polyester backing. Tape machines that are poorly aligned or with incorrect tensioning can cause damage to this product. Performance of this U-Matic on such equipment cannot be guaranteed by 3M.

### ORDER NUMBER

<table>
<thead>
<tr>
<th>ORDER NUMBER</th>
<th>RECORDER/PLAYER</th>
<th>PLATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCA-5</td>
<td>C125 or C114</td>
<td>MBU-SS</td>
</tr>
<tr>
<td>UCA-10</td>
<td>C125 or C114</td>
<td>MBU-55</td>
</tr>
<tr>
<td>UCA-20</td>
<td>C125 or C114</td>
<td>MBU-18S</td>
</tr>
<tr>
<td>L-250</td>
<td>L-250A</td>
<td>MBU-30</td>
</tr>
<tr>
<td>L-500</td>
<td>L-500A</td>
<td>MBU-45</td>
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### U-DO-IT (U-MATIC) RELOAD KITS

<table>
<thead>
<tr>
<th>ORDER NUMBER</th>
<th>RECORDER/PLAYER</th>
<th>PLATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-DO-IT 18S</td>
<td>MBU-18S</td>
<td>MBU-55</td>
</tr>
<tr>
<td>U-DO-IT 30</td>
<td>MBU-30</td>
<td>MBU-18S</td>
</tr>
<tr>
<td>U-DO-IT 60</td>
<td>UCA-60</td>
<td>MBU-45</td>
</tr>
</tbody>
</table>

### NOTES:
1. If full-size %" U-Matic Videocassettes are to be delivered in the book shelf pack container, insert C114 at the end of the catalog number, i.e., UCA-60C114. If they are to be delivered in the high impact plastic shipping container, insert C125 at the end of the catalog number, i.e., UCA-60C125. THERE IS NO ADD-ON CHARGE FOR EITHER CONTAINER.
2. If %" Mini-U-Matic Videocassettes are to be delivered in the book shelf pack container, insert C120 at the end of the catalog number, i.e., UCA-20C120. If they are to be delivered in the high impact plastic shipping container, insert C125 at the end of the catalog number, i.e., UCA-20C125. THERE IS NO ADD-ON CHARGE FOR EITHER CONTAINER.

### Prices and Specifications Subject to Change Without Notice.
**Scotch 3M**

### AUDIO OPEN REEL TAPE

**AV LINE:** The AV Line are Low Noise, heavy duty, open reel tapes designed for the rigorous use of instructional applications.

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>REEL SIZE</th>
<th>REELS PER CTN</th>
<th>SHPG. WT.</th>
<th>LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>176-1/4-1200</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.14</td>
</tr>
<tr>
<td>176-1/4-2500-H</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.24</td>
</tr>
<tr>
<td>176-1/4-2500-RN</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.34</td>
</tr>
<tr>
<td>176-1/4-4800-H</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.44</td>
</tr>
<tr>
<td>176-1/4-4800-RP</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.54</td>
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**SPECIAL PACKAGES:**

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
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<th>REELS PER CTN</th>
<th>SHPG. WT.</th>
<th>LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>176-1/4-2500-H</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.64</td>
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<td>176-1/4-2500-RN</td>
<td>7&quot;</td>
<td>12</td>
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<td>10.74</td>
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<td>176-1/4-4800-H</td>
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<td>10.94</td>
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**PROPACK:**

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<th>REELS PER CTN</th>
<th>SHPG. WT.</th>
<th>LIST</th>
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<tr>
<td>206-1/4-1200</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.14</td>
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<tr>
<td>206-1/4-2500-H</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.24</td>
</tr>
<tr>
<td>206-1/4-2500-RN</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.34</td>
</tr>
<tr>
<td>206-1/4-4800-H</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.44</td>
</tr>
<tr>
<td>206-1/4-4800-RP</td>
<td>7&quot;</td>
<td>12</td>
<td>9</td>
<td>10.54</td>
</tr>
</tbody>
</table>

**AV LINE - LUBE TAPE:** A special lubricated tape for endless loop applications in various types of cases.

### AUDIO TAPE ACCESSORIES

<table>
<thead>
<tr>
<th>CATALOG NUMBER</th>
<th>SIZE</th>
<th>REELS PER CTN</th>
<th>RETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>41-1/2-12.5</td>
<td>1/2&quot; x 66&quot;</td>
<td>12</td>
<td>4.37</td>
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<tr>
<td>41-3/4-66</td>
<td>1/2&quot; x 66&quot;</td>
<td>12</td>
<td>4.21</td>
</tr>
</tbody>
</table>

No. 620 Splicing Tape may be used to splice all "Scotch" Brand Open Reel Tapes. Always use No. 620 when splicing tapes with "POS!-TRAK" backing. Color: Black, Backing: 1.0 mil Polyester

### CALL FOR COMPETITIVE PRICE QUOTE
## Audio Cassettes

### Studio Master Cassettes

Studio Master Cassettes have been designed for optimum performance at normal tape selector switch positions. It is a High Output product for critical mastering and duplicating applications.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Per CTN</th>
<th>1.79</th>
<th>80+</th>
<th>600+</th>
<th>1200+</th>
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</thead>
<tbody>
<tr>
<td>AVM-30</td>
<td>40</td>
<td>$3.00</td>
<td>$2.22</td>
<td>$2.10</td>
<td>$2.00</td>
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<tr>
<td>AVM-60</td>
<td>40</td>
<td>$3.41</td>
<td>$2.56</td>
<td>$2.42</td>
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<tr>
<td>AVM-90</td>
<td>40</td>
<td>$3.74</td>
<td>$2.88</td>
<td>$2.73</td>
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</tr>
</tbody>
</table>

### AV Cassettes

AV Cassettes are professional quality low noise cassettes designed for the rigorous use of instructional applications.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Per CTN</th>
<th>1.15</th>
<th>80+</th>
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<tbody>
<tr>
<td>IRC-90 BOXED</td>
<td>20</td>
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<td>20</td>
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<td>$2.27</td>
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### IRC Cassettes

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.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Per CTN</th>
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<th>80+</th>
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<td>$1.73</td>
<td>$1.32</td>
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<tr>
<td>IRC-60 BOXED</td>
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<tr>
<td>IRC-90 BOXED</td>
<td>20</td>
<td>$2.63</td>
<td>$2.24</td>
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</tr>
</tbody>
</table>

### Minicassettes

Minicassettes are leaderless, professional quality, low noise cassettes designed for instant recording applications such as dictating, interviewing, conference recording, slide sync, surveillance and information logging.

<table>
<thead>
<tr>
<th>Catalog Number</th>
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<tr>
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</tr>
<tr>
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<td>$2.81</td>
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### SBC Cassettes

SBC 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.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Per CTN</th>
<th>1.23</th>
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<td>$2.63</td>
<td>$2.24</td>
<td>$2.17</td>
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</tr>
</tbody>
</table>

### BULK CASSETTES

Bulk versions of Studio Master Cassettes. Designed for highest reproduction quality and capable of high speed duplication. Bulk Version of our AV Cassettes.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Per CTN</th>
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<td>$2.88</td>
<td>$2.79</td>
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</tr>
</tbody>
</table>

### Prices and Specifications Subject to Change Without Notice.
3-METER EARTH STATION, MODEL 8006

Features
- Minimum shipping costs
- Minimum site preparation and installation costs
- No panel alignment or testing required at installation
- Single-axis mount for ease of pointing
- Rigid mechanical design
- Single or dual-polarized feed system
- Modular, interchangeable parts for ease of field support
- Stamped aluminum panels for consistently good surface accuracy

The Scientific-Atlanta 3-Meter Earth Station Antenna offers excellent performance and maximum cost effectiveness for audio digital and video receive-only applications. It was developed out of the design and manufacturing technology that produced the highly successful 4.6-meter and 5-meter Scientific-Atlanta antennas.

Manufactured with precision die-stamping techniques pioneered by Scientific-Atlanta, the 3-meter antenna has six reflector panels. No special tools, panel alignment or testing are required to achieve the specified performance. Compact components allow economical transportation and facilitate assembly in remote sites or on rooftops where handling equipment is not readily available.

The single-axis mount provides pointing accuracy, structural safety, and simple pointing adjustment. With proper alignment on installation, the antenna can be pointed with a single-axis adjustment to any two satellites in the 90-136° arc with zero pointing error. Similar pointing adjustments can be made in the 70-90° arc by a single strut change.

For minimum installed cost, a specially designed foundation kit, which reduces both concrete requirements and installation time, is available.

Model 8006 3-Meter, Dual Polarization, Dual Reflector Feed antenna with:
- anchor bolt mount
- 1.5 dB noise figure GaAs FET preamplifier
- 100 ft., 7/8 in. coaxial cable and connectors
- Automatic cable and feed pressurization/dehydrator system
- Model 6601 Video Receiver, fixed frequency, including jumper cables

8,750.00

4.6-METER ANTENNA, MODEL 8005

Features
- Cassegrain Feed for High-Efficiency RF Performance
- Protected Environment Behind Reflector for LNA's
- Designed for Minimum Maintenance
- Stamped Aluminum Reflector Panels Provide Consistent Surface Accuracy
- Designed for Minimum Shipping and Installation Costs
- No Panel Alignment or Testing Required
- All-Aluminum Reflector for Maximum Temperature Stability
- Minimum Site Preparation Required
- Field-Erectable Without Crane

For receive-only applications in the 3.7- to 4.2-GHz range, the Scientific-Atlanta Model 8005 4.6-Meter Earth Station Antenna System can easily be installed in a wide variety of locations with a minimum of site preparation. This antenna system is especially suited to the needs of the CATV operator receiving video programming from domestic satellites.

Two men can easily install this antenna in less than one day, as no special tools are required and no part weighs more than 45 kg (100 lb). The main reflector is parabolic in shape. A specially shaped subreflector focuses the incoming signal into the feed horn. The optics used provide high gain while still meeting FCC sidelobe requirements. The parabolic dish consists of 12 aluminum panels and a sturdy support structure to create a stable reflective surface. Panels are manufactured utilizing a die-stamping production technique that ensures consistency in the reflector-panel repeatability. This factory-produced accuracy guarantees complete interchangeability and simplified construction efforts in the field. The concept of modularity provides benefits in handling ease, lower shipping costs, and ease of installation. The standard feed system furnished for receive-only operation provides dual-polarization capability in the 3.7- to 4.2-GHz range. The feed includes a high-efficiency diagonal horn that can be manually rotated to any position. Receive/transmit operation can also be provided with a special feed. Please contact Midwest for further information.

Model 8005 4.6 Meter, Dual Polarization, Dual Reflector Feed antenna with:
- anchor bolt mount
- 1.5 dB noise figure GaAs FET preamplifier
- 100 ft., 7/8 in. coaxial cable and connectors
- Automatic cable and feed pressurization/dehydrator system
- Model 6601 Video Receiver, fixed frequency, including jumper cables

$11,625.00

Prices and Specifications Subject to Change Without Notice.
MODEL 6250 TELEVISION DEMODULATOR

The Model 6250 Television Demodulator provides precision demodulation of any transmitted television signal. The envelope delay provided closely matches that of the average home television receiver. This permits use with transmitters which have been predistorted to compensate for this delay. An integral zero chopper enables measuring the depth of modulation of the transmitted signal. In addition, a programming option allows external command of the zero chopper.

The demodulator is equipped with an envelope detector for video and may be ordered with an optional synchronous detector. The synchronous video detector is free from quadrature distortion that is found in all vestigial sideband envelope detectors. Quadrature distortion is a source of unmeasurable ringing and smear and cross talk between video sideband components.

Audio is provided both as a baseband signal and as a 4.5 MHz subcarrier. A loop-through is provided to permit the addition of the subcarrier to one of the video outputs for transmission of the sound signal at a frequency above the spectrum occupied by the video signal in microwave installations.

The standby carrier oscillator has several modes of operation including CW, internally modulated with a 15 kHz keying pulse, and an external mode. This external mode greatly facilitates emergency audio and/or video override for community alert requirements. It also allows the operator to utilize his headend as a source of modulated signals with which to measure the cross-modulation in the distribution system.

Output frequencies from sublow through superband are standard. A plug-in UHF to IF input converter is also standard eliminating the need for separate UHF/VHF converters in many instances. Tunable input and output converters for standby applications are also available.

OPTIONS
- Synchronous video detector is free of quadrature distortion that is found in all vestigial sideband envelope detectors. With the synchronous detector, capability is provided on the front panel to rapidly switch between envelope and synchronous detectors, greatly enhancing the diagnostic and operational capabilities of the demodulator.
- The synchronous detector is supplied, two options are available in the sound detected. The source for the 4.5 MHz aural subcarrier can be switched between either a direct mixer, using the phase-lock synchronous oscillator and audio IF signal, or an intercarrier detector using composite video and sound IF signals.
- 50 ohm input impedance.
- Standby Battery Powering provides backup for failure of 115V ac.
- Negative dc powering permits operation from a -19 to -31V ac battery supply in lieu of 115V ac.

MODEL 6350 TELEVISION MODULATOR

The Model 6350 Television Modulator generates a high quality vestigial sideband TV signal on all cable TV channels. Advanced circuit design results in the highest picture and sound fidelity from color or black and white video inputs and from either audio or 4.5 MHz subcarrier inputs. Scientific-Atlanta's SAW filter to CATV equipment results in unequaled vestigial sideband response characteristics. The SAW filter provides superior adjacent channel performance while retaining excellent group delay characteristics. Use of the SAW filter virtually eliminates vestigial sideband filter adjustments and provides excellent temperature stability.

A delay predistortion network is provided to conform with the standard FCC predistortion requirements. Front and rear panel test points are provided to assist in module troubleshooting. Also provided are rear panel connectors for alternate IF inputs and outputs to facilitate program switching.

The Modulator provides a fixed level, composite IF output, which can be used without external splitters.

*Surface Acoustical Wave

OPTIONS
- The video switch detects loss of primary video and switches to alternate video input.
- Video AGC normalizes video level between different video sources such as two video tape recorders, or removes time dependent level changes from incoming video.
- Audio Switch option provides for selection of an alternate audio source, and also permits switching to emergency override audio.
- Audio Modulation Limiter prevents accidental overdeviation of the aural carrier.
- IF Switch provides switching to an alternate IF source when video output is removed.
- AGC control on alternate IF input provides for a constant output level when the alternate IF is being used.
- Phase Lock on the output picture carrier is available.
- Standby Battery Powering provides backup for failure 115V ac.
- Negative dc powering permits operations from a -19 to -31V dc battery supply in lieu of 115V ac.

Prices and Specifications Subject to Change Without Notice.
VIDEO RECEIVER MODEL 6601

The Model 6601 Frequency Selectable Receiver provides high-quality picture and sound reception of domestic satellite television transmissions.

Modular and compact, the complete receiver is packaged in a single chassis 133.4mm (5.25 in.) high by 482.6mm (19.0 in.) wide to permit standard racking. A motherboard is utilized to interconnect the vertically mounted plug-in printed circuit cards. A ground plane and partitions between each card provide isolation.

Threshold extension demodulation, a technique pioneered by Scientific-Atlanta, significantly increases operating margin above threshold. Operating as a standard discriminator over the range of normal carrier-to-noise (C/N) ratios, it automatically switches to extend the operating range at lower C/N ratios. Impulse noise in the video signal is reduced near the threshold level and acceptable picture quality is extended to considerably lower operating signal levels than with conventional demodulation.

FEATURES
- Threshold extension demodulation provides enhanced picture quality at lower signal levels for reduced system cost.
- Solid-state reliability.
- Easy-access plug-in downconverter.
- Plug-in cards allow simplified field service.
- Adaptable for microwave applications.
- Optional audio demodulators for future audio services.
- Channel selection is accomplished by changing crystals. No tuning necessary.

VIDEO RECEIVER MODEL 6602

The Model 6602 Video Frequency Agile Receiver lets you dial any of 24 satellite channels simply by turning a single selector switch on the front panel. Or for remote operation, it is 6-channel programmable with activation by touch tone or any compatible timing mechanism.

The modular design of the 6602 gives it the versatility to receive any type of video satellite transmission today. It contains provisions to accept optional plug-in subcarrier printed circuit cards for a variety of system applications and microwave interface.

For high quality voice and picture reception, dual conversion and Threshold Extension Demodulation (TED) are standard features. TED significantly increases receiver operating range at low signal levels. Impulse noise in the video signal is reduced near the threshold level and high picture quality is extended to considerably lower operating signal levels than with conventional demodulation.

FEATURES
- Frequency agility provides selection of any one of 24 channels with one receiver.
- Internally programmable for single line selection of one of any six frequencies. Remote code access to any one of 24 transponder frequencies when interfaced with Scientific-Atlanta 1:N video protection switch.
- Threshold extension demodulation provides enhanced picture quality at lower signal levels for reduced system cost.
- Easy-access plug-in down converter.
- Plug-in cards allow simplified field service.
- Adaptable for microwave applications.
- Optional audio demodulators for future audio services.
- Solid-state reliability.

VIDEO RECEIVER MODEL 6603

The Model 6603 Video Frequency Agile Receiver lets you dial any of 24 satellite channels simply by turning a single selector switch on the front panel. The modular design of the 6603 gives it the versatility to receive any type of video satellite transmission today. It contains provisions to accept optional plug-in subcarrier printed circuit cards for a variety of system applications and microwave interface.

For high quality voice and picture reception, dual conversion and Threshold Extension Demodulation (TED) are standard features. TED significantly increases video signal-to-noise ratio while operating with lower input carrier-to-noise ratios.

FEATURES
- Frequency agility provides selection of any one of 24 channels with one receiver.
- Threshold extension demodulation provides enhanced picture quality at lower signal levels for reduced system cost.
- Easy-access plug-in down converter.
- Plug-in cards allow simplified field service.
- Adaptable for microwave applications.
- Optional audio demodulators for future audio services.
- Solid-state reliability.

Prices and Specifications Subject to Change Without Notice.
XC-700 PROFESSIONAL PRISM OPTICS COLOR CAMERA

- 2 Line Enhancement
- 550 Lines Resolution
- Prism Beam Splitter
- Broadcast I & Q Encoder
- Rugged Die-Cast Chassis
- 2 Line Image Enhancement with Comb Filtering
- Dynamic Beam Optimization
- SATICON* Tubes with Bias Light
- Adjustable Blanking width — H & V
- Gen-Lock with H and SC phase Shifters
- Phantom Power for Condenser Microphones
- Zebra Pattern Video Level Indicator for Viewfinder

ENG-PORTABLE SYSTEM
XC-700MP
Includes:
- XC-700M Camera Head with Quick Disconnect Tripod Mount,
  Battery Bracket, Service Manual, Extender Board, Spare Fuses
- XC-715VF 1.5” Viewfinder
- XC-712AA A.C. Power Adaptor with DC Cable
- XC-708AT 14.4V 4AH Heavy Duty Ni-Cad Rechargeable Battery
- XC-70CC Heavy Duty Carrying Case $11,000.00

Less Lens — Less VTR Cable

EFP-STUDIO SYSTEM
XC-700MS
Includes:
- XC-700M Camera Head with Quick Disconnect Tripod Mount,
  Battery Bracket, Service Manual, Extender Board, Spare Fuses
- XC-770VF 7” Studio Viewfinder
- XC-712AA A.C. Power Adaptor with DC Cable $11,800.00

Less Lens — Less Camera Cable

ENG—EFP PORTABLE AND STUDIO SYSTEM COMBINATION PACKAGE
XC-700MC
Includes:
- XC-700M Camera Head with Quick Disconnect Tripod Mount,
  Battery Bracket, Service Manual, Extender Board, Spare Fuses
- XC-715VF 1.5” Viewfinder
- XC-770VF 7” Studio Viewfinder
- XC-701RP Remote Operations Panel (19” Rack Mount)
- XC-708AT 14.4V 4AH Heavy Duty Ni-Cad Rechargeable Battery
- XC-712AA A.C. Power Adaptor with DC Cable
- XC-70CC Heavy Duty Carrying Case $13,490.00

Less Lens — Less Camera Cable — Less VTR Cable

CAMERA HEAD ONLY
XC-700M
Includes:
- XC-700M Camera Head with Quick Disconnect Tripod Mount,
  Battery Bracket, Service Manual, Extender Board, Spare Fuses

$9170.00

CAMERA HEAD AND COMPONENTS
XC-700M
- XC-700M Camera Head with Quick Disconnect Tripod Mount,
  Battery Bracket, Service Manual, Extender Board, Spare Fuses

$9,170.00
- XC-715VF 1.5” Viewfinder with Zebra Pattern and Peaking

$716.00
- XC-770VF 7” Studio Viewfinder with Zebra Pattern,
  Underscan and Peaking

$860.00
- XC-701RP Remote Operations Panel

$1830.00

PROFESSIONAL COLOR CAMERA

ACCESSORIES
- XC712AA A.C. Power Adaptor with DC Cable $140.00
- XC-708AT 14.4V 4AH Heavy Duty Ni-Cad Rechargeable Battery $665.00
- XC-705C Slow Battery Charger for XC-70BAT $70.00
- XC-70QC Quick Charger for XC-70BAT $370.00
- XC-387VB Heavy Duty VTR Cable with 14 Pin Connector — Recommended for Broadcast ENG Use $285.00
- XC-387V VTR Cable with 14 Pin Connector — Recommended for Light Duty Use Only $145.00
- XC-387VA VTR Cable with 10 Pin Connector $145.00
- XC-70CC Heavy Duty Carrying Case $340.00
- XC-700PP Tripod Quick Release Plate — Heavy Duty $130.00
- XC700KIT-0001 Spare Parts Kit (available through Parts Dept.) $1985.00
- XC-702HE 2-Line Enhancement Board — for Retrofitting Cameras with 1-Line Board $1400.00

Standard Cables
- XC-7820 Camera Cable — 20 Meter (65 feet) $760.00
- XC-7830 Camera Cable — 30 Meter (98 feet) $1000.00
- XC-7850 Camera Cable — 50 Meter (164 feet) $1480.00

Custom Cables
- Available from 5 Meter to 100 Meter Lengths in 5 Meter Increments. Allow at least 3 weeks for delivery
- No changes or cancellations accepted after order is placed.
- XC-7B Camera Cable — Meter $24/Meter +$280.00
- XC-7B E Camera Extension Cable — Meter $24/Meter +$280.00

Example:
- XC-786G Camera Cable — 60 Meter (197 feet) 1,720.00

Industrial Grade Lenses
- A10X11B Fujinon 11-110mm f1.6 zoom lens with servo zoom and servo iris $1429.00
- A14X10B Fujinon 10-140mm f1.7 zoom lens with servo zoom and servo iris $2500.00

Broadcast Grade Lenses
- A12X9BE Fujinon 9-108mm f1.7 zoom lens with servo zoom and servo iris 4740.00
- A12X9BE Fujinon 9-108mm f1.7 zoom lens with servo zoom, servo iris and 2X extender 6300.00
- J13X9BE Canon 9-117mm f1.6 zoom lens with servo zoom, servo iris and 2X extender 6000.00
- A14X9BE Fujinon 9.5-133mm f1.7 zoom lens with servo zoom, servo iris and 2X extender 7370.00
- A17X9BE 9-153mm f1.7 zoom lens with servo zoom, servo iris and 2X extender 10,810.00
- A22X12E 12.5-275mm f1.2 zoom lens with servo zoom, servo iris and 2X extender 13,750.00

Studio Conversion Kits (provides servo zoom and manual focus from rear)
- XC-705C1 Studio Conversion Kit for A10X11B or A14X10B Lenses 850.00
- XC-705C2 Studio Conversion Kit for A12X9BE, A12X9BE, or A14X9BE Lenses 850.00
- XC-705C3 Studio Conversion Kit for A17X9BE Lenses 850.00
- XC-705C4 Studio Conversion Kit for A22X12E Lenses 850.00
- XC-705C5 Studio Conversion Kit for J13X9BE Lenses 1485.00

Prices and Specifications Subject to Change Without Notice.
SHINTRON

VIDEO SWITCHERS
SPECIAL EFFECTS

Model 373—DX Chromatic* Production Switcher
NTSC Version
Model 373 Chromatic® Production Switcher has been exclusively designed to interface with Sony color cameras and accessories. It eliminates requirements for a Sync generator and the Model 373 is plug compatible with DXC-1000, DXC-1600 cameras
The 373-DX is the basis for an entire high performance studio. The unit has a broadcast grade, color bar generator, a color black generator, a color background generator, 10 wipe patterns, soft wipe, border wipe, and INT-EXT key.
The Model 373 Switcher is equipped with a unique tally indicator. The digital display indicates which inputs are selected and which are "on-air".

373-DX (Sony Connectors) ........................................... $7510.00
373-NU (BNC Connectors) ........................................... 7510.00

Model 370—Mark III Color Special Effects Generator
- 10 Basic Wipe Patterns - Universal Input System - Vertical Interval Switching on Preview and Program Busses - Built-in Keyer and Colorizer - More than 1000 Units Have Been Made
Model 370 Mark III Color Special Effects Generator. Complete color studio programming switcher has features of most modern professional studio equipment together with compact size and human engineered operation panel for teleproduction directors. NTSC Universal input system (color or mono, comp or noncomp, sync or non-sync). Six inputs. Vertical interval switching on preview and program busses. Automatic take from preview to program. Re-entry system. Ten basic wipe patterns. Four corners, fade, wipe, diagonal, joystick control of circle, square, and diamond. Keying and matting. Built-in colorizer, background generator, and color black generator. Built-in tally contacts. Gear reduction. Lever Rack height 7".

$2600.00
370/318 As Above with Genlock Sync Generator ......................... 3800.00

Model 372—Switcher
The Model 372 Switcher is equipped with 8 inputs and 3 buses and is primarily designed as a workhorse for small studios or mobile van uses. It can be configured either in one enclosure or two enclosures for remote control.
In the past all production switchers have been designed with three major components. The cross point group, the effects amplifiers, and the downstream cross point group. The video signal, therefore traveled through this complex maze of amplifiers. The path was different every time a different effect was desired.
In addition, conventional switchers were full of delay lines in order to compensate for the delay caused by amplifiers. As a result, the video signal deteriorated through the switcher. Obviously, substantial efforts in circuit design were spent to compensate for the signal deterioration, and this made switchers generally expensive to manufacture.
Shintron’s approach solves this problem altogether. After the cross point group, selected signals are processed through one precision summing amplifier. The summing amplifier has multiple input capability and each input circuit is equipped with a digitally controlled high-speed linear switch element.
The summing amplifier is an extremely precise short-electrical length design and has a near zero differential phase and gain. An important fact is that all combinations of effects are processed through the identical path, and the resultant electrical delay through the switcher is also identical.

$8500.00

Model 374—Super 80 Switcher
The Model 374 Super 80 is a sophisticated switcher due to its double special effects busses capable of making double re-entry operations. The Super 80 Switcher is unprecedented in having standard encoded chroma keyer, downstream matte keyer, downstream fade to black and quadsplitter. The unit is intended for use as a main switcher in advanced production situations, studio or mobile.
No electrical specifications were compromised in the place of having spectacular features. Electrical and mechanical specifications are of broadcast quality.
In addition, the 374 was designed with a precision summing amplifier to eliminate the delay problems and signal deterioration inherent to conventional switchers.

$9900.00

Model 375—Chromatic™ SuperSwitcher Production Switcher
The Model 375 is designed for medium to large teleproduction applications and is equipped with the most up-to-date technology in switcher design. The Superbus. Unlike conventional switcher design which passes video signals through a series of cascading effects amplifiers to obtain the desired effects, Superbus achieves it all at once. The Superbus is a combination of a super group of cross points and effects amplifiers totally controlled by digital signal processing commands. Since this new method has practically no signal path length, the resultant signal does not deteriorate like in a conventional switcher. Its differential gain and phase are near zero and delay is almost non-existent.
The Model 375 is a 12 input, A, B, C, Program and Preview Bus Switcher. It incorporates all the features desirable in a production tool. The unit fits broadcast specifications and can be used in both mobile and studio applications.

$14,000.00

VIDEOTYPEWRITER

Model 505 Videotypewriter
Model 505 Videotypewriter is a versatile character generator designed for professional use in broadcast studios, CATV stations, and in educational and industrial TV training facilities.
The Model 505 is packaged in a typewriter-style console, and it has been ruggedly designed to withstand many years of constant use.
A unique feature of the Model 505 is the Fontas® Isotropic Font enhancement. Characters are outlined on all edges in white or black. This distinguishes the unit from others which outline characters in only their horizontal or vertical components. Isotropic enhancement produces exceptionally pleasing and easy-to-read characters, regardless of video background.
In addition, the Model 505 Videotypewriter has a sixteen-page memory bank with independent access to program and preview outputs.

$4500.00

$505

204 Prices and Specifications Subject to Change Without Notice.
M68 and M68FC Microphone Mixer

The M67 features balanced 600 ohm line and microphone input outlets; an illuminated VU meter calibrated for +4 and +10 dBm output; extremely low noise and RF susceptibility; wide, flat frequency response; two-level headphone monitor jack; AC or battery operation. Noiseless automatic switchover in case of AC failure. It may also be used as standby during AC operations or as a convenient source for battery operation; removable AC line cord; disable switches for compressor and gated memory that control response outside the range of these filters. The M67 also features "high end" (above 8 kHz) and "low end" (below 63 Hz) roll-off filters. Each of these filters, unlike highly selective "notch" or single-frequency filters, acts on a band of frequencies around its center frequency, so that attenuation is smooth and complete. These filters function in the most critical portion of the audio spectrum, with center frequencies of 63, 125, 250, 500, 1,000, 2,000, 4,000, and 8,000 Hz. Each is infinitely variable from "0 attenuation (flat) to a maximum cut of 12 dB. The M610 also features "high end" (above 8 kHz) and "low end" (below 63 Hz) roll-off switches to control response outside the range of these filters.

Built-in variable amplification allows the user to conveniently increase the overall gain of the system to a level even higher than original level — even though any or all of the filters have been activated! The M610 also may be used to improve sound quality and increase intelligibility by filtering out "problem frequencies" that cause oscillating ("ringing"), boominess and other disruptive resonances in acoustically difficult rooms.

M67 Professional Mixer

New concept in economical total control of audio response. Can be used in production and transfer studios to equalize sound systems, correct room acoustics, produce special sound effects, reduce stand or stage noise, and for tape recording and duplication. Has two high-level inputs and five output provisions for the greatest response control and flexibility available. Effective, continuous variable high-pass and low-pass 6 dB-per-octave filters, plus separate bass and treble (boost and cut) controls, can be combined for virtually unlimited response characteristics. Output VU meter. Five outputs: high impedance, high level, high impedance mic level, 600-ohm level, and headphone. Two-high-level high impedance inputs controlled by single input attenuator accept signal from virtually any high level source. For 108-132 Volts, 50-60 Hz.

M268 Microphone Mixer

Five-channel mixer featuring four high/low impedance microphone inputs and one AUX-level input; simplex power supply: 120 V ac, 50-60 Hz; battery power: 11-3/8"W x 7-1/2"D x 2-3/4"H.

M268 Rack Panel Kit

A268 Rack Panel Kit

Model M610 Feedback Controller

The M610 gives you the basic advantages of room equalization — but without the high costs involved in elaborate, complex, highly specialized equalization equipment. The M610 Feedback Controller uses eight resonant dip filters, each controlled by a linear-motion potentiometer. Each of these filters, unlike highly selective "notch" or single-frequency filters, acts on a band of frequencies around its center frequency, so that attenuation is smooth and complete. These filters function in the most critical portion of the audio spectrum, with center frequencies of 63, 125, 250, 500, 1,000, 2,000, 4,000, and 8,000 Hz. Each is infinitely variable from "0 attenuation (flat) to a maximum cut of 12 dB. The M610 also features "high end" (above 8 kHz) and "low end" (below 63 Hz) roll-off switches to control response outside the range of these filters.

Built-in variable amplification allows the user to conveniently increase the overall gain of the system to a level even higher than original level — even though any or all of the filters have been activated! The M610 also may be used to improve sound quality and increase intelligibility by filtering out "problem frequencies" that cause oscillating ("ringing"), boominess and other disruptive resonances in acoustically difficult rooms.

Prices and Specifications Subject to Change Without Notice.
SM56 Unidirectional Dynamic
Boom Microphone

Specifically designed to minimize boom microphone problems in television and motion-picture sound stage and location recording. Painstakingly developed to provide extremely high reproduction quality and great flexibility of application.

The SM56 features a wide-range smooth, natural response, especially tailored for dialogue and vocal pickup with excellent presence, yet well-suited to scoring assignments.

Model SM57: A dynamic microphone with a very smooth, flat, wide-range frequency response; cardioid polar pattern, uniform with frequency and symmetrical about the axis; internal "air suspension" shock isolation; highly effective pop filter; extremely good rejection of electro-magnetic hum due to a built-in hum rejection system; bass roll-off and mid-range emphasis. The Model SM7 was field-designed to be the finest dynamic microphone available for music recording and reproduction.

Model SM7

Model SM58: A dynamic microphone available for music recording and reproduction. The Model SM58 was designed for professional applications requiring the ultimate in sound quality and control. Broad, smooth frequency response: provides clean, natural reproduction of both voice and music. Cardioid directional pattern: Integral acoustic "pop" filter on the SM58. Mechanical noise isolation. Type: Dynamic. Frequency Response: 50 to 15,000 Hz.

Model SM58

Model SM59: A dynamic microphone, essentially flat, wide response. 50 to 15,000 Hz. Patented Mechano-pneumatic shock mount system. Built-in "pop" filter, and hum-bucking coil. Durable construction. Ideal for speech, vocal and instrument pick-up, for broadcast, recording and sound reinforcement uses.

Model SM59

Model SM60: Omnidirectional Dynamic: This unusually versatile microphone is a unique combination of beauty, strength, performance and economy. It has smooth, natural, wide-range response for both voice and music.

Model SM60

Model SM61: Low-Noise Hand-Held Omnidirectional Dynamic: Combines outstanding noise isolation with a small, lightweight, handsome design especially for hand-held applications in which mechanical shock, wind and cable noises must be controlled.

Model SM61

Model SM62: Compact Unidirectional Dynamic: Shure's tiny SM62 microphone does its own vanishing act—on podiums, in interviews, and on stage. Only 124mm (4-29/32 in.) long, it fits conveniently into the palm of your hand. And it snaps into the SM62's swivel adaptor.

Model SM62

Model SM63-LC: Omnidirectional Dynamic: A rugged and light-weight microphone, with appearance handling, and performance features ideally suited to highly professional on-camera or on-stage use.

Model SM63-LC

Model SM63-CN: Shure omnidirectional microphone, a small lightweight unit, with appearance handling, and performance features ideally suited to highly professional on-camera or on-stage use.

Model SM63-CN

Model SM58-LC (Less cable)

Model SM58-CN

Model SM54-LC (Less cable)

Model SM54-CN (Prewired plug)

Model SM53-LC (Less cable)

Model SM53-CN (Prewired plug)

Model SM52-LC (Less cable)

Model SM52-CN (Prewired plug)

Model SM-51-LC (Less cable)

Model SM-51-CN (Prewired plug)

Model SM-50-CN (Prewired plug)

Model SM50-LC (Less cable)

Model SM50-CN

Model SM49-LC (Less cable)

Model SM49-CN

Model SM48-LC (Less cable)

Model SM48-CN

Model SM47-LC (Less cable)

Model SM47-CN

Model SM46-LC (Less cable)

Model SM46-CN

Model SM45-LC (Less cable)

Model SM45-CN

Model SM43-LC (Less cable)

Model SM43-CN

Model SM42-LC (Less cable)

Model SM42-CN

Model SM41-LC (Less cable)

Model SM41-CN

Model SM40-LC (Less cable)

Model SM40-CN

Model SM39-LC (Less cable)

Model SM39-CN

Model SM38-LC (Less cable)

Model SM38-CN

Model SM37-LC (Less cable)

Model SM37-CN

Model SM36-LC (Less cable)

Model SM36-CN

Model SM35-LC (Less cable)

Model SM35-CN

Model SM34-LC (Less cable)

Model SM34-CN

Model SM33-LC (Less cable)

Model SM33-CN

Model SM32-LC (Less cable)

Model SM32-CN

Model SM31-LC (Less cable)

Model SM31-CN

Model SM30-LC (Less cable)

Model SM30-CN

Model SM29-LC (Less cable)

Model SM29-CN

Model SM28-LC (Less cable)

Model SM28-CN

Model SM27-LC (Less cable)

Model SM27-CN

Model SM26-LC (Less cable)

Model SM26-CN

Model SM25-LC (Less cable)

Model SM25-CN

Model SM24-LC (Less cable)

Model SM24-CN

Model SM23-LC (Less cable)

Model SM23-CN

Model SM22-LC (Less cable)

Model SM22-CN

Model SM21-LC (Less cable)

Model SM21-CN

Model SM20-LC (Less cable)

Model SM20-CN

Model SM19-LC (Less cable)

Model SM19-CN

Model SM18-LC (Less cable)

Model SM18-CN

Model SM17-LC (Less cable)

Model SM17-CN

Model SM16-LC (Less cable)

Model SM16-CN

Model SM15-LC (Less cable)

Model SM15-CN

Model SM14-LC (Less cable)

Model SM14-CN

Model SM13-LC (Less cable)

Model SM13-CN

Model SM12-LC (Less cable)

Model SM12-CN

Model SM11-LC (Less cable)

Model SM11-CN

Model SM10-LC (Less cable)

Model SM10-CN

Model SM9-LC (Less cable)

Model SM9-CN

Model SM8-LC (Less cable)

Model SM8-CN

Model SM7-LC (Less cable)

Model SM7-CN

Model SM6-LC (Less cable)

Model SM6-CN

Model SM5-LC (Less cable)

Model SM5-CN

Model SM4-LC (Less cable)

Model SM4-CN

Model SM3-LC (Less cable)

Model SM3-CN

Model SM2-LC (Less cable)

Model SM2-CN

Model SM1-LC (Less cable)

Model SM1-CN

Model SM0-LC (Less cable)

Model SM0-CN

Model M200-CN

Model M200-LC (Less cable)

Model M50-CN

Model M50-LC (Less cable)

Model M46-CN

Model M46-LC (Less cable)

Model M40-CN

Model M40-LC (Less cable)

Model M30-CN

Model M30-LC (Less cable)

Model M25-CN

Model M25-LC (Less cable)

Model M23-CN

Model M23-LC (Less cable)

Model M21-CN

Model M21-LC (Less cable)

Model M20-CN

Model M20-LC (Less cable)

Model M18-CN

Model M18-LC (Less cable)

Model M17-CN

Model M17-LC (Less cable)

Model M15-CN

Model M15-LC (Less cable)

Model M13-CN

Model M13-LC (Less cable)

Model M12-CN

Model M12-LC (Less cable)

Model M11-CN

Model M11-LC (Less cable)

Model M10-CN

Model M10-LC (Less cable)

Model M9-CN

Model M9-LC (Less cable)

Model M8-CN

Model M8-LC (Less cable)

Model M7-CN

Model M7-LC (Less cable)

Model M6-CN

Model M6-LC (Less cable)

Model M5-CN

Model M5-LC (Less cable)

Model M4-CN

Model M4-LC (Less cable)

Model M3-CN

Model M3-LC (Less cable)

Model M2-CN

Model M2-LC (Less cable)

Model M1-CN

Model M1-LC (Less cable)

Model M0-CN

Model M0-LC (Less cable)
SHURE

PROFESSIONAL MICROPHONES UNIDIRECTIONAL and OMNIDIRECTIONAL

MODEL $M77 3/4" DIAMETER
OMNIDIRECTIONAL DYNAMIC
Extremely wide, peak-free, smooth response (45.20 kHz) together with slim styling makes this a microphone of unusual capability. It is recommended for exacting applications in which a very flat, wide-range microphone is required. Ideal for applications as divergent as delicate acoustic guitar and full-throated pipe organ, 45-20,000 Hz, 38 ohms and 150 ohms.

SM76: $240.00

SM77 + SM78 UNIDIRECTIONAL DYNAMIC MICROPHONES
The exclusive Shure SUEDECOAT™ finish is more than a color. It's an incredible new feel that puts the SM77 and SM78 in a class by themselves. The non-reflective textured finish enables STARMAKER microphones to fit into any picture, but never to outshine the star. What's more, the grille is treated with a Shure exclusive coating which never rusts or tarnishes. Both models are available with or without cable.

The STARMAKER Series has an upper mid-range presence peak for enhanced intelligibility and clean, natural sound that lets a great vocalist stand out from the instruments. The SM78 is a "first choice" microphone for rock, pop, R & B, country, gospel, and jazz vocalists. The SM 77 is especially effective on instrumental pickup where brilliant and defined sound is demanded: 50-15,000 Hz, 150 ohms. SM77EB-CN $141.00

SM77TN-CN $141.00

SM77TC-CN $153.00

SM77EB-CN $174.00

SM77TN-CN $174.00

SM77BR-CN $142.50

SM77BR-LC (Brown matte finish) less cable $157.00

SM78BR-CN $178.00

Model SM78: A high-quality, unidirectional condenser microphone designed for professional applications in studio recording, broadcasting and sound reinforcement. Especially applicable in situations requiring extremely low wide frequency response, low noise and distortion characteristics, very low RF susceptibility, and reliable operation over a wide range of temperature and humidity extremes.

Model SM78-CN $348.00

Model SM78-LC $327.00

Model SM81: Hand-held, self-contained, unidirectional, condenser microphone containing its own line level amplifier, peak limiter, and battery. It is designed to provide a line level output for use in a variety of broadcasting situations, and in sound reinforcement or recording applications where a line level microphone with a built-in limiter is required. Frequency Response: 45 to 15,000 Hz Output Impedance: 250 ohms actual (designed for use with 600 ohm or greater loads) Model SM81-LC $300.00

PS1 and PS1E2 Simplex Power Supplies
The Shure Model PS1 and PS1E2 are AC power supplies that provide simplex (diaphragm) power for one or two Shure SM81, SM82, SM85, or other condenser microphones. They contain a power switch, power-on indicator, and two three-pin and two three-socket professional audio connectors. The PS1 and PS1E2 are identical except that the PS1 is designed to operate from 90 to 132 Vac, 50/60 Hz, and PS1E2 operates from 90 to 125 Vac or 180 to 250 Vac, 50/60 Hz (switch selectable). In addition to the voltage selector switch and ac fuse, the PS1E2 is supplied with a detachable ac line cord (without power plug). PS1 $135.50

PS1E2 $164.00

SM85 - Hand-Held Unidirectional Condenser Professional Microphone
The SM85 has a controlled low-frequency rolloff that minimizes mechanical vibrations, handling noise, and the "boominess" sometimes associated with close-up hand-held use.

The response of the SM85 in the important mid-range is especially tailored in the Shure tradition for superb vocal reproduction. It adds "crispness" and presence through carefully placed accentuation in the major voice frequencies. Gives your voice a clear, sharply defined sound that really sets it apart from instrument backup.

The SM85 offers the professional vocalist clean, clear, sparkling highs which delineate subtle overtones and enhance high-frequency timbre to impart a distinctive, exciting sound to vocal artists. Performers and soundmen who've heard it agree—you can hear the high-end difference.

The three-stage integral wind and pop filter is extremely effective for ordinary wind and breath pop noise. For adverse wind and pop conditions, as in outdoor applications, the SM85 is furnished with an accessory windscreen. In addition, Shure's exclusive elastically "space-frame" isolates and cushions the SM85 condenser element from virtually all mechanical vibration, including hand-held and stand-borne mechanical noise.

Rugged TEFLON®-coated steel mesh grille is durable and provides cartridge protection and shielding. Three-stage "pop" filter controls explosive breath and wind noises. Condenser element has unidirectional pickup pattern for maximum rejection and minimum coloration of off-axis sounds. Field-effect transistor impedance converter insures low noise and low distortion. Low-frequency rolloff filter minimizes handling noise and proximity effect. Class A amplifier provides low distortion and high output level capability. Power supply regulator allows operation over a wide range of simplex voltages. MUMETAL shield guards against hum and interference from lighting or other electrical equipment. Output transformer minimizes electrical noise pickup from the connecting cable. Vinyl-coated aluminum alloy handle combines lightweight with durability. Radio frequency filter suppresses unwanted pickup from radio, television and communications transmitters. Gold-plated contacts resist corrosion to insure reliable connections.

Prices and Specifications Subject to Change Without Notice.

SM85 $231.00

SM85-CN $252.00

SM85-LC $348.00

SM85-CN $327.00
SIGMA ELECTRONICS INC.

SYNC AND DISTRIBUTION EQUIPMENT

PDA-110 Pulse Distribution Amplifier   $415.00
One input, four outputs individually adjustable in delay (from 0.20 μSec to 2.0 μSec)

PDA-100A Pulse Distribution Amplifier   $310.00
One input, four outputs

SDA-110 Subcarrier Distribution Amplifier   $390.00
One input, two outputs individually adjustable in phase from 0° to 360°.

SDA-120 Subcarrier Distribution Amplifier   $700.00
Same as VDA-110 but with four phase adjustable outputs.

SCO-100 Sync Changeover   $600.00
Automatic and manual.

VIDEO PROCESSING AMPLIFIER

VPA-100 Processing Amplifier   $1,150.00
Snips and reinserts new sync and burst. Requires Gen/Lock sync generator input for composite sync and blanking and subcarrier.

FR3-100 Mounting Frame   $70.00
Accommodates up to three distribution amplifiers.

CSG-160 Color Sync Generator   $710.00
Compact RS-170 capable of mounting in a FR3-100 frame. Proportioned over controlled oscillator. Black burst output. Front panel test points.

CSG-200 Color Sync Generator   $900.00
Same as CSG-160 with three subcarrier outputs, one fixed, two phase adjustable from 0° to 360° in four 90° steps.

Options for CSG-300
MOD-300   $180.00
Adjustable VGH Blanking Module. Can be plugged into CSG-300 sync generator.

CSG-360   $1,350.00
Genlocking generator including black burst output and adjustable blanking widths.

CSG-365   $1,750.00
Same as 360 but with full field color bar outfit.

BBG-300   $122.00
Color Black Generator Module. Can be added to CSG-300 when ordering a CSG-300.

VS6-100 Passive Video Switcher   $115.00
Six inputs/one output.

VDA-100A   $310.00
One input/six outputs.

VPA-100

Audio distribution amplifier, transformerless, 600 Ohm matching impedance input, five 600 Ohm outputs, 23 dB gain, front panel adjustable.

VIDEO SYNCHRONIZATION AND DISTRIBUTION EQUIPMENT

PDA-100A Pulse Distribution Amplifier   $310.00
One input, four outputs

SDA-110 Subcarrier Distribution Amplifier   $390.00
One input, two outputs individually adjustable in phase from 0° to 360°.

ADA-105 Audio Distribution Amplifier   $310.00
Audio distribution amplifier, transformerless, 600 Ohm matching impedance input, five 600 Ohm outputs, 23 dB gain, front panel adjustable.
The Sigma Electronics System 500 is a modular distribution package designed to provide the ultimate in performance, flexibility, and packaging density.

Each FR-500 frame will hold up to ten plug-in modules plus a plug-in power supply, or eleven plug-in modules with external power supply. The exclusive Sigma Interface Adapter System allows the mixing of Audio, Video, Pulse, and Subcarrier Distribution Amplifiers and other System 500 modules in the same frame.

The System 500 modules feature on card regulators to insure maximum system reliability. Modules may be interconnected within the frame by means of the Sigma-Bus Backplane, eliminating the need for cables between modules. All modules include on-board terminating resistors which may be jumper selected, eliminating the need for external terminations.

**FEATURES**
- 10 Modules per frame with plug-in power supply; 11 Modules per frame with external supply
- On card regulators for maximum reliability
- Redundant power supply configurations available
- SigmaBus Backplane eliminates need for cabling between modules
- Different types of modules may be mixed in frame

**FR-500**
- Holds 10 modules and PS-501 or 11 modules without power supply .......................... $400.00

**PS-501**
- Power Supply — Powers one FR-500 frame 90-130/180-260 VAC, 50-60 Hz ............... 150.00

**EX-505** Extender card .......................... 30.00
**VBI-506** Video Bus Interface, direct access to SigmaBus .......................... 30.00
**ABI-507** Audio Bus Interface, direct access to Sigma Bus .......................... 30.00
**BIC-508** Bus Interface Cable, interconnects two frames .......................... 30.00

**VDA-510** Video Distribution Amplifier, One in, six out — Differential Gain less than .1%; Differential Phase less than .2°; Return Loss less than 40 dB to 5 MHz .......................... 240.00
**VDA-511** Video Distribution Amplifier with Sync Add Four Outputs, video and sync inputs — converts non-composite to composite video. Differential Gain less than .1%; Differential Phase less than .2°; Return Loss greater than 40 dB to 5 MHz .......................... 250.00
**ADA-520** Audio Distribution Amplifier, One in, five out — THD less than .1%; Drives 600 Ohm balanced lines to +22 dBm .......................... 280.00
**PDA-530** Regenerative Pulse Distribution Amplifier, One in, six out; less than 100 n sec delay; controlled rise and fall times .......................... 240.00
**PDA-535** Dual Pulse Delay Amplifier, Two independent amplifiers each with two adjustable delayed outputs — 0.20 u sec to 2.0 u sec controlled rise and fall times .......................... 360.00
**SDA-540** Subcarrier Distribution Amplifier, One in, three out; each output individually phase adjustable over 360° range .......................... 320.00

Prices and Specifications Subject to Change Without Notice.
K2R 1800 Watt Quartz Location Kit $295.00
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 401101 600 watt quartz units
- 3 DYH 401928 600 watt 3200°K quartz lamps
- 3 SSR 401242 8" Steel Stands
- 1 634L 402202 Carrying Case

Size: 18" x 12" x 6"
Weight: 15 lbs.

K2R Accessories:
- 701 401301 Barn doors for 700 quartz unit
- C3 661201 Gaffer grip — portable light mount

K33 1800 Watt Quartz Location Kit $499.50
A complete lighting system at a popular price; contains everything needed for professional results.

- 3 700 401101 600 watt quartz units
- 3 DYH 401928 600 watt 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 Accessories:
- C3 661201 Gaffer grip — portable light mount

K50 1800 Watt Quartz Location Kit $650.00
Excellent versatility with professional results is offered in this 3-light kit featuring a 600 watt key and 2 600 watt broad fill lights.

- 1 760 401112 600 watt quartz key unit
- 2 770 401113 600 watt quartz broad units
- 3 DYH 401928 600 watt 3200°K quartz lamps
- 3 SSR 401242 8" Steel Stands
- 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 Accessories:
- C5 661202 Gaffer grip — portable light mount
- 712 401312 Single scrim

K63 1800 Watt Quartz Location Kit $299.50
3 light kit offers excellent portability and versatility for basic photographic and video applications.

- 3 700 401101 600 watt quartz units
- 3 DYH 401928 600 watt 3200°K quartz lamps
- 3 S9 401240 8' 4-legged steel stands
- 1 105664 Light case
- 1 300779 Stand case

Size: Stand case 29 3/4" x 8 1/2" x 2 1/2" Weight: 23 lbs., 10 oz.
Light case 29 3/4" x 13 3/4" x 8 1/2"

K62 1200 Watt Quartz Location Kit $225.00
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.

- 2 700 401101 600 watt quartz units
- 2 DYH 401928 600 watt 3200°K quartz lamps
- 2 S9 401240 8' 4-legged steel stands
- 1 105664 Light case
- 1 300779 Stand case

Size: Stand case 29 3/4" x 8 1/2" x 2 1/2" Weight: 17 lbs., 1 oz.
Light case 29 3/4" x 13 3/4" x 8 1/2"

K22U 1200 Watt Quartz Location Kit $320.00
An excellent starter for the serious amateur photographer or videographer offers room for additional accessories.

- 2 700 401101 600 watt quartz lamps
- 2 DYH 401928 600 watt 3200°K quartz lamps
- 2 670002 32" white umbrellas
- 2 670033 Combination light and umbrella mounts
- 2 S7 401239 6 ft. steel stands
- 1 650 402208 Carrying case

Size: 24 1/2" x 14 1/2" x 8 1/2" Weight: 15 lbs., 10 oz.

K22U Accessories:
- 701 401301 Barn Doors for 700 Quartz unit
- C3 661201 Gaffer grip — 3/8" portable light mount

Prices and Specifications Subject to Change Without Notice.
**LIGHTING KITS**

**K71 1800 Watt Professional Focusing Quartz Location Kit**

$850.00

Versatility is the key word in this professional quartz lighting kit featuring the flexibility of 3 focusing units which allow smooth transition from spot to flood.

- 3 710 401102 600 watt focusing quartz lamps
- 3 FYH 403286 600 watt 3200°K quartz lamps
- 2 711 401307 Barn doors
- 2 712 401312 Single scrims
- 3 SA48 401235 10’ aluminum stands
- 1 674 402206 Carrying case

Size: 29” x 18” x 8”

**K72 1900 Watt Professional Quartz Location Kit**

$875.00

Key in on the action with this professional kit featuring a 600 watt focusing unit and 2 650 watt broad units. Ideal for smaller set applications.

- 2 740 401104 600 watt quartz broad units
- 2 FBX 620050 600 watt 3200°K quartz lamp
- 2 742 403139 Single scrims
- 1 710 401102 600 watt focusing quartz unit
- 1 FYH 401286 600 watt 3200°K quartz lamp
- 1 711 401307 Barn doors
- 3 SA48 401234 8” aluminum stands
- 1 674 402206 Carrying case

Size: 29” x 18” x 8”

**K73 3000 Watt Professional Focusing Quartz Location Kit**

$950.00

Extra coverage and reach are provided in this kit featuring 3 1000 watt focusing units.

- 3 720 401103 1000 watt focusing quartz units
- 3 FYH 620290 1000 watt 3200°K quartz lamps
- 2 721 401308 Barn doors
- 2 722 401316 Single scrims
- 3 SA48 401234 8” aluminum stands
- 1 674 402206 Carrying case

Size: 29” x 18” x 8”

**K74 3000 Watt Professional Quartz Location Kit**

$975.00

Our most powerful 3 unit lighting kit offers the versatility and flexibility of 2 1000 watt broad units and a 1000 watt focusing unit.

- 2 750 401105 1000 watt quartz broad units
- 2 FYH 620290 1000 watt 3200°K quartz lamps
- 2 752 401322 Single scrims
- 1 720 401103 1000 watt focusing quartz unit
- 1 FYH 620140 1000 watt 3200°K quartz lamp
- 1 721 401308 Barn doors
- 3 SA48 401234 8” aluminum stands
- 1 674 402206 Carrying case

Size: 29” x 18” x 8”

**K75 2500 Watt Professional Quartz Location Kit**

$1150.00

Everything you need and more is found in this Smith-Victor 4 light kit. Two each focusing and broad units provide excellent lighting for both studio and location use in photographic and video applications.

- 2 740 401104 600 watt quartz broad units
- 2 FBX 620050 600 watt 3200°K quartz lamps
- 2 742 403139 Single scrims
- 1 710 401102 600 watt focusing quartz unit
- 3 FYH 401286 600 watt 3200°K quartz lamps
- 1 711 401307 Barn doors
- 2 712 401312 Single scrims
- 4 SA48 401234 8” aluminum stands
- 1 674 402206 Carrying case

Size: 29” x 18” x 8”

**K76 4300 Watt Professional Quartz Location Kit**

$1325.00

A winning combination is found in this Smith-Victor’s most complete lighting kit. The pairing of 2 1000 watt focusing and 2 1000 watt broad units make this Smith-Victor’s most versatile and powerful kit.

- 2 750 401105 1000 watt quartz units
- 3 FHM 620380 1000 watt 3200°K quartz lamps
- 2 752 401322 Single scrims
- 1 720 401103 1000 watt focusing quartz units
- 3 FYH 620140 1000 watt 3200°K quartz lamps
- 2 721 401308 Barn doors
- 2 722 401316 Single scrims
- 4 SA48 401234 8” aluminum stands
- 1 674 402206 Carrying case

Size: 29” x 18” x 8”

Prices and Specifications Subject to Change Without Notice.
**SONY**

Sony Video Communications

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**U-MATIC RECORDER**

**VO-5850 Professional Editing**

**U-Matic Recorder**

**Features**
- New 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 sec among 5 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
- New power supply with switching regulator, wide range of voltage, frequency and low power consumption — 75W
- 19" rack mountable
- Loop through video input with 75 Ohm termination switch
- 2 video output connectors — BNC
- Tilt-out control panel
- High picture quality

**Specifications**

**System**
Video recording: Rotary two-head helical scan system
Luminance: fm recording
Color signal: converted subcarrier direct recording
Video signal system: EIA standards, NTSC color

**Video**
Video Input: VIDEO IN, BNC type, x2 with 75 Ohm termination switch; loop-through output.
1.0 V (p-p) +1.0-0.5 V (p-p), 75 Ohms, unbalanced, sync negative. DUB IN, 8 pin, x1 TV, 8 pin, x1
Video Output: VIDEO OUT, BNC type, x2. 1.0 V (p-p) +0.2 V, 75 Ohms, unbalanced, sync negative DUB OUT, 7 pin, x1 TV, 8 pin, x1

**Horizontal resolution:**
- Monochrome: 340 lines
- Color mode: 260 lines

**Color mode:** Monochrome: more than 49 dB
Color mode: more than 46 dB
Subcarrier: SCIN, BNC type, x1.2 V (0.5-3V) (p-p), 75 Ohms, unbalanced, sync, negative
Sync: EXT SYNC IN, BNC type, x1.4 V (25V) (p-p), 75 Ohms, unbalanced, sync negative
Recording level: Automatic and manual

**Audio**
Audio Input: LINE CH-1, CH-2 IN, Phono jack, x1 in each -10 dB, 47 k Ohms; MIC CH-1, CH-2, Phone jack, x1 in each, -60 dB, for 600 Ohm microphones TV, 8 pin, x1
Audio Output: LINE CH-1, CH-2 OUT, Phono jack, x1 in each -5 dB (with 47 k Ohms load), HEADPHONES, Stereo phone jack, x1 for 8 Ohm headphones
Level: adjustable (-24 dB to -46 dB). TV, 8 pin, x1
Signal-to-noise ratio: Better than 48 dB (at 3% distortion) Both channels 1 and 2
Frequency Response: 50 15,000 Hz (channels 1 and 2)
Recording level adjustment: Manual, with audio limiter

**Edit**
Assemble: Video and audio channel 1 and audio channel 2 (simultaneously)
Insert: Video, audio channel 1 and/or audio channel 2 independently (selectable)
Preroll: possible
Automatic editing: Possible with the RM-440 Automatic Editing Control (optional)
Accuracy: +/−2 frames

**Special Instructions**
Pause: A still picture is obtained, with long pause function
Search: Possible (still, and 1/10 to 5 times of normal speed in forward and reverse directions). Picture search is possible with the RM-440 when KCS tape is used
Tracking control: Possible
Skew control: Possible
Sync System: Internal and external
Vertical-interval switcher: Internal
Dropout compensator: Internal

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**Tape Transport**

**Tape speed:** 3-3/4 ips (9.53 cm/sec)
**Recording or playback time:** 60 min (with KCA-60)
**Fast forward and rewind time:** within 4 min (with KCA-60)
**Wow and flutter:** 0.2% RMS
**Tape compatibility:** U-Matic videocassette tape
**Usable tape:** KCA, KCS type tape

**General**
**Power requirements:** 100-120 V AC +/−10%, 50/60 Hz +/−10%
**Power consumption:** 75 W with RM-440
**AC OUT:** 400 W maximum, unswitched
**Operating position:** Horizontal
**Storage temperature:** -4°F to +140°F (-20°C to +60°C)
**Operating temperature:** 41°F to 104°F (5°C to 40°C)
**Dimensions:** 9-3/8" x 17-5/8" x 20-1/2" (HWD), 237 x 446 x 518mm (HWD) including projecting parts and controls
**Weight:** 55 lb. (25 kg)
**Supplied accessory:** AC power cord

**Optional Accessories**
- RM-440 Editing Control Unit
- Sony CVM and PMV Series Color Video Monitors
- Sony DXC Series Color Video Cameras
- RX-353 Auto Search Control
- RX-303 Auto Search Control
- KCS-1C Cleaning Cassette
- RCC-5F Remote Control Cable
- VDC-5 Dubbing Cable (5 m)
- Monitor Connecting Cables: VMC-3P (3 m), VMC-5P (5 m), VMC-10P (10 m)
- Video Responder System: VRC-100, VRS-100, VRD-100, VRP-100

**Price**

$7,250.00

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**Prices and Specifications Subject to Change Without Notice.**
SONY
Sony Video Communications

U-MATIC RECORDER

VP-5000 U-matic Player
The most convenient and versatile U-matic player ever made. Up front controls and indicators, an all new front loading tape transport and standard EIA rack mounting head the list of exterior improvements. Inside, there's new technology with advances in the drive components, power supply and control circuits.

Features
- New front loading tape transport
- Aluminum diecast chassis
- Direct drive for both drum and capstan
- Digital servo LSI with "Phi Square Servo"
- DC motor reel servo
- x5 forward and reverse search
- Noiseless still — Fine still picture
- 19" rack mountable
- High picture quality
- Tilt-out control panel
- New switching regulator power supply provides wide range of voltage and frequency, with low power consumption — 45W
- Exclusive connector for RX-303
- Random access/interactive capability
- Micro-computer based logic control

$1895.00

VO-5600 U-matic Recorder
A new generation of U-matic recorder with new all time high levels of performance and flexibility. Totally redesigned around a new front loading tape transport, the unit has a super-functional, tilt-out control panel and is 19" rack mountable. New circuitry and components further enhance the reliability and accuracy of video's most relied-on format.

Features
- New front loading tape transport
- Aluminum diecast chassis
- Direct drive for both drum and capstan
- Digital servo LSI with "Phi Square Servo"
- DC motor reel servo
- x5 forward and reverse search
- Noiseless still — Fine still picture
- 19" rack mountable
- High picture quality
- Tilt-out control panel
- New switching regulator power supply provides wide range of voltage and frequency, with low power consumption — 55 W
- Exclusive connector for RX-353
- Random access/interactive capability
- Micro-computer based logic control

$2350.00

VIDEOCASSETTE RECORDER

VO-5800 Videocassette Recorder
Sony expands the upgraded Type 5 U-matic system with another convenient new recorder. Compact and even more lightweight than the VO-5850 Editing Recorder, the VO-5800 offers the same professional quality and design, with front-loading tape transport, and allows smooth manual editing. It can be used alone; or as part of a sophisticated, rack-mountable automatic editing system.

- 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 two video inputs
- Feeder capability with full RM-440 interface
- Bidrex dial search, +/− x1/30 to x5
- U-scan, high speed picture search (with RM-440 and KCS tape)
- LED tape timer with mark-in/mark-out function
- Switching regulator power supply provides wide range of voltage and frequency and low power consumption — 75W
- Noiseless still
- 19" rack mountable
- Tilt-out control panel
- High picture quality
- Exclusive connector for RX-353
- Random access/interactive capability
- Video Recording: Rotary two-head helical scan system
- Luminance: FM recording
- Color Signal: Converted subcarrier direct recording
- Video Signal System: EIA standards, NTSC color

Price on Request

Prices and Specifications Subject to Change Without Notice.
Sony Video Communications

SLP-300 Betamax® Videocassette Player
The SLP-300 is a new unit for playing Betamax videocassettes. One of series of "intelligent" videocassette machines. The machines from the Betamax 300 series. The Betamax 300 series offers all the basic Betamax advantages. Quality recording, on smaller, less expensive videocassettes. Lower equipment costs, and the security of mechanisms proven in the field. Reduced shipping and distribution costs. Simple, one-button operation. Interchangeability of cassettes. 300 series machines add a unique advantage: memory access. Memory access means a sophisticated but simple-to-use control system that electronically locates any point on a Betamax videocassette. Push a single button on the RM-300 Auto Search Control, and the SLP-300 automatically finds and plays the program or program segment you choose. To replay a segment, all you have to do is touch the same button: the SLP-300 will stop the tape, rewind, and begin playing again — all by itself. $ 995.00

SLP-303 Betamax Videocassette Recorder
The new Betamaxes SLP-303 Player is the first institutional ½" machines to incorporate high-speed picture search. With Sony's BetaScan system, you actually see the picture as you search for a particular section of tape. At up to 15 times normal speed in the forward mode and up to 10 times normal speed in rewind.
You also get noiseless playback at twice normal speed. And noiseless still frame. You can even advance the picture frame by frame for detailed scrutiny.
The SLP-303 player has dual-channel audio. But the most revolutionary feature is the way the SLP-303 can be used with the RX-353. $1295.00

SLO-323 Betamax® Videocassette Recorder
The SLO-323 is a Betamax recorder/player with new features that add dramatically to the capabilities of the Betamax system and secure its position as the most versatile and effective video format for education, training, sales demonstration, corporate communications and a variety of other uses.
The SLO-323 has its own high-speed picture search ability helps you find what you want while viewing coherent picture at up to 15 times normal in the forward mode and up to 10 times normal in reverse (average speed in forward and reverse is 8 times normal).
The SLO-323 offers full editing capability, including edit preview, when used with the RM-430 Automatic Editing Controller. Video, Audio 1 or Audio 2 may be selected independently for insert editing, or handled simultaneously in assembly editing. Dubbing connectors let you work easily in both Beta and U-Matic formats.
The design of the SLO-323 assures top-rate performance. Direct-drive power for both head drum and capstan maintain precise tape alignment and smooth play, with video signal-to-noise ratio at 45 dB in color mode. $3750.00

SLO-383PAC
Contains 2 SLO383, 1 RM-440, 1 VDC-5 and 2 RCC5F $8750.00

SL-5800 Betamax® Videocassette Recorder
The SL-5800 brings more features to video recording and playback convenience than ever before. Now, with Variable BetaScan, you can search in CUE (fast forward) or REVIEW (reverse) at speeds from 5 to 20 times normal to see what you're looking for and stop when you find it.

Sony's SL-5800 also gives you a Freeze-Frame that's crystal clear and optically true. And with the Time Commander Remote Control, you can command other playback features like: Variable BetaScan, Frame-by-Frame picture advance, Variable Slo-Motion to ½ Normal speed, and 3x Fast Play to get a good look at all the detail while going through your tape quickly.

Prices and Specifications Subject to Change Without Notice.
VO-4800 Portable Color Videocassette Recorder/Player

Lightweight portability and advanced features combine for easy, efficient on-the-spot recording and field production. Three-way power operation — AC-340B AC Power Adaptor (included), BP-60 Battery Pack (optional), DCC-3000 Car Battery Adaptor (optional) — 150 minutes of continuous operation with battery pack and up to 60 minutes while also powering a DXC-1640 portable color camera. Automatic back-space editing with framing servo — reverse at each recorded frame and smooth butt edit with the next segment shot — plus assemble edit capability from two video sources. Fast picture search in fast forward or rewind mode. Still frame capability in PAUSE mode. Complete compatibility with optional equipment for playback or editing with any other standard U-matic videocassette unit. Built-in RF unit for playback on conventional TV receiver. Immediate display of the recorded picture on the DXC-1640 camera viewfinder. Camera-trigger operation to start and stop recording. Automatic Gain Control maintains optimum video and audio levels, and audio level can also be adjusted manually. Three-way meter to check video and audio signal levels plus battery charge. Dual audio tracks. Audio dubbing facilitates sound-track changes or additions. Safeguard warning system with visual LED and audible (through earphone) beep tone to signal: low battery power; moisture condensation; tape slack; incorrect servo lock; and end of tape. With the DXC-1640, the beep alarm sounds through the earphone, and LED signals are visible through the viewfinder. Weight: 17 lbs. 10 oz. (w/o battery pack). Dimensions: (Recorder) 5-1/8” x 13-1/4” x 13-7/8” (HWD)

$3250.00

Prices and Specifications Subject to Change Without Notice.
SEG-2000 Portable Color Special Effects Generator

A totally self-contained and portable special effects generator that is ideal for use in field operations. It operates on battery, external DC or AC power, and provides so much versatility and sophistication that it can even be taken into the studio for editing, or on-line switching.

Built-in NTSC sync generator with Gen-Lock capability. Operates up to 2.5 hours on two optional battery packs. Three-way operation: AC, external DC and battery packs. "SC and H phase adjust" indication eliminates need for a vectorscope and a waveform monitor. Optional carrying cases for the SEG-2000 and camera control units, cuts set-up and shipping time.


SEG-2000 Special Effects Generator $4940.00

PSA-101 Color Phase Shifter

The PSA-101 is an important addition to any multi-camera production system. It works along with the DA-101 Distribution Amplifier to insure smooth transitions between up to five color cameras. It is a highly advanced unit designed to correct subcarrier phase differences commonly caused by special effects generators and camera cables of varying lengths. Independent selector knobs phase each camera's output over the entire 360° range in basic steps, allowing most phase corrections to be accomplished on a monitor by comparing SEG input and output. The PSA-101 adapts to most video cameras. Weight: 6 lbs. 10 oz. Dimensions: 1-3/16" x 18-7/8" x 9-7/8" (HWD).

PSA-101. Color Phase Shifter. $400.00

MD-1600 Multi-Signal Distributor


MD-1600. Multi-Signal Distributor. $43600.00

CG-101 Color Sync Generator

The CG-101 Color Sync Generator is a compact unit that delivers NTSC standard sync signals to color and monochrome equipment in any multi-component production system. The signal source in incredibly accurate, governed by a crystal controlled 3.579545 MHz sine wave oscillator. Advanced circuitry assures sync-locked, distortion-free transitions between video sources. Adaptable to mobile production or permanent studio installations. Weight: 7 lbs. 11 oz. Dimensions: 2-3/8" x 16-1/2" x 10-3/8" (HWD).

CG-101. Color Sync Generator. $1100.00

DA-101 Color Sync Distributor

The DA-101 Color Sync Distribution Amplifier is designed for use with the CG-101 Color Sync Generator and assures output compatibility within any multi-component color or monochrome production system. The DA-101 delivers blanking, vertical drive, horizontal drive, sync and burst flag signals along with a 3.58 MHz subcarrier pulse to up to 5 cameras through standard 10-pin connectors. A direct sync output allows for almost unlimited system synchronization. Weight: 11 lbs. 0 oz. Dimensions: 3-1/2" x 7-1/16" x 9-3/16" (HWD).

DA-101. Color Sync Distributor. $5600.00

Prices and Specifications Subject to Change Without Notice.
The Sony Video Responder is a microcomputer-based learning system specifically designed for interactive programming. The system utilizes videocassette programs and consists of a random access Sony Betamax or U-matic player, monitor, responder unit and optional printer.

**FEATURES**

- **Components:** Random Access U-matic or Betamax Player
  Monitor
  Responder Unit
  Cue Programmer
  Optional Printer

- **Program Units:** Program — Basic unit of responder material. Up to nine are contained in a single videotape.
  Segment — Division of a program. Up to fourteen per program.
  Branch — Segment which is accessed only if additional instruction by the Sony Video Responder was requested.

**Available Question Design Strategies:**
- Multiple choice
- Sequence selection
- Direct numerical entry
- Up to nine entries per question

**Available Responses:** Spelled responses possible with special key. Questions can be coded to require answers in the form of diagrams, shapes, colors and letters.
- Key entry order can be designated important or not important.

**Advantages:** Simplified for use by non-technical personnel.
- Several question modes possible.
- Easy to program with the Cue Programmer.
- Uses standard and existing videotape programs.

**VCR-100 PROGRAMMER**

**Power Requirements:** 6.5 V DC (supplied from the videocassette recorder).

**Power Consumption:** 5.2 W

**Indicator:**
- TAPE POSITION ............... 4 digits (max. 99 min. 59 sec.)
- PROGRAM ..................... 1 digit (1 to 9 and E)
- SEG/BR ........................ 2 digits (1 to 14)
- SEGMENT ...................... 2 digits (1 to 14)
- QUESTION .................... 1 digit (1 to 9)
- BRANCH ....................... 1 digit (0 or 1)
- ORDER ......................... 1 digit (0 or 1)
- ANSWER ...................... 9 digits (0 to 9)

**Standard Signal:** Control-track signal recorded on the tape.

**Data Output Level:** -15 dB +/− 1.5 dB (0 dB = 0.775 V rms).

**Weight:** 15 lbs. 6 oz. (6.8 kg.)

**Dimensions:** 2-3/4" x 16-7/8" x 7-1/2" (HWD) 68mm x 426mm x 188mm (HWD).

**VRC-100** Cue Recorder (for programming tapes for use with VRS.$2000.00

**VRS-100** Video Responder Unit..$675.00

**VRS-110E/S** Video Responder Unit (Bilingual-English/Spanish display).$775.00

**VRP-100** Printer for VRS and VRC..$625.00

Prices and Specifications Subject to Change Without Notice.
SL-2000 VCR

Features:
- Versatile component design makes BetaPak perfect for both home video recording and portable recording indoors or outdoors.
- The world’s smallest, lightest, most compact 1/2" video recorder; all-new chassis design, direct-drive motor mechanism, and integrated circuitry allow ultra-miniature design for space-saving home use, comfortable field recording.
- BetaScan-II, the new Betamax picture search breakthrough that gives you full search capabilities at fast, normal and slow speeds in both directions — CUE (fast forward), REVIEW (reverse), plus VIDEOEOLA®; continuous search in both forward and reverse at normal speed and slow motion, frame-by-frame advance, and freeze frame, for pinpoint search accuracy and professionally precise edits.
- New RECORD/REVIEW feature for recording with Sony’s HVC-2200 portable color video camera; a single button stops the tape, rewinds and plays back the last few seconds of your recording, and pauses in readiness for your next show — and you get a clean, clear, noise-free transition between scenes.
- New Timing Phase Circuitry to assure smooth picture transitions and eliminate picture breakup at transition points between recorded segments for both pauses and stops.
- 2X Fast Play capability for quick review of your recording.
- 5 hours of recording time with Sony L-830 II and III playback modes; playback in Beta I, Beta II, and Beta III modes automatically.
- A liquid crystal multi-function display includes a linear time counter, showing hours, minutes and seconds, Beta I, II and III playback/record mode indicator, dew condensation indicator and tape run direction indicator.
- Simple hand-held video remote control (RM-311) as an optional accessory for additional convenience while recording in any on-location or home situation.
- Feather-touch full logic microprocessor controls.
- Audio dubbing to let you create new commentary, music, or sound.
- Three-way power supply allows complete portability in every situation: optional AC-220 AC power adaptor, optional NP-1 battery pack in built-in compartment, or optional DCC-2400B car battery adaptor.
- One-hour continuous recording with fully charged NP-1 battery; 4 hours recording with optional BCP-220 4-battery pack case.
- Auto rewind at the end of your tape.
- Moisture sensor automatically shuts off operating capability when excess moisture is present.

$1150.00

Accessories:

HVC-2200 Portable Color Video Camera

Full-feature video camera that gives you great picture quality indoors or outdoors. Operates with Betamax portable and home video cassette recorders (excluding SL-7200). 2/3" MF Trinicon tube developed by Sony for sharper resolution and color clarity. Built-in electronic viewfinder with 1 1/2" TV picture tube that shows you exactly what you’re recording. High quality 6-to-1 ratio f1.8 Cannon zoom lens with manual or automatic motor-driven zoom control for perfect video pictures in every shooting situation. Automatic fade-in/fade-out control. Built-in condenser microphone for simultaneous picture and sound recording.

HVC-2200, Portable Color Camera $1300.00
COLOR MONITORS

PVM-8000 8" Portable Trinitron - Color Monitor
PVM-8000 8" Portable Trinitron - Color Monitor $795.00

PVM-8200/MB Trinitron - Dual 8" Color Monitor
Two 8" (measured diagonally) studio monitors in EIA 19" standard rack-mount configuration. Automatic color control to check chrominance level. Design allows each unit to be used separately, and optional rack-mount adapter accommodates waveform monitor or vectorscope. Dual video signal inputs. INT/EXT selector switch for noncomposite input signals. Loop-through facilities for video and sync bridging to as many monitors as desired. Front-panel tally light on each unit. Weight: 61 lbs. 10 oz. Dimensions: 9-3/8" x 19 1/4" x 21 3/4" (HWD).
PVM-8200/MB Trinitron - Dual 8" Color Monitor $1150.00

PVM-1211F "Fine Pitch" Trinitron - 12" Color Monitor
Fine pitch Trinitron - picture tube with 90° deflection delivers 400 TV line resolution. Suitable as a picture monitor at video studios. Fits EIA 19" standard rack. Dual video inputs with input signal selector for enhanced studio flexibility. Sync INT.EXT selector switch for noncomposite input signals. Selectable Scanning system, NORMAL/Delay/Narrow. Interval check is possible in Horizontal, Vertical and Horizontal and Vertical (cross-pulse) at delayed scanning mode. Cross-pulse check is also possible at narrow scanning mode. White balance adjustment is easy for separate Gain/Bias controls in each Red, Green, Blue. Selectable AUTO, COLOR or MONOCHROME with mode selector switch. Tally Lamp circuitry is incorporated. Loop-through receptacles are provided for video and sync inputs. Weight: 58 lbs. 8 oz. Dimensions: 12-3/8" x 19" x 16-1/4" (HWD).
PVM-1211F "Fine Pitch" Trinitron - 12" Color Monitor $1150.00

PVM-1850PS 18" Trinitron - Color Monitor
Reproduces video and audio from modified NTSC, PAL and SECAM signals. Video and audio IN/OUT connections for loop-through systems. Weight: 71 lbs. 10 oz. Dimensions: 23 5/8" x 16-7/8" x 15-3/4".
PVM-1850PS 18" Trinitron - Color Monitor $1500.00

CVM-1250/CVM-1900/CVM-2150 Trinitron - Color Monitor/Receivers
Receives American standard (NTSC color/EIA monochrome), Detent tuning for quick and easy selection of both VHF and UHF channels. Versatile and easy connections with 8-pin connector. UHF BNC-type connectors and mini jacks. Loop-through (LINE OUT) jack is equipped and convenient for multiple monitor connection. up to 5 monitors connectable.

CVM-3000 30" Color Trinitron - Large-Screen Color Monitor/Receiver
The Sony CVM-3000 color monitor/receiver offers the world's largest screen combined with the world's most acclaimed color system to provide an entirely new dimension in studio viewing.
The picture you see on the 30" diagonal screen is studio-accurate, with rich, life-like color. The newly designed Trinitron tube uses a velocity modulation system, 114 degree deflection, comb filter Y/C separation, and 10 different automatic control circuits to deliver the finest picture ever achieved on a large screen television. More accurate, more reliable station tuning featuring automatic station memory. A remote commander (RM-503) controls power, volume or mute, station selection, and other functions. The set has a 3-way LED function indicator to monitor monitor operation in PROGRAM, STAND-BY or REMOTE modes. Dimensions: 33-7/8" x 29-3/8" x 22-7/8" (HWD). Net Weight: Approx. 275 lbs. 9 oz.
CVM-3000. 30" Color Trinitron - Large Screen Color Monitor/Receiver $7800.00

VCM-1H 8-pin female coupler $11.00
VCM-10 10-pin to 8-pin monitor cable $33.00
VCM-1P 8-pin video extension cable 10' $22.00
VCM-10P 8-pin video extension cable 32' $44.00
VCM-25P 8-pin video extension cable 82' $71.00
VCM-1MQ Octopus cable for dubbing $35.00

Prices and Specifications Subject to Change Without Notice.
SONY
Sony Video Communications

CKV-1900F 19" COLOR TV RECEIVER
The CKV-1900F is a color TV receiver equipped with an independent F-type VTR-IN connector for viewing the playback picture from the RF/VHF output of the VTR. It has the same innovative exterior design as the CVM-1900 Receiver/Monitor and the PVM-1900 Video Monitor, and is appropriate for any economical video system for either professional or institutional use.

FEATURES
- Receives American TV standard VHF and UHF TV channels
- Synthesizer tuner (VHF/UHF) with automatic station memory that holds up to 14 active channels
- Reproduces picture and sound from RF/VHF output of the VTR
- Independent VTR-IN connector (F-type)
- VTR/TV selection switch
- LED digital channel display
- Sub volume control provides initial sound level
- Soft-touch front panel controls
- Side panel mounts for safety chain
- Cabinet is identical to CVM-1900 receiver/monitor and PVM-1900 video monitor

SPECIFICATIONS
Television system: American TV standards
Color system: NTSC
Picture tube: Trinitron, 50cm (20"'), visible picture size 47.3cm (19"'), measured diagonally, 100-degree deflection
Channel coverage: VHF Channels 2-13 UHF Channels 14-83 Up to 14 preselected channels
Input: VTR-IN (F-type)
Audio power output: 2W (max.)
Speaker: 7 x 12cm, oval
Power requirements: 120V AC, 50/60 Hz
Power consumption: 125W (max.)
Dimensions: 20" x 20-1/2"x18-5/8" (HWD) 473mm (HWD)
Weight: 61 lbs. 12 oz. (28kg)
Supplied accessories: Instruction manual, Earphone, F-Type connector, Antenna connector (300-75 Ohms matching transformer is built-in)

PVM-1900 19" COLOR VIDEO MONITOR
FEATURES
- Reproduces the playback picture and sound from a VTR and monitors picture from a video camera
- External sync can be acceptable
- Dual inputs for both video and audio (LINE A or LINE B selectable)
- Normal or narrow scanning is selectable

SPECIFICATIONS
Video signal system: EIA 525 lines, 60 fields
Color system: NTSC color
Picture tube: Trinitron, 50cm (20"'), visible picture size 47.3cm (19"'), measured diagonally, 100-degree deflection
Video input (LINE A and B, VTR IN): Composite; 1.0Vp-p + -6 dB, sync negative, 75 ohms, unbalanced. Non-composite: 0.7Vp-p, positive, 75 ohms, unbalanced
External sync input: Composite sync, 4Vp-p + -6 dB, negative
Audio input (LINE A and B, VTR IN): -5 dB, high impedance
Video output (LINE A and B): Loop-through with 75-ohm terminator
Audio output: Loop-through
Audio power output: 2W (max.)
External sync output: Loop-through with 75-ohm terminator
Scanning system: Normal/narrow selectable
Connectors: BNC for video and sync. Mini for audio, 8-pin for video/audio
Power requirements: AC 120V, 50/60Hz
Power consumption: 130W
Dimensions: 518(W) x 506(H) x 473mm(D) (20-1/2 x 20 x 18-5/8"")
Weight: 31 kg (68 lb 5 oz)
Supplied accessory: Monitor connecting cable with 8-pin connectors

Prices and Specifications Subject to Change Without Notice.
### Video Tape

#### 3/4" U-Matic

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<th>Playing Time</th>
<th>Tapes Per Carton</th>
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#### 1/2" BetaMax

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<td>L-830</td>
<td>7&quot;</td>
<td>270</td>
<td>12</td>
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#### 1/2" High Energy Tape

<table>
<thead>
<tr>
<th>Model</th>
<th>Reel Diameter</th>
<th>Playing Time</th>
<th>Tapes Per Carton</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-71</td>
<td>7&quot;</td>
<td>30</td>
<td>12</td>
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<tr>
<td>V-72</td>
<td>7&quot;</td>
<td>60</td>
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#### 1/2" Endless Loop Cartridges

<table>
<thead>
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<th>Model</th>
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<tbody>
<tr>
<td>LV-5</td>
<td>5</td>
<td>12</td>
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<td>LV-10</td>
<td>10</td>
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#### 1" Tape

<table>
<thead>
<tr>
<th>Model</th>
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<th>Tapes Per Carton</th>
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<tbody>
<tr>
<td>V-12-30A</td>
<td>8&quot;</td>
<td>30</td>
<td>10</td>
<td>50.00</td>
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<tr>
<td>V-12-60A</td>
<td>8&quot;</td>
<td>60</td>
<td>10</td>
<td>70.00</td>
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<tr>
<td>V-16-34B</td>
<td>9&quot; NAB</td>
<td>34</td>
<td>5</td>
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<tr>
<td>V-16-64B</td>
<td>9&quot; NAB</td>
<td>64</td>
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<td>V-16-96B</td>
<td>10 5/8&quot; NAB</td>
<td>96</td>
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#### Tape Accessories

<table>
<thead>
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<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>KA-1</td>
<td>Cassette adaptor — KCS to KCA</td>
<td>$4.00</td>
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<tr>
<td>KCS-1C</td>
<td>4&quot; cleaning cassette (small)</td>
<td>20.00</td>
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<tr>
<td>LC-11</td>
<td>3/4&quot; cassette mailing case</td>
<td>4.95</td>
</tr>
<tr>
<td>RH-5E</td>
<td>1/2&quot; empty reel 5 1/8&quot; diameter for V-30H</td>
<td>4.50</td>
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<tr>
<td>RH-7V</td>
<td>1/2&quot; empty reel 7&quot; diameter for V-32</td>
<td>5.00</td>
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<tr>
<td>VSK-35</td>
<td>1/2&quot; splicing kit for V-35</td>
<td>45.50</td>
</tr>
</tbody>
</table>

*For use with Beta format videocassette recorders having B III recording and/or playback mode.

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**Prices and Specifications Subject to Change Without Notice.**
SONY
Sony Video Communications

COLOR CAMERAS

DXC-1640 Portable MF Trinicon® Color Camera
- ½" MF Trinicon System yields excellent uniformity and colorimetry, with horizontal resolution of more than 300 lines and S/N ratio better than 45 dB. Compact size and light weight (less than 10 pounds, including the lens) make operation easier, more comfortable.
- New, especially fast 6:1 macro/zoom lens (f/4; 11-70mm) permits zooming and focusing with one hand; macro focus for dramatic close-ups; and auto-iris control for correct exposure even with quick ambient light changes.
- Internal controls prevent blanking and widening and editing difficulties.
- Low power consumption (11 watts) and up to 150 minutes of operation with optional BP-60 battery pack.
- Five way power supply allowing operation from: portable videocassette recorder, a battery pack (BP-60), an AC adaptor (CMA-5), a camera control adaptor (CMA-6) or a car battery adaptor (DCC-3000).
- 1.5'' electronic viewfinder allows monitoring video recording and playback while on location.
- Built-in color temperature filter permits optimum color balance under all lighting conditions.
- White balance control—white balance can be accurately set using a built-in meter.
- Automatic Gain Control plus manual video level controls for increased flexibility.
- Portable videocassette recorder start and stop functions may be controlled directly from the DXC-1640.
- External sync facility—optional CMA-1640.
- Weight: 9 lbs. 15 oz.
Dimensions: 9-1/2" x 4-1/16" x 11-1/2" (HWD)

DXC-1640 ........................................... $1995.00

DXC-1850 HBST Color Video Camera
- ¾" HBST (High Band Saticon® Trinicon) pickup tube for the best possible picture from a single-tube color video camera.
- HBST pickup tube assures high resolution, good color fidelity and uniformity, low image lag and retention.
- Lightweight camera head (less than 1 lb. 9 oz.) for precision interface with optical equipment: microscopes used in medicine, biology, metallurgy.
- Full range of automatic controls for very simple, very safe operation.
- Ideal for surveillance and teleconferencing, especially when lighting and installation-space are limited.
- 3-mode white balance: automatic, manual and halogen-lamp.
- Red Hue Expander, Red Detail Control for enhancing and delineating red color nuances.
- Provision for handle on control unit, which is 19'' EIA Standard for rack mounting.
- Safety conscious features include an exterior finish highly resistant to alcohol and disinfectants, electrical leakage of less than 10 micro Amps and solid housings not prone to damage from accidental spills.
- On-screen illumination indicating lines simplify illumination adjustments.
- Uniformity control ensures optimum color quality with wide variety of optical instruments by compensating for color hue distortions.
- Built-in two line type Vertical Image Enhancer.
- Automatic Beam Optimizer.
- ABO—VBS GenLock capability.
- Automatic and manual gain/iris control.
- Chroma level control.

Supplied Accessories
- Camera cable (10m) 75 Ohm coaxial cable with BNC connector (10m)
- AC power cord
- Camera head bracket
- Bracket set for 19'' rack mounting
- Filter set (ND4, W14 and replacement tool)
- Battery (Eveready M 542)

Optional Accessories
- VCL-1106YB 6.1 auto iris power zoom lens
- VCL-08S Wide angle lens
- CCJ-10 10m camera cable
- CCJ-25 25m camera cable
- CCJ-50 50m camera cable
- MVA-11 Microscope adaptor
- MVA-102 Endoscope adaptor

DXC-1850 Color Video Camera ........................................... $8500.00

Prices and Specifications Subject to Change Without Notice.
**COLOR CAMERAS**

All of these accomplishments are especially outstanding in a portable camera that weighs only 6 pounds, 13 ounces, exclusive of lens and shoulder brace, and which consumes just 11 watts of power.

Full system capability, including the availability of camera control unit, a variety of zoom lenses, and two different viewfinders (1.5" DXF-3; 4" DXF-40), make the DXC-1800 one of the most versatile cameras ever presented. Both the standard 1.5" viewfinder and the hand-grip/shoulder brace may be reversed for easier, more comfortable use by left-handed operators.

**SPECIFICATIONS**

- **Video output:** 1.0Vp-p, sync negative, 75 ohm • **S/N ratio:** 48 dB (luminance) Isig = 0.15 micro amp, band width 4 MHz, measured at pre-amp out • **Viewfinder:** 1.5" electronic viewfinder DXF-3 or 4" electronic viewfinder DXF-40 • **Lens:** VCL-1106 YB F1.4 6:1 (11-70mm) powered zoom, 3 modes of iris control (auto/manual/auto-lock), “macro” • **White balance control range:** more than +/− 500°K • **Power requirements:** DC 12V • **Operating temperature:** 32°F (0°C) 104°F (40°C)

**DXC-1800K**

DXC-1800 Camera Head • VCL-1106YB 6:1 Power Zoom Lens • DXF-3 1.5" Electronic Viewfinder • DC-6 Battery Case • VCT-8 Shoulder Brace • LC-1800 Carrying Case • CCQ-2AR 14-pin Cable-6" • CCQJ-2AR 14-pin to 10-pin Cable-6" • $2795.00

**DXC-1800L**

Same as DXC-1800K But without Lens. • $2695.00

**DXC-1800H**

DXC-1800 Camera Head and CCQ-2AR Cable Only. • $2345.00

**DSC-1800 Studio**

DSC-1800 Camera Head • CCQ-2AR 14-pin Cable-6" • CCU-1800 Camera Control Unit • DXF-40 4" Electronic Viewfinder • CMA-7 AC Adaptor • RMM-1800 Rack Mount Bracket for Viewfinder, AC Adaptor and Camera Control Unit

All Lenses and CCQ-5AR, 10AR, 25AR and 50AR Camera Cables Are Optional. • $3645.00

**Optional Accessories**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>CCU-1800</td>
<td>Camera Control Unit</td>
<td>$895.00</td>
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<tr>
<td>DXF-40</td>
<td>Viewfinder</td>
<td>425.00</td>
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<tr>
<td>DXF-3</td>
<td>Viewfinder</td>
<td>320.00</td>
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<tr>
<td>CMA-7</td>
<td>AC Adaptor</td>
<td>360.00</td>
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<tr>
<td>RMM-1800</td>
<td>Rack-Mounting Metal</td>
<td>120.00</td>
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<tr>
<td>CCQ-10AR</td>
<td>Camera Cable</td>
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<td>CCQ-25AR</td>
<td>Camera Cable</td>
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<td>CCQ-50AR</td>
<td>Camera Cable</td>
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<tr>
<td>CCQJ-2 (2m)</td>
<td>Camera Cable</td>
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<tr>
<td>LO-21</td>
<td>Flexible Cable Unit</td>
<td>495.00</td>
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<td>LO-22</td>
<td>Flexible Cable Unit</td>
<td>495.00</td>
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<td>VCR-180</td>
<td>Film Camera Attachment</td>
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<td>MVA-18</td>
<td>Microscope Attachment</td>
<td>536.00</td>
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<td>MVA-11</td>
<td>Microscope Adaptor</td>
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<tr>
<td>MVA-102</td>
<td>Endoscope Adaptor</td>
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<tr>
<td>SEG-1210</td>
<td>Special Effects Generator</td>
<td>To Be Announced</td>
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<td>MD-1200</td>
<td>Multi-signal Distributors</td>
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<td>MD-1210</td>
<td>Multi-signal Distributors</td>
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<tr>
<td>MD-1600</td>
<td>Multi-signal Distributors</td>
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<tr>
<td>BC-1000</td>
<td>Battery Charger</td>
<td>495.00</td>
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<tr>
<td>BC-20</td>
<td>Battery Charger</td>
<td>495.00</td>
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<tr>
<td>BP-60</td>
<td>Battery Pack</td>
<td>357.00</td>
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<tr>
<td>DCC-3000</td>
<td>Car Battery Adaptor</td>
<td>50.00</td>
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<tr>
<td>ECM-31HVC</td>
<td>Unidirectional Microphone</td>
<td>357.00</td>
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</table>

Prices and Specifications Subject to Change Without Notice.
DXC-6000

Portable Color Camera

3-tube prism optics system. F1.4 prism optics and three pickup tubes combine for outstanding performance, with sensitivity, resolution, colorimetry and picture stability that make the camera excellent for use either in the studio or in the field. Low light level operation. A low-noise pre-amplifier and a +9 dB gain adjust-ment switch enable shooting with as little as 40 lux (4 foot-candles) illumination. Easy portability. The camera unit itself weighs just 12.4 pounds, is well-balanced, has a full warning system, and uses only 22 watts. The durable housing also protects the camera from the elements. Precision results. Signal to noise ratio is better than 53 dB, and the vertical image is enhanced by 1 line with standard circuitry or by 2 lines as an option, to produce a picture with exceptional clarity. Full automatic controls. Control systems include automatic beam optimizer, auto iris, and auto digital black and white balance with automatic lens closing and a memory to preserve black and white balance from one setup to the next even when the power is shut off. Built-in microprocessor. Microprocessors are built into the camera head and CCU for control of the advanced automatic functions. The camera head and CCU communicate by serial data transmission which reduces the number of conductors necessary in the camera cable. The camera head contains a memory to remember setup information even when the power is interrupted. Full system versatility. The camera has a variety of accessories and peripheral equipment to make it adaptable to virtually any video situation. There are a variety of zoom lenses and other optical adaptors, camera control units, many operating aids and the full line of Sony recorders and monitors.

The new Sony DXC-6000 is a professional quality camera that is small, light and versatile enough for field production anywhere. The camera, exclusive of lens and viewfinder, weighs only 12.4 pounds, and has a rugged, weatherproof housing. Inside, three 1/3" mag-mag Saticon® tubes and a low noise preamplifier combine with an F1.4 prism optics system to produce high sensitivity, fine resolution, crisp colorimetry and remarkable picture stability. Excellent results are achieved even at low light levels with help from the +9 dB gain adjustment switch. The built-in microprocessor controls many automatic functions and monitors the system operation. It even remembers previous setup information when the power is interrupted, all of which makes for simple operation of a very advanced camera system. Signal to noise ratio is better than 53 decibels, and the vertical image is enhanced — offering you a picture with outstanding clarity.

Important for field operation, the camera is easily held and operated. The optical axis is low, and this low center of gravity makes operating comfortable. A full warning system alerts the operator to conditions which affect or inhibit shooting. And the variety of other system components and accessories, from camera control unit to microscope adaptor, insure that the camera will deliver professional results in any situation, whether in the studio or in the field.

Pickup Tube: Three 1/3" Mg-Mg Saticon®

Optical System: F1.4 prism.

Synchronization: Int. Ext. 1VBS / BB Gen-lock).

Lens Mount: Bayonet.


Horizontal Resolution: 500 TV line at center.

Sensitivity: 2000 Lux F4 (typical) 3200°K, 89.9° reflectance.

S/N Ratio: More than 53dB luminance I

Power Consumption: 22W DC12V).

Power Requirement: DC10-17V, 12V standard.

Registration: Less than 0.1% Zone I. Less than 0.4% zone II. Less than 0.8% Zone III.

Geometric Distortion: Less than 2%.

Weight: 12 lb. 6 oz. w/o lens.

Ambient Temperature: -20°C to 40°C (1-4°F to 104°F).

Controls: Digital auto white/black balance switch; VTR record start switch; return video switch; gain switch (0dB, +9dB, +18dB); camera/color bar switch; standby switch; registration adjustment switch; (R/G, B/G, R, G, B, R/B H. Cent.; master pedestal; video select switch (reg./NTSC); power switch; VF brightness; VF contrast; VF peaking on/off.

DXC-6000L including DXF-3, DC-6, VCT-300, LC-6000, CCA-2AR $14,900.00

6000 Option Prices

Fujinon A12X9BERM-58 Zoom Lens ........................................... $3500.00

Fujinon A14X9.5BERM-28 Zoom Lens ........................................... $4200.00

RMS-2 Rear Lens Control Kit ............................................... 5000.00

CCU-6000 Camera Control Unit ........................................... 594.00

RMM-3011" Rackmount Adapter ........................................... 3750.00

CCX-10A Camera Cable — 33' ........................................... 600.00

CCX-25A Camera Cable — 82’ ........................................... 900.00

CCX-50A Camera Cable — 165' ........................................... 1500.00

CCX-100A Camera Cable — 330’ ........................................... 2000.00

CMA-7 AC Supply .................................................. 360.00

DXF-3.15" Viewfinder .................................................. 320.00

DXF-50 4" Viewfinder .................................................. 425.00

RMS-6 .................................................. 954.00

Prices and Specifications Subject to Change Without Notice.
## AC ADAPTORS AND BATTERIES

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<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
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<td>AC-340A</td>
<td>AC adapter for SLO-340, SVM-1010 charges BP-20A, BP-60</td>
<td>$300.00</td>
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<tr>
<td>AC-3400</td>
<td>AC adapter for AV-3400</td>
<td>$150.00</td>
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<tr>
<td>BC-20</td>
<td>Dual battery charger for BP-20, BP-20A and BP-60</td>
<td>$170.00</td>
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<tr>
<td>BP-30</td>
<td>Long Life battery pack for AV-3500</td>
<td>$142.00</td>
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<tr>
<td>BP-20A</td>
<td>Rechargeable battery pack (12V DC) for DXC-1600</td>
<td>$63.00</td>
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<tr>
<td>BP-60</td>
<td>Rechargeable battery pack (12V DC) for DXC-1610, DXC-1600, SLO-340 and VO-4800</td>
<td>$68.00</td>
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<tr>
<td>BC-1000</td>
<td>Battery charger - will charge up to 6BP-20A or BP-60 batteries simultaneously</td>
<td>$495.00</td>
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<tr>
<td>CMA-5</td>
<td>AC adapter for DXC-1610, DXC-1640</td>
<td>$192.00</td>
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<td>CMA-7</td>
<td>AC adapter for DXC-1800</td>
<td>$360.00</td>
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<tr>
<td>DC-5</td>
<td>BP-60 battery adapter case for the DXC-1640</td>
<td>$130.00</td>
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<tr>
<td>DC-6</td>
<td>Battery adapter case for DXC-1800</td>
<td>$68.00</td>
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<tr>
<td>DCC-2400</td>
<td>Car battery cord for AV-3400</td>
<td>$25.50</td>
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<tr>
<td>DCC-3000</td>
<td>Car battery adapter for VO-4800/DXC-1610, DXC-1640 and AV-3400/AVC-3450. Use only with negative-ground cars</td>
<td>$357.00</td>
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<tr>
<td>HVA-200</td>
<td>AC adapter for HVC-2000</td>
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## VTR ACCESSORIES

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<tr>
<th>Model</th>
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<tbody>
<tr>
<td>RFU-64FW</td>
<td>B/W RF modulator Channel 4 for AV-3400, AV-3600, AV-3650</td>
<td>$115.00</td>
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<tr>
<td>RM-300</td>
<td>Remote Control for VO-2800A, VO-2800, SLO-320, SLO-323, VP-2011 and VO-2611</td>
<td>$200.00</td>
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<tr>
<td>RM-410</td>
<td>Automatic editing control unit</td>
<td>$580.00</td>
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<tr>
<td>RM-420</td>
<td>Remote control VO-2800A, VO-2800, SLO-320, SLO-323, VP-2011</td>
<td>$313.00</td>
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<tr>
<td>RM-440</td>
<td>Automatic editing control unit VO-2800A, VP-2260 and SLO-383 w/B/DIREX</td>
<td>$1770.00</td>
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<tr>
<td>RM-444</td>
<td>Module Remote Control unit for both U-Matic or Betamax recorders in multiple duplication systems</td>
<td>$1250.00</td>
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<tr>
<td>RX-303</td>
<td>Rack mount for RM-444</td>
<td>$40.00</td>
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<tr>
<td>RX-353</td>
<td>Programmable auto search control for SLO-320, SLO-323, SLO-320 and SLO-323, VP-2011, VO-2611, 63 segment capacity, programmed playback of 8 segments. Remote control capability including rewind/stop/forward/pause</td>
<td>$350.00</td>
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<tr>
<td>TT-300</td>
<td>Tuner/Timer for VO-2610, SLO-320, SLO-323, VP-2011, VO-2611</td>
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## Cable Accessories

<table>
<thead>
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<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>CDD-2.5</td>
<td>6 pin camera extension cable. 16ft. (5m)</td>
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<tr>
<td>CDDY-2.5Y</td>
<td>18 pin CCY to 4 pin 2.5 meter cable to MD-1200 w/CC-1800/DXC-1640</td>
<td>$22.00</td>
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<tr>
<td>CPF</td>
<td>6 pin camera extension cable</td>
<td>$21.50</td>
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<tr>
<td>CCJ-1</td>
<td>10 pin video/audio extension cable. 16ft. (5m)</td>
<td>$47.00</td>
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<tr>
<td>CCJ-2AR</td>
<td>10 pin video/audio extension cable. 16ft. (5m)</td>
<td>$65.00</td>
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<tr>
<td>CCQ-2AR</td>
<td>14 pin extension cable for VO-2800/DXC-1640/DXC-1800</td>
<td>$88.00</td>
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<tr>
<td>CCQ-5AR</td>
<td>14 pin extension cable for VO-2800/DXC-1640/DXC-1800</td>
<td>$90.00</td>
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<tr>
<td>CCQ-10AR</td>
<td>14 pin extension cable for VO-2800/DXC-1640/DXC-1800</td>
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## Monitor Accessories

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>MB-500</td>
<td>19&quot; rack mount for PVM-8200</td>
<td>$120.00</td>
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<tr>
<td>MB-501</td>
<td>Mount attachment for PVM-8200</td>
<td>$56.00</td>
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<tr>
<td>RFC-25</td>
<td>RF cable 82'</td>
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<tr>
<td>VLG-1</td>
<td>Carrying case for PVM-8000</td>
<td>$218.00</td>
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## VTR CABLES

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<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>RCC-5C</td>
<td>16 pin (5m) remote control cable for RM-410 and RM-420</td>
<td>$105.00</td>
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<tr>
<td>RCC-5E</td>
<td>16 pin (5m) remote control cable for RM-440</td>
<td>$110.00</td>
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<tr>
<td>SGC-5</td>
<td>BNC/UHF coaxial cable, 15'</td>
<td>$33.00</td>
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<tr>
<td>UGC-2</td>
<td>Coaxial cable w/BNC connectors, 25'</td>
<td>$10.00</td>
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<tr>
<td>UGC-3</td>
<td>Coaxial cable w/BNC connectors, 25'</td>
<td>$13.00</td>
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<tr>
<td>UGC-8</td>
<td>Coaxial cable w/BNC connectors, 25'</td>
<td>$15.00</td>
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## Microphone Cables

<table>
<thead>
<tr>
<th>Model</th>
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<tr>
<td>EC-9M</td>
<td>10M/25M</td>
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<td>EC-9A</td>
<td>10M/25M</td>
<td>$8.60</td>
</tr>
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</table>

**Prices and Specifications Subject to Change Without Notice.**

225
Uni-directional Electret Condenser Microphone for Newsgathering and Interviews

ECM-31M. The new Sony ECM-31M is the ideal microphone for indoor and outdoor interviews. The electret microphone head is at the end of a wand which telescopes from the comfortable grip, which also serves as a battery compartment. The length of the microphone may be adjusted according to the height and convenience of the interviewer. A windscreen is supplied for stable performance outdoors. $66.00

Uni-directional Electret Condenser Microphone for Studio Interviews

ECM-41. The Sony ECM-41 makes studio interviews easier than ever before. It is similar in appearance to the ECM-31 microphone for newsgathering and interviews, but incorporates professional features such as balance line—giving you added reliability and control inside the studio. The electret condenser microphone is at the end of a wand which telescopes from the comfortable grip. The wand may be adjusted according to the height and convenience of the interviewer. A windscreen is provided to help prevent “pops” and wind noise. $100.00

Super Uni-directional, Gun-type Electret Condenser Microphones for Theatrical and Media Use

C-76. These Sony professional microphones are considered the standard of excellence around the world for use in theaters, on sound stages, in large halls, in television studios and even outdoors. Extremely fine uni-directional characteristics make them the perfect microphones to use where proximity is unwanted or impossible; the microphone is simply aimed at the sound source to achieve fine results. The quality performance of the C-76 is ideally suited to the performing arts. High sensitivity with broad frequency response and excellent transient capability bring out the best in any performance—even from a distance. The microphones discriminate against background noise and unwanted sounds—cutting through to the source. $795.00  
C-74 Short Shotgun Condenser Mic $75.00

Omni-directional Electret Condenser Microphone w/Flat Frequency Response

ECM-170A. The Sony ECM-170A features a low-cut switch for better voice articulation. Flat frequency response, detachable windscreen, and rugged construction increase the versatility and performance of this economical microphone making it ideally suited for ENG and studio applications. $75.00

Professional Omni-directional Condenser Microphone w/Ultra-miniature Design

ECM-30. One of the smallest condenser microphones in existence, the new Sony ECM-30 is our most recent addition to a family of tie-tack and lapel microphones already in use by television broadcasting studios around the world. The Sony ECM-30’s extremely small size is made possible by uniting the backplate and FET amplifier pellet in the microphone capsule, an extraordinary achievement of Sony engineers. $115.00

Uni-directional Back Electret Condenser Microphone for Battery Powered Use

ECM-23F. Operating for the extremely long period of more than 6,500 hours with one size “AA” battery, the ECM-23F is a high-quality, high-performance microphone suited to use in industrial television and broadcast studios. $115.00

Professional Omni-directional Electret Condenser Microphone w/Miniature Design

ECM-50PS. The most commonly seen tie-tack microphone on television today, the Sony ECM-50PS is a unique product of Sony’s combined expertise in both microphone and semi-conductor technology. Its extremely small size and uni-directional characteristics make the ECM-50PS perfectly suited to use in ENG and TV production, in personal interview situations, and by other professional audio technicians in a wide variety of applications. $225.00

Professional Condenser Microphone w/Switchable Omni-directional or Uni-directional Characteristics

Internal Battery or Phantom Power C-38B. An excellent all-purpose microphone for professional use in broadcast or recording studios, theater stage sound systems, wherever circumstances demand a combination of good performance, versatility of operational mode, and simplicity of microphone setup. The Sony C-38B converts instantly from omni-directional to uni-directional characteristics. An improved amplifier gives the C-38B a dynamic range of greater than 116dB, with flat frequency response and sharp directional characteristics in both uni-directional and omni-directional modes. And phantom power capability is another great advantage of the C-38B, making it compatible with other phantom powered studio microphones. $545.00

Sony Video Communications

Prices and Specifications Subject to Change Without Notice.
SONY
Sony Video Communications

MX-20
A fully Professional 8-channel microphone mixer for creating high
class studio or sophisticated amateur recordings. Professional
sound engineers and audiophiles alike will appreciate the many per-
formance features of the Sony MX-20. With 8 channel inputs and 4
channel outputs, the MX-20 can mix and switch any input to any one
of the four outputs automatically. In addition, there are "PAN POT" and
"DEAD CENTER" functions. FET preamplifier insures low-distortion,
low-noise signal. Other special features:
3-position MIC Input Attenuator. To eliminate overload distortion.
Balanced MIC Input and Output with XLR Type Connectors.
Cascade Connector. For coupling two MX-20's to produce a 16-
channel input mixer.
5-step EQ Control. In channels 1-6.
Slide Master Fader. For simultaneous control of all channel output
and professional recording techniques such as fade-in and fade-out.
Slanted Front Panel. With convenient carrying handle.
Four VU Meters.
Abundant Output Level.

$1275.00

MX-510
With 5 channel inputs and 2 channel outputs, the Sony MX-510 is an
economical microphone mixer for both audiophiles and sophisticated
amateur recording enthusiasts. Two-way power source allows opera-
tion on internal batteries or AC current (an optional adaptor). Five
MIC inputs (channels 1-5) for low impedance mics; three line inputs
(channels 1, 2, 5) for tape recorder, tuner, or amplifier; two phono
inputs (channels 3, 4) for record player. Other features:
PAN POT Control.
Pre-set indicators. To use as reference point when temporary level
changes are necessary.
External Power Input.
Slide Master Fader. For fade-in, fade-out techniques.

$225.00

MX-670
The MX-670 portable microphone mixer provides 6 inputs for multi-
mic stereo recording, with panning available on each input. Battery
or AC operation. (AC-12M adaptor optional.) Allows usage on location
or at home.
Panning. Provides flexibility in the stereo mix.
PAD. Prevents input stage overload.
Cascade Input. Accesses the output buss for effects or additional mic
inputs with another mixer.
Oscillator. 440 Hz. Calibration tone.
Phono Pre-amp. Accommodates a stereo turntable.

$425.00

MX-5
The new Sony MX-5 is an economical passive microphone mixer with
three channel inputs and one channel output, for combining multiple
audio pickups on a single monaural track.
Special features of the MX-5:
Pre-set Indicators. To use as reference point when temporary level
changes are required.
Line Input. For connecting tape recorder, tuner, or amplifier.

MX-7
This new passive microphone mixer from Sony provides six channel
inputs and two channel outputs, for mixing up to three microphone or
line inputs on each of two stereo output tracks.
Special features of the MX-7:
Pre-set Indicators. To use as reference point when temporary level
changes are necessary.
Automatic Input Selector. Mic inputs may be advanced at any time.
Line Input. For connecting tape recorder, tuner, or amplifier.

Prices and Specifications Subject to Change Without Notice.
227
Profeel® Trinitron® Component Televisions with 25” Measured Diagonally

- Trinitron Color System: Sony's Emmy-Award-winning achievement in picture tube design that gives you critically sharp images with vivid, lifelike, thrilling color fidelity.
- Dynamic Picture: Sony's new system that automatically and continuously adjusts picture contrast level to capture the full dynamic range of your TV signal, so you see more detail in both bright and dark areas of every scene.
- Dynamic Color Circuitry, for superior color reproduction with natural facial color tones and purer whites.
- Colorpure Filter to improve fine picture detail without color spill or color noise distortion.
- Sony's exclusive Velocity Modulation Scanning system, to give you a brilliant large-screen picture with increased sharpness and higher resolution than ever before possible.
- Pulse Lock Power supply circuitry for greater picture and sound stability even during electrical current fluctuations.
- Built-in stereo amplifier for use with your choice of Profeel component speakers—a perfect way to prepare for future stereo television broadcasts.
- 10 watt stereo output (5 watts per speaker) at 8 ohm load with bass boost.
- All-new 100% solid state high-performance/high-resolution chassis circuitry designed to achieve studio-quality video fidelity.
- Video and stereo audio input connectors for your Profeel Access Tuner giving you direct selection to any signal from the Profeel Access Tuner or desired audio/video source.
- RGB inputs for horizontal resolution with increased character capability in microcomputer and teletext applications, 80 characters per line.
- Tinted glass filter for improved picture contrast in any room light.
- Superb space-age design to express the state-of-the-art in home entertainment engineering: modular Profeel styling to give you an integrated component look and feel.

KX-2501
Profeel Component TV with 25-inch screen. VMC-15 Audio RK105 34 PIN RGB Connector. 22¼"H x 26"W x 19"D. 122 lbs.

$1500.00

KX-1901
Profeel Component TV with 19-inch screen. 17¼"H x 19¾"W x 19. 73 lbs.

$850.00

VK-2D (8 PIN)
Provides audio/video/control signal from Profeel Access Tuner to KX-2501 or KX-1901. Supplied with VTX-1000R Profeel Access Tuner. 8 pin DIN type male connectors. Length: 6.6 feet

$20.00

VTX-1000R Profeel Access Tuner
High-technology, high-performance Profeel Access Tuner designed to complement your choice of Profeel Trinitron® TVs—and give you direct access to VHF, UHF, even Cable TV broadcast channels, with unequalled selectivity and sensitivity! Your Profeel Access Tuner® also integrates your Videocassette Recorder, Video Disc Player, or other video signal sources into a single control center...plus giving you Sony's 10-key Express Commander® remote control convenience from anywhere in your room! Supplied with VTX-1000R Profeel Access Tuner. Infrared remote control unit that provides complete VHF/UHF/Cable TV channel selection. Supplied with 2-10 Meter VMC-15 video cable. 1-VK2D DIN cable. 1-RK-74A SPR cable. 3¾" x 17" x 11". 11 lbs.

$520.00

SS-X10A Component TV Speaker System
Free-standing design styling to complement your Profeel Trinitron Component TV with direct connection to its Built-in stereo amplifier for complete systems integration. 2-way speaker design delivers superb sound reproduction across the entire audio spectrum. Big, powerful 5" woofer for rich and resonant lows. High-performance 3" tweeter for crystal-clear highs. Magnetically shielded design to eliminate interference with your TV signal. Super-high audio input level capability (up to 35 watts).
Dimensions 17¾" x 5¼" x 5¼" each. 8 lbs.

$130.00/pr.

SS-X1A Component TV Speaker System
Designed to mount directly on your Profeel Trinitron Component TV and connect with its built-in stereo amplifier, for full audio/video system integration. 2-way closed speaker design delivers rich, resonant, audio reproduction to enhance your enjoyment of every TV program you watch. 3.3" magnetically shielded woofer eliminates interference with your TV signal to produce deep, stirring bass tones. 2" high performance tweeter delivers crystal-clear highs. High audio input level capability (up to 15 watts). Metal mesh speaker grille for clear, undistorted sound. Built-in bracket for simple, quick attachment to your Profeel Trinitron Component TV. Dimensions 4½" x 8" x 3-3/8" each. 3 lbs.

$80.00/pr.

VK-5DX (8 PIN DIN) Multi-Connector Extension Cable
16-foot multi-connector cable extension for VK-2D. Connects VTX-1000R Profeel Access Tuner to KX-2501 or KX-1901 Profeel Trinitron Component TV

$25.00
CABINETS

Cabinet Relay Racks
SERIES 100 cabinet relay racks are designed for standard 19" (483mm) panels. Constructed of 16 ga. CRS throughout. Rear door lock and low profile handle included. Panel mounting angles are tapped to accept 10-32 pan head screws included. Louvers are internal type for improved ventilation. Iron phosphate coated for rust prevention and paint adhesion. Knockouts located at rear top and bottom. If no color is specified, Soundolier grey hammertone will be furnished. Consult your price sheet for complete list of colors available. Shipped knocked down. Hardware and instructions included.

OPTIONS:

Series 110 Front Door — mounted on a ridged continuous hinge. May be ordered with or without cabinet. See specification chart for model numbers.

Series PT Panel Trim — stainless steel trim for covering panel mounting hardware. Complete with fasteners. Specify model PT-36, PT-42, PT-61, PT-70 or PT-77.

Transmitter Racks
SERIES 200 Transmitter Racks are designed to mount standard 19" (483mm) panels. Constructed of 16 ga. CRS throughout. Front and rear door handles and locks provided (locks keyed differently for security). Modern internal louvers for improved ventilation. The 11 ga. panel mounting angles are tapped for 10-32 screws (included) and are adjustable to any distance from front to rear. Panel angles are mounted to three sturdy channel slides on each side. Knockouts are located at rear top and bottom. If no color is specified, Soundolier grey hammertone will be furnished. Consult your price sheet for complete list of colors available. Shipped knocked down. Hardware and instructions included.

Sectional Wall Mounting Cabinets
SERIES 300 Sectional Wall Cabinets are designed for standard 19" (483mm) rack panels. Entire cabinet is constructed of 16 ga. CRS. Back and front sections are one piece construction with angle braces at each corner. All seams and miters are electric welded and ground smooth. Center cabinet is strengthened with 16 ga. CRS at each corner. Three larger models have 11 ga. mounting supports on back section. Removable pin hinges for easy assembly and hinges are bolted to cabinet section for greater strength. Knockouts and internal louvers are two Soundolier exclusives. Center section and rear section are secured with locking rods and alignment pins. Front section is complete with cylinder lock. All models have tapped panel mounting rails and 10-32 pan head screws for panel mounting. If no color is specified, Soundolier grey hammertone will be furnished. Consult price sheet for complete list of colors available. Shipped completely assembled.

Desk Top Cabinet
SERIES 400 desk top cabinets are completely assembled and constructed from 16 ga. CRS throughout. Each unit is equipped with a locking rear door which is mounted on sturdy slip joint hinges. Internal louvers and recessed panel angles give this compact cabinet a "clean look." The panel mounting angles are tapped for 10-32 screws. Designed to mount most Soundolier cabinet accessories. If no color is specified, Soundolier grey hammertone will be furnished. Consult your price sheet for complete list of colors.

NOTE: All prices FOB Factory.
Prices and Specifications Subject to Change Without Notice.

229
Floor Standing Cabinets

500 Series Multi Racks

SERIES 500 Multi Racks are designed for standard 19" (483mm) rack panels and for maximum flexibility. Multi Racks can be readily joined together and because of its open side construction, wiring is simple and convenient. Each basic rack is supplied with a rear door complete with cylinder lock and low profile handle and slip-jointed hinges. Panel mounting rails are adjustable, manufactured of 11 ga. CRS and tapped for 10-32 screws. Construction of all other parts is 16 ga. CRS. Combination knockouts are located on the top, bottom and rear flanges. To facilitate cable entry, three 2-13/16" (71mm) diameter holes are located toward the rear of the base of the rack.

Multi Racks are shipped welded and assembled. All metal surfaces receive an iron phosphate coating prior to finishing for rust prevention and excellent paint adhesion. If no color is specified, Soundolier grey hammertone will be furnished. Consult list of colors available. Soundolier cabinet relay racks are constructed of 16ga. CRS and completely welded for additional strength and neater appearance. The panel mounting angles are tapped for 10-32 screws. The rear door is attached by slip-jointed hinges and includes lock and low profile handle. The entire cabinet receives an iron phosphate coating for rust prevention and excellent paint adhesion. If no color is specified, Soundolier grey hammertone will be furnished. Consult your price sheet for complete list of colors available.

Optional Accessories:

SERIES 510 Front Doors are easily field installed with either right or left hand hinging. The basic rack is furnished with a series of small knockouts on each side of the front return. These knockouts are easily removed and will accept the 10-32 self tapping screws furnished with the door. Complete with continuous piano hinge, lock and low profile handle.

SERIES 530 Mounting Rails — While each basic rack is supplied with one set of mounting rails, extra sets are available at customer's option.

SERIES 540 Side Panels — One pair of side panels is required to close either a single basic rack or multiple racks attached. The side panels install easily by hooking them over internal side channels in the basic rack.

Cabinet Relay Rack — Welded Construction

SERIES WA 100 cabinet relay racks are constructed of 16 ga. CRS and are completely welded for additional strength and neater appearance. The panel mounting angles are tapped for 10-32 screws. The rear door is attached by slip-jointed hinges and includes lock and low profile handle. The entire cabinet receives an iron phosphate coating for rust prevention and excellent paint adhesion. If no color is specified, Soundolier grey hammertone will be furnished. Consult your price sheet for complete list of colors available.

Transmitter Rack — Welded Construction

SERIES WA200 transmitter racks are constructed of 16 ga. CRS and are completely welded for additional strength and neater appearance. The adjustable mounting angles are 11 ga. CRS and are tapped for 10-32 screws. The front and rear doors include locks and low profile handles. The locks are keyed differently for security. The entire cabinet receives an iron phosphate coating for rust prevention and excellent paint adhesion. If no color is specified, Soundolier grey hammertone will be furnished. Consult your price sheet for complete list of colors available.

Prices and Specifications Subject to Change Without Notice.
BLANK PANELS AND VENT PANELS

MODEL MX-193 monitor panel is a compact (3 1/4") (89mm) CRS panel and is designed to be used with any multi-channel commercial or industrial sound system. It will provide aural and visual monitoring instantly with the turn of a switch. A double pole, six position switch with an attractive brushed aluminum inlay knob is wired to supply five different program channels with a sixth "off" position. Each channel conveniently connects to two screw terminals on the rear of the panel to provide balanced switching. All wiring to the external terminals is completed at the factory. Either a 70 volt or 25 volt line may be monitored. The monitor channel switch is conveniently mounted on a black plate with attractive white screened nomenclature and then is separately mounted to the panel. Through this arrangement, a free choice of colors to match any system is available. If a color is not specified, Soundolier grey hammertone will be used.

The VU meter has a long life thermoplastic case trimmed in black to blend with the black selector switch, volume control insert. A rear adjustment provides the capability to set the meter at a 0 dB level on a 70 volt or 25 volt line. A zero adjust on the face of the meter completes its flexibility. A set of instructions is provided with each unit.

MODEL ACK-193 is identical to the model ACR-193 except for the use of a DPST key switch. This prevents unauthorized personnel from turning the entire system on or off. Eight outlets are provided with six controlled by the main and the remaining two uncontrolled. Each outlet is grounded (3 contacts). A 15 amp fuse is included. A hole is provided for the connection of 1/4" (13mm) conduit to the rear of the panel. All wiring is completed at the factory. Color selections are the same as monitor panels provided. 

$144.44

MODEL ACR-193 master power panel is designed to provide a single switch which controls all AC power in any industrial or commercial sound system. The main switch is a DPST rocker type and is capable of switching both sides of the power line. A red jewel, long life, neon pilot light indicates visually whether the AC power is on or off. Eight outlets are provided with six controlled by the main and the remaining two uncontrolled. Each outlet is grounded (3 contacts). A 15 amp fuse is included. A hole is provided for the connection of 1/4" (13mm) conduit to the rear of the panel. All wiring is completed at the factory. Color selections are the same as monitor panels provided.

$161.70
Sixteen different dissolve rates, left and right crawls, high speed random access, and an easily edited 451-cue electronic memory system are just a few of the exclusive features of Spindler and Sauppe’s new Producer 32 Selectroslide Projector, the world’s first slide projector to incorporate a microprocessor. The unit is designed to work in a television film chain where it utilizes a single port of the multiplexer, and it is equally applicable to the job of converting slide presentations to motion picture film directly from the projector.

A forty-six button, rack-mounted master controller remotes all projector functions to the control studio. Thirty-three status lights indicate the exact condition of the projector at all times, and a seven-digit readout shows slide tray positions and the number of the upcoming cue. Limited function remote controls may be located in additional studios to make available sequential slide advance and reverse as well as random slide selection. Controls on the projector itself are limited to those related to setup.

Precise timing codes may be used to link together a series of cues to initiate more than one dissolve function. Once loaded, the memory may be advanced or reversed one cue at a time or at a speed of ten cues-per-second, and the slide trays will automatically track to their appropriate position and lamp status for the stopping point. A Restart Button returns the system to Cue #1, automatically bringing both memory and slide trays back to their starting positions.

Each of the two slide trays may be programmed to move forward or backward to any other tray position, and this may be done as either a fast series of conventional slide changes or as a slow crawl. Between screenings, programming data is stored in a cluster on standard recording tape. Subsequently, it is high speed re-entered into memory for re-use. In performance, cues may be called from memory manually by pressing the Cue Button of the controller, or the presentation may be fully automated from synchronization pulses on one of the channels of the soundtrack tape.

In one-second increments, dissolve rates are available from a Cut of a fraction of a second up to a fifteen-second lap dissolve. Slides may be made to move slowly, either left-to-right or right-to-left, in a crawl that takes approximately six seconds per slide position. It is also possible to fade-in or fade-out a slide at any of sixteen different speeds. Slides may be projected from both trays simultaneously to create superimpositions.

An automated presentation may be interrupted at any time by calling up a slide from the random access section. Maximum selection time is less than two seconds. As the appropriate tray advances to the selected slide, the opposite tray tracks with it to retain correct numerical sequence. Manual controls also include sequential advance and reverse buttons which change slides at the speed of a Cut.

The pair of slide trays on the Producer 32 Projector carry a total capacity of thirty-two slides and may be quickly changed without disturbing a presentation. Lights within the projector make it possible to preview all slides without rotating the trays. The unit uses 1000-hour, tungsten-halogen projection lamps, and the "soft start" dissolve circuitry extends lamp life by a minimum factor of two.

At the heart of the optical system is a precision, cube prism, beam splitter. There are no moving parts. Two etched, aspheric condensing lenses and variable density field flatteners eliminate filament focus and provide evenness of illumination. Available are 7½" and 9" lenses for multiplexers, and inverted 3" and 5" projection lenses for uniplexing.

**PRICE LIST**

**P-32 Producer 32 Selectroslide projector (Model 4350), with 7 ½" lens (Model 290 or 291), controller (Model 4351), and mounting plate (Model 6382). Specify cable length at $4.36 per foot, otherwise 5' controller cable supplied.**

*Projectors with lens sizes other than 7 ½" must be quoted separately.*

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**PROJECTED PICTURE SIZES**

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<th>FIELD LENS</th>
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Prices and specifications subject to change without notice.
### Professional Sun Gun movie light lamps

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### Minican Base single ended tungsten halogen lamps

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<td>EHT (250Q/CL)</td>
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### Mogul Prefocus lamps for follow-spotlights

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### Two pin tungsten halogen lamps

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### Double ended tungsten halogen lamps 5 5/8" MOL

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### Double ended tungsten halogen lamps 6 9/16" MOL

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### Double ended tungsten halogen lamps 3 3/4" MOL

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### Screw base lamps for scoop fixtures

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<td>DSE(1MT20Q/4)</td>
<td>$48.24</td>
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<tr>
<td>DSF(1500T20Q/4)</td>
<td>56.10</td>
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### Intermediate wattage double-ended tungsten halogen lamps 3 1/8" MOL

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>DWV</td>
<td>$23.28</td>
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<tr>
<td>DXX</td>
<td>21.60</td>
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<tr>
<td>EHP(3000T4Q/CL)</td>
<td>33.88</td>
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<td>FAD</td>
<td>19.23</td>
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<tr>
<td>FBX</td>
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<tr>
<td>FCA</td>
<td>22.49</td>
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<tr>
<td>FDA(400T4Q/4CL)</td>
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### Universal T-3 double-ended tungsten halogen 4 11/16" MOL

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<tbody>
<tr>
<td>EHM(300T2 1/2Q/CL)</td>
<td>$36.86</td>
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<tr>
<td>EH2(300T2 Q)</td>
<td>43.87</td>
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<tr>
<td>EJG(500T3Q/4CL)</td>
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<tr>
<td>FCL(500T3Q/CL/U)</td>
<td>23.57</td>
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<tr>
<td>FCM(1000T3Q/4CL)</td>
<td>29.81</td>
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<tr>
<td>FC6(500T3Q/U)</td>
<td>33.08</td>
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<tr>
<td>FDF(500T2 1/2Q/4CL)</td>
<td>29.81</td>
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<tr>
<td>FDN(500T2 1/2Q/4U)</td>
<td>28.73</td>
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<tr>
<td>FHH(1000T3Q 1/4)</td>
<td>33.08</td>
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### Medium prefocus lamps with 3 1/2" MOL for Ellipsoidal spotlights

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>DEB(500T12/8)</td>
<td>$33.97</td>
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<tr>
<td>DNS(500T12/8)</td>
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<tr>
<td>DNT(750T12/9)</td>
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<td>DNV(1MT12/2)</td>
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<tr>
<td>EGC/ECD(500Q/4CL/3 1/2P)</td>
<td>53.66</td>
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<tr>
<td>EGE1500Q/CL/3 1/2P</td>
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<td>EGEF1500Q/CL/4CL/4P</td>
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<td>EGG(750Q/CL/3 1/2P)</td>
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<td>EGEK(1MQ/4CL/3 1/2P)</td>
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### Medium prefocus lamps with 2 3/16" MOL for Elipsoidal spotlights

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<td>DBF(500T12/8)</td>
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<td>DVM(1MT12/2)</td>
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<td>DNV(500T20/64)</td>
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<tr>
<td>DRB/DRC</td>
<td>24.23</td>
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<td>DRS</td>
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### Par Reflector Lamps

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<td>DWE</td>
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<td>FCX</td>
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<td>FFN(1000PAR64Q/VNSP/1)</td>
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<tr>
<td>FFP(1000PAR64Q/NSP/2)</td>
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<td>FRR(1000PAR64Q/MFL/5)</td>
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<td>FSS(1000PAR64Q/WFL/6)</td>
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### R type reflector lamps and movie lights

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<td>BBA</td>
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<td>BCA</td>
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<td>BFC</td>
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<td>BFP</td>
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<tr>
<td>DBA</td>
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<td>DWD</td>
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<td>DXC</td>
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<td>DXH</td>
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<td>DXR/DXS</td>
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<td>DXT</td>
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<td>EAL</td>
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<td>EBR</td>
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<td>FAE</td>
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### Screw Base Spotlight Lamps

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<td>BWF</td>
<td>$124.65</td>
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<td>BWG</td>
<td>131.69</td>
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### High wattage lamps for fresnel lens spotlights and sky pans

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<tr>
<th>Description</th>
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<tbody>
<tr>
<td>DTY(10MQ/4CL)</td>
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### Prices and Specifications Subject to Change Without Notice.

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<tr>
<td>BWA(2MQ/4CL/MP)</td>
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<td>CYV(1MQ/4CL/MB)</td>
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<td>DPM(3MQ/4CL)</td>
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<td>BVR</td>
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<td>CAX</td>
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<td>CBJ</td>
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<tr>
<td>CBX/CBS</td>
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<td>CCM/CHD</td>
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<td>CEM</td>
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<td>CEC/CFC</td>
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<td>CHK</td>
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<tr>
<td>CLS/CLG</td>
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<td>CLX/CMB</td>
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<tr>
<td>CMV/CMT</td>
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<td>FEV</td>
<td>28.73</td>
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<table>
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<tbody>
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<td>BCT(1MQ/CL/MP)</td>
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<td>BTV(1MQ/4CL/MP)</td>
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<tr>
<td>BWV(2MQ/4CL/MP)</td>
<td>76.70</td>
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<tr>
<td>CWZ(1500Q/4CL/MP)</td>
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<table>
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<tbody>
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<td>BES(1MQ/CL/MP)</td>
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<td>EGR(750Q/4CL/4B)</td>
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<td>EGT(1MQ/4CL/4B)</td>
<td>71.60</td>
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<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBT(1MQ/CL/MP)</td>
<td>$70.20</td>
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<td>BTV(1MQ/4CL/MP)</td>
<td>66.13</td>
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<tr>
<td>BWV(2MQ/4CL/MP)</td>
<td>76.70</td>
</tr>
<tr>
<td>CWZ(1500Q/4CL/MP)</td>
<td>86.62</td>
</tr>
</tbody>
</table>
For Models 2000, 2000M, 2050M.

- Spare lamp.
- Compartments for two film cartridges and constructed of rugged lightweight materials.

Prices and Specifications Subject to Change Without Notice.
amplifier response modes are available. and to which is only one of the unique features of the required design of a very high light-output CRT.

This solution to VITS display problems re-selected out of four fields. even in a well-lighted area This solution to VITS display problems re-selected out of four fields. even in a well-lighted area. The 1480 Series of Waveform Monitors.

There are 1480 Series Monitors for PAL, PAL-M, NTSC, and SECAM. Dual standard units are also available. The differences between the monitors in the series are essentially confined to what lines in the vertical interval are selectable, what vertical amplifier response modes are available, and to the field selection modes Dual Standard Monitors automatically recognize the signal standard in use and indicate that standard on the front panel.

Vertical interval testing. The bright CRT of the 1480 Series eliminates many of the VITS monitoring difficulties associated with previous waveform monitors. CRT brightness is sufficient to allow you to easily see one Vertical Interval Test Signal selected out of four fields, even in a well-lighted area. This solution to VITS display problems required the design of a very high light-output CRT, which is only one of the unique features of the 1480 Series.

More accuracy, greater resolution. The 1480s provide several advanced measurement modes for more accuracy. These allow you to make amplitude measurements to an accuracy approaching 0.2%. In one mode, a precision display offset is used. A proven video measurement technique, offsetting displays with an amplitude standard is an easy-to-use method that achieves accuracy by eliminating parallax and transfer errors. Transfer errors are eliminated because the signal is compared to a precise 1 V standard rather than to graticule calibration. Measurements made with comparison techniques also are highly consistent and repeatable. When the signal precisely matches the standard, signal amplitude will be determined to the value and accuracy of the offset. The tolerance of the internal calibration signal used as the standard is 0.2%

Sure line selection, positive field identification. Digital selection of field and line assures positive identification of displayed information. For example, selection of line 18 of field 2 assures display of line 18, field 2. Digital techniques will not allow an incorrect selection.

Response selection and a unique auxiliary mode. Many television measurements require the filtering of some components from the composite signal. For example, luminance signal rejection by 3.58 MHz or 4.43 MHz subcarrier filters for differential gain measurements. A selection of appropriate filters is provided in the 1480s, including low pass, IMF, subcarrier, and one for staircase linearity measurements called differentiated staircase. When specialized or unique measurements require a special filter, you may insert that filter between the auxiliary video output and auxiliary input. The auxiliary video input mode, selected by the response control, allows you to add a filter of other device without breaking into the program line. The auxiliary video input and output are buffered by amplifiers to provide a precise 75 Ω source and load.

In the 1480 Series, monitor focus and brightness controls compensate for changes when switching from a two field setting to a faster time base and can easily be set to an optimum level.
The TEKTRONIX 528A Waveform Monitor is intended for television measurement and monitoring applications, adding new features and capabilities to the well-known 528.

The 528A provides bright, easy-to-read waveform displays on a 125 mm (5 inch) CRT with illuminated internal graticule for parallax-free waveform monitoring and measurement while only requiring 5 1/4 inches of vertical height and 1/2 rack width mounting space. This permits mounting the 528A side-by-side with another 528A or other monitors, such as the TEKTRONIX 1420 Vectorscope. A version of the 528A in a carrying case is also available.

Selectable from the front panel, either of two 75-ohm video inputs may be displayed and the selected input is available on the rear panel VIDEO OUT connector for routing to a picture monitor or other device. These inputs are normally ac coupled, but are easily set for dc coupling.

Calibrated 1 volt and 4 volt full scale sensitivities are provided for displaying video and sync levels and a VARIABLE VOLTS FULL SCALE control permits uncalibrated displays from 0.25 volts to 4.0 volts full scale. A built-in 1 volt calibration signal may be switched on to confirm the vertical calibration.

Input signal characteristics can be isolated by using the RESPONSE switch in the FLAT position for full bandwidth display, IRE position for IEEE Standard 205 roll off display, CHROMA position for a display without luminance components, or DIFF GAIN position for displaying the differential gain error of the input signal. A dc restorer, which may be turned off when not required, maintains the back porch at an essentially constant level regardless of changes in signal amplitude, average picture level, and color burst. Selectable external sync capability is also provided.

Horizontal sweep selection includes 2H (two line), 1 μs (expanded two line), 2V (two fields) and 2V MAG (expanded two-field). Displays of RGB and YRGB waveforms from a color camera are provided for by using a rear panel 9 pin interface.

This compact instrument is especially suited for monitoring signals from studio camera outputs, video system inputs and outputs, production switches, and editing consoles. The 528A allows the operator to adjust and monitor video and sync levels, check and adjust system timing, ensure continuity of the signal and perform camera alignment procedures. The 528A also meets many of the requirements of video tape recorder monitoring bridges for VTR alignment and set-up, differential gain measurements, line time tilt measurements, and pulse response (K factor) measurements. In general, the 528A is well-suited for all television applications where consistent video quality monitoring is a requirement.

**ORDERING INFORMATION**

When ordering, please use the exact nomenclature given here.

528A Waveform Monitor (for 525 line) ........................................... $2175

Option 01 Without cover .............................................................. Sub $30
Option 02 With blue protective carrying cabinet ........................... Add $65
Option 03 Modified for use with 625 line (CCIR) television systems and wired for use with 230 volt ac 50 Hertz power sources (unless otherwise specified) .......................... "No Charge"

**Prices and Specifications Subject to Change Without Notice.**
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 amplitude of the primary and complementary colors R (Red), B (Blue), G (Green), C (Cyan), Y (Yellow), and M (Magenta).

Any errors in the color encoding, video-tape recording, or transmission processes which change these phase and/or amplitude relationships cause color errors in the television picture. Polar coordinate displays, such as those obtained on the 520A, 521A, and 522A CRTs, have proved to be the best method for showing these errors.

The polar display permits measurement of hue in terms of relative phase of the chrominance signal with respect to the color burst amplitude. Amplitude is expressed in terms of the displacement from center (radial length) toward the color point which corresponds to 75% (or 100%) amplitude of the particular color being measured.

The outer boxes around the color points correspond to phase and amplitude error limits (±10°, ±20%). For the 520A (NTSC) the inner boxes indicate ±25° and 2.5 IRE units, of optimum per EIA specification RS-189A. For the 521A (PAL) and 522A (PAL-M), the inner boxes indicate ±3° phase angle and ±5% amplitude.

An internally generated test circle, used with the vector graticule, verifies quadrature accuracy, horizontal to vertical gain balance, and gain calibration for chrominance signal amplitude measurements. Two methods of measuring phase shifts are provided. You can accurately read large phase shifts from the parallax-free vector graticule A precision-calibrated phase shifter with a range of 30° spread over 30 inches of dial length is provided for measuring small phase shifts.

**Differential Gain and Differential Phase**

Differential gain and differential phase — the two main chrominance signal distortions — can be measured on the 520A (NTSC), 521A (PAL), and 522A (PAL-M) Vectorscopes. Differential gain is a change in color subcarrier amplitude as a function of luminance level. In the reproduced color picture, saturation will be distorted in the areas between the light and dark portions of the scene. Differential gain measurements with accuracy to better than 1% can be made.

Differential phase is a phase modulation of the chrominance signal caused by changes in the luminance signal level. The hue will vary with scene brightness in the reproduced color picture. Differential gain and differential phase occur separately or together. You can read differential phase errors from the precision calibrated phase shift control to 0.2°.

**ORDERING INFORMATION**

When ordering, please use the exact nomenclature given here.

- **520A NTSC VECTORSCOPE**
  - Cabinet: $6675
  - Rackmount: $6675
- **521A PAL VECTORSCOPE**
  - Cabinet: $6940
  - Rackmount: $6940
- **522A PAL-M VECTORSCOPE**
  - Cabinet: $7470
  - Rackmount: $7470

**OPTIONAL ACCESSORIES**

- **75 Ω Voltage Step-Up Termination** — When used with a Tektronix Vectorscope, the 75 Ω Voltage Step-Up Termination provides a X5 increase in chrominance amplitude and lets you make more accurate Differential Gain and Differential Phase measurements. Input impedance to the termination is a constant 75 Ω. Use of the termination requires a source of external sync to the vectorscope.
- **BNC Connectors, order 011-0100-01** — $70
- **BNC Connectors, order 011-0109-00** — $85
- **Single Sideband Chroma Amplitude Corrector** — For use with 520A (NTSC), 522A (PAL-M) Vectorscopes.
  - **BNC Connectors, order 011-0107-31** — $70
- **WECO backless rack order 533** — Recommended Camera for display photographs. C-55P with Adapter 016-0295-01. See Camera section of this catalog for information.

**Prices and Specifications Subject to Change Without Notice.**
1420 Series

Half Rack Width
Two Loop-Through Inputs
Continuous 360° Phase Control
External Subcarrier Input
Illuminated Internal Graticule
X-Y Display Version

Each 1420 Series Vectorscope is a compact, half rack width instrument designed for vector display of the chrominance and burst components of the composite video signal. This series provides a low-cost way to meet basic vectorscope requirements in CCUs, VTRs, and similar applications. The 1420 is particularly well suited for side-by-side rackmounting with the TEKTRONIX 528A Waveform Monitor.

It weighs a little over 15 pounds with an optional carrying case.

The parallax-free internal graticule is designed for the vector display of color bars and burst. A special graticule feature allows you to determine gain or phase errors to reasonable accuracy for many applications—within 2° and 5% (for higher resolution differential gain and phase measurements use a 520A Series Vectorscope).

Two signal inputs, an external subcarrier reference input, and a PAL pulse input (1421 and 1422 only) are provided on the rear panel. The "A" signal input is equipped with a switchable attenuator, useful for viewing large signals such as the subcarrier signal. Select the signal to be displayed and the locking signal for the subcarrier regenerator with two front panel lever switches. On the 1421 and 1422, a push-pull switch lets you select the external subcarrier reference signal. All models have continuous 360° phase control of the displayed signal. PAL and PAL-M displays on the 1421 and 1422 are switchable to an NTSC format.

1424 X-Y Display Monitor

The 1424 X-Y Display Monitor provides a vector display of the chroma portion of the television signal by utilizing the decoder in a TEKTRONIX 650HR Picture Monitor or other suitable monitor. By interfacing the 1424 with the proper picture monitor vector displays for NTSC, PAL, and SECAM color television systems can be obtained. Dual standard displays can be obtained by interfacing the 1424 with a TEKTRONIX 650HR (NTSC & PAL) Picture Monitor or a 656HR (SECAM & PAL) Picture Monitor.

The Z-axis input allows the writing beam to be modulated for special applications.

ORDERING INFORMATION

When ordering, please use the exact nomenclature given here.

For NTSC, 1420 Vectorscope
(Factory wired for 115 V) ........................................ $2700
For PAL, 1421 Vectorscope
(Factory wired for 230 V) ................................. $2810
For PAL-M, 1422 Vectorscope
(Factory wired for 115 V) ................................. $3050
1424 - Standard NTSC/PAL
XYZ Display .................................................. $2335
Rack Adapter, when ordering the vectorscope for use in the adapter, Option 01 016-0115-02 .......................... $180
Without Cabinet Option 01 .................................... Sub $30
With Carrying Case Option 02 ................................. Add $65
Option 03 (1424 only) — Special NTSC/PAL*
XYZ display .................................................. Add $100
Option 04 — (1424 only) External SECAM graticule, blank CRT .................................................. Add $100
Option 05 — (1424 only) Combination NTSC/PAL*
Internal graticule CRT ........................................ Add $100
*For Ampex VTR’s — check with Ampex for compatibility.

Prices and Specifications Subject to Change Without Notice.
690SR Television Color Monitor

- High-Resolution, Dot-Shadowmask CRT
- Precise Color Convergence
- Stabilized Color Balance
- Rugged Construction
- Preset Controls
- Plug-in Decoder
- Recommended for Critical Picture Evaluation

The 690SR is a new tool for the television industry to meet critical needs for picture evaluation and quality control. With a high resolution delta gun, dot shadowmask picture tube and precise, stable decoding circuitry, the 690SR offers faithful rendering of picture details and ease of closeup viewing. The optional medium resolution CRT provides uniform screen appearance and excellent resolution at greater viewing distances. With either picture tube, Tektronix unique color convergence system provides accurate color registration over the entire screen — less than 0.5 mm maximum error, equivalent to less than 0.18% of picture height — so that fine details can be observed anywhere in the picture.

Stabilized circuitry compensates for picture tube aging and maintains accurate color balance. Front panel controls for brightness, contrast, chroma, hue and aperture have detent positions so that the monitor may be returned to its preset condition quickly and accurately. Adjustments for the preset positions of front panel controls are located within a lockable front drawer together with virtually all other adjustments needed for routine servicing.

Decoders are available for NTSC and PAL standards. A flexible modular plug-in design permits the 690SR to accommodate changes in standards and additional modules will become available to meet future needs. Three systems are available at this time, comprising: the 690SR Option 01, which is an NTSC color monitor including a 69M00 notch filter decoder module installed in a 690SR mainframe; the 690SR Option 02, which is an NTSC color monitor including a 69M01 comb or notch filter (switchable from front panel) decoder module installed in a 690SR mainframe, and the 690SR Option 11, which is a PAL color monitor including a 69M11C decoder module installed in a 690SR mainframe.

All versions of the 690SR are available with a high resolution CRT (standard) with 0.31 mm dot triad spacing, or with a medium resolution CRT (Option 25) which has 0.43 mm dot triad spacing. EBU phosphor colorometry is also available (Option 27). All versions of the 690SR are supplied with rack slides for mounting in a 19 inch standard rack.

The 690SR Option 02 has been designed to provide an accurate display of high quality images and computer graphics. Wide range scan circuits, excellent convergence and modular construction make the 690SR Option 42 an ideal choice for laboratory experiments and for systems where easy reconfiguration to different scan formats will make it possible for one monitor to do many jobs.

The 690SR Option 42 will operate over a horizontal scan rate range of 15 to 37.5 kHz, covering the range from standard television formats to above the 1280 by 1024 pixel format used for high resolution graphics. With the additional feature of adjustable picture size and aspect ratio, the 690SR Option 42 can be used for displays in unconventional formats. Excellent color convergence — less than 0.5 mm maximum error anywhere on the screen — is maintained over the entire range with only slight readjustment of controls.

The high resolution picture tube (0.31 mm dot triad spacing) is standard with all versions of the 690SR, however, a medium resolution CRT (0.43 mm spacing) is available as Option 25. Long persistence phosphors for flicker reduction in interlaced graphics displays is Option 26.

The 690SR Option 42 is an RGB monitor including a 69M41 interface module installed in a 690SR mainframe. Either internal sync on green or external sync may be used. The 690SR Option 42 is supplied with hardware for rack mounting.

**ORDERING INFORMATION**

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<th>$7950</th>
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<tbody>
<tr>
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<td>Add $1100</td>
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<tr>
<td>Option 25 Medium Resolution CRT</td>
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</tr>
<tr>
<td>Option 26 Long Persistence Phosphors (High Resolution only)</td>
<td>Add $150</td>
</tr>
<tr>
<td>Option 42 Multirate RGB Interface Installed</td>
<td>Add $2000</td>
</tr>
<tr>
<td>69M00 NTSC Decoder Interface Module</td>
<td>$1100</td>
</tr>
<tr>
<td>69M41 RGB Interface Module</td>
<td>$1000</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
650HR
Series NTSC, PAL Color Picture Monitors
Precise Color Tracking Over Full Signal Range
Two Switchable Inputs Isolated from Ground for Hum Rejection
External Sync Switching Capability
Differential (A-B) Inputs for Sync Timing and Burst Phasing Adjustments
High Resolution Trinitron CRT
Variable Aperture Correction
NTSC, PAL, and Dual Standard Versions — RGB Inputs Optional
Rapid Retrace — Entire Active Picture Area can be Displayed in Underscan
Precision Decoding — Outputs may be used to Present Vector Displays on X-Y Oscilloscopes
Unique "Blue Only" Capability for Optimizing VTR Settings

ORDERING INFORMATION
When ordering, please use the exact nomenclature given here. All 650HR Monitors are shipped with rackmounting hardware. Cabinet version hardware is also included.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>650HR NTSC</td>
<td>$5350</td>
</tr>
<tr>
<td>650HR-1 NTSC + RGB</td>
<td>$5545</td>
</tr>
<tr>
<td>651HR PAL</td>
<td>$5580</td>
</tr>
<tr>
<td>651HR-1 PAL + RGB</td>
<td>$5810</td>
</tr>
<tr>
<td>655HR NTSC + PAL</td>
<td>$6125</td>
</tr>
<tr>
<td>655HR-1 NTSC + PAL + RGB</td>
<td>$6365</td>
</tr>
</tbody>
</table>

Accurate vector displays on X-Y oscilloscopes such as the TEKTRONIX 1424 are made possible by the precision decoder outputs on TEKTRONIX 650HR Series Monitors.

650HR
Series SECAM Color Picture Monitors
Color Sequencing from Field Identification Signals or Line Burst
Precision Decoding Allows use of R-Y, B-Y Outputs for Vector Display Measurements
PAL/SECAM Version Available (656HR) with Front Panel Selection of Decoding Standard
RGB Inputs (Optional) Includes R-Y, B-Y Output
Variable Aperture Correction
Vertical and Horizontal Delay Display Modes
Reduced Chrominance Line Crawl
Indicates Color Sequence Error
Rapid Retrace — Entire Picture Area is Displayed in Reduced Scan
Two Switchable Inputs Isolated from Ground for Hum Rejection

ORDERING INFORMATION
When ordering, please use the exact nomenclature given here. All 650HR Monitors are shipped with rackmounting hardware. Cabinet version hardware is also included.

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>653HR SECAM MONITOR</td>
<td>$6355</td>
</tr>
<tr>
<td>653HR-1 SECAM + RGB</td>
<td>$6570</td>
</tr>
<tr>
<td>656HR SECAM + PAL</td>
<td>$6980</td>
</tr>
<tr>
<td>656HR-1 SECAM + PAL + RGB</td>
<td>$7190</td>
</tr>
<tr>
<td>Option 01 MiniQuick Connectors for 653HR, 656HR</td>
<td>Add $130</td>
</tr>
<tr>
<td>Option 01 MiniQuick Connectors for 653HR-1, 656HR-1</td>
<td>Add $195</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
# Professional Communications

## Headsets and Stereo Headphones

<table>
<thead>
<tr>
<th>Model</th>
<th>Order By Catalog No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS-91</td>
<td>63620-000</td>
<td>Dynamic, dual, 6000 ohm</td>
<td>$165.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mic, Omni, Dynamic 50/250 ohm</td>
<td></td>
</tr>
<tr>
<td>LW-1</td>
<td>63650-000</td>
<td>Magnetic, single, 3000 ohm</td>
<td>$170.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mic, Omni, Dynamic 50 ohm Battery included</td>
<td></td>
</tr>
<tr>
<td>HD-4</td>
<td>63700-007</td>
<td>Dynamic, dual 600 ohm</td>
<td>$165.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mic, Noise Cancelling Electret, 150 ohm Battery included</td>
<td></td>
</tr>
<tr>
<td>TS-200</td>
<td>63750-000</td>
<td>Magnetic single 275 ohm Mic</td>
<td>$133.00</td>
</tr>
<tr>
<td>CS-81</td>
<td>63300-003</td>
<td>Magnetic single 275 ohm Mic</td>
<td>$104.50</td>
</tr>
<tr>
<td>CS-83</td>
<td>63300-002</td>
<td>Magnetic single w/PTT switch, 275 ohm Mic</td>
<td>$115.50</td>
</tr>
<tr>
<td>CS-85</td>
<td>63300-001</td>
<td>Magnetic dual 275 left, 625 right Mic</td>
<td>$170.00</td>
</tr>
<tr>
<td>CS-87</td>
<td>63300-000</td>
<td>Magnetic dual w/PTT switch, 275 left, 625 right Mic</td>
<td>$187.50</td>
</tr>
<tr>
<td>CS-7</td>
<td>61320-405</td>
<td>Monaural, Dynamic dual 600 ohm</td>
<td>$77.00</td>
</tr>
<tr>
<td>1325</td>
<td>61325-002</td>
<td>Stereo, Dynamic dual 600 ohm</td>
<td>$95.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.

241
**Standard Coax Patching Systems**

**Jacks: Single/Dual**

<table>
<thead>
<tr>
<th>PATCH JACK (BNC)</th>
<th>J3W</th>
<th>070 pin (RCA)</th>
<th>090 pin (WE)</th>
<th>Rear mates with Trompeter PL20 N series or any standard PATCH JACK used above 100 MHz</th>
</tr>
</thead>
</table>

**Introduction:**

Trompeter Electronic's standard coax patching systems, shown on this page, provide limitless flexibility to route signals from one place to another. Two basic versions of Standard Coax patching are available. The RCA 50 ohm type with a pin size of .070" and the Western Electric (WE) 75 ohm type with a pin size of .090". The two are not interchangeable but can be intermixed on the same panel along with TEI's audio patch jacks and panel feet (not shown).

**Plugs & Cable Assemblies**

- **Patch plugs:**
  - Patch plugs (Crimp)
  - Adapter plug (BNC)

**Cable Assemblies Ordering Information:**

Assembly Model Standard Length in Inches
- 6, 12, 18, 24 or 36 Impedance (Ohms) (50,75,93)

**Cable Assemblies Ordering Information:**

- **PART NO.**
  - **WESTERN ELECTRIC**
  - **J3W**
  - **J3M**
  - **J3**
  - **J3D**
  - **J13WR**
  - **J13WC**
  - **J14**
  - **J15**

**Function**

- Patch Jack Single
- Patch Jack Single
- Patch Jack Single
- Patch Jack Single
- Patch Jack Single
- Patch Jack Single
- Patch Jack Dual
- Patch Jack Dual

**REAR ENTRY**

- Patch Cord
- Patch Cord

**PC**

- 60, 75, 93 ohms

**Cable Connectors**

- Standard Coax
- Looping Plug
- Patch Panel

**Ordering Information:**

- **JSI - 12 / J3W**
- **JSI = Aluminum**
- **JSI = Insulated**
- **No. of Jack Holes**
- **Jack Type**

To Order Panels Only, Leave "Jack Type" Blank.

Full Line Catalog and Pricing Available on Request! Prices and Specifications Subject to Change Without Notice.
# 25 G Tower

## General Purpose Communication or Heavy-Duty TV Tower

The 25G will satisfy a tremendously wide range of tower needs. Built on a 12½” equilateral triangular design with continuous steel "zig-zag" cross-bracing entirely electric welded and fabricated in precision equipment. The 8’"zig-zag" braces per 10’ section mean more than usual strength.

## Construction

Unequalled Sturdiness. Superiors Strength. Precision equipment. The 8” zig-zag braces per 10' section mean more than usual strength.

## Special Features

**Finish**
- Finishes ordinarily found in this size tower.
- Superior strength.

## PART NUMBER

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>WT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>25G</td>
<td>10' tower section 40</td>
</tr>
<tr>
<td>25AG</td>
<td>9’ top section for use as home TV top section 31</td>
</tr>
<tr>
<td>25GAG</td>
<td>5’ short top section for use as home TV top section 18</td>
</tr>
<tr>
<td>25AG1</td>
<td>Top section for use with communication antenna. Mast support tube is 1½” galv. pipe, threaded on top and projecting 12” above apex of side rails. 31</td>
</tr>
<tr>
<td>25AG2</td>
<td>Top section for use with communication antenna. Mast support tube is 2” O.D. tubing, 36” total length, extending 18” above apex of side rails. 31</td>
</tr>
<tr>
<td>25AG3</td>
<td>Top section for use with communication antenna. Mast support tube is 2” O.D. tubing, extending 12” above apex of side rails. A two 1” O.D. antenna stub will fit snugly inside support tube. 31</td>
</tr>
<tr>
<td>25AG4</td>
<td>Top section for use with communication antenna. Upper end terminates in 11” dia. flat, circular plate with 2½” dia. hole in center. 31</td>
</tr>
<tr>
<td>25TG</td>
<td>10’ tapered base section. 60</td>
</tr>
<tr>
<td>25TRG</td>
<td>10’ insulator section for 25G tower (includes three #10470 post insulators) 74</td>
</tr>
<tr>
<td>25ACL</td>
<td>1’ anti-climb section (for #25 and #20 towers) 115</td>
</tr>
<tr>
<td>25ACL3</td>
<td>3’ anti-climb metal sheets for attaching to tower section 65</td>
</tr>
<tr>
<td>25JBK</td>
<td>Joint bolt kit 14</td>
</tr>
<tr>
<td>APL25G</td>
<td>Beacon plate 14</td>
</tr>
<tr>
<td>SB25G</td>
<td>3’4” short base section for concrete 10</td>
</tr>
<tr>
<td>SB25G5</td>
<td>5’ short base section for concrete 20</td>
</tr>
<tr>
<td>SB25G6</td>
<td>3’4” hinged short base section for concrete 14</td>
</tr>
<tr>
<td>SB25G7</td>
<td>3’ hinged ground base (for use without concrete) 27</td>
</tr>
<tr>
<td>DB25G</td>
<td>Single drive base 20</td>
</tr>
<tr>
<td>BPC25G</td>
<td>Concrete base plate 27</td>
</tr>
<tr>
<td>1X12BP</td>
<td>Pier plate (for BPC25G or 25STG—one required) 1</td>
</tr>
<tr>
<td>1X12BPB</td>
<td>Concrete base bolt with double nuts (for BPH25G—you required) 21</td>
</tr>
<tr>
<td>BF25G</td>
<td>Flat roof mount 24</td>
</tr>
<tr>
<td>BK25G</td>
<td>Peak roof mount 14</td>
</tr>
<tr>
<td>BP25G</td>
<td>Base plate (for use with drive rods) 7</td>
</tr>
<tr>
<td>DR25G</td>
<td>3’4” drive rods (set of 3) 8</td>
</tr>
<tr>
<td>DT25G</td>
<td>Drive tool 1</td>
</tr>
<tr>
<td>RS25G</td>
<td>Rotor post 3</td>
</tr>
<tr>
<td>RP25GCM</td>
<td>Rotor post 2</td>
</tr>
<tr>
<td>AS25G</td>
<td>Accessory shelf. Triangular plate for mounting Ham “M” rotor or mast bearing. Mounts inside of tower. When using Model 400 Rotor, plate must be redrilled. 4</td>
</tr>
<tr>
<td>GA25G</td>
<td>Guy assembly (bracket with torque bars) 10</td>
</tr>
</tbody>
</table>

## Self-Supporting Heights for 25G Tower

### Wind Load

<table>
<thead>
<tr>
<th>No. Ant.</th>
<th>2 Ft.</th>
<th>2 Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Ant.</td>
<td>1.5</td>
<td>2.3</td>
</tr>
<tr>
<td>10.00 PSF (50 MPH)</td>
<td>72.4’</td>
<td>58.4’</td>
</tr>
<tr>
<td>14.40 PSF (60 MPH)</td>
<td>60.4’</td>
<td>48.7’</td>
</tr>
<tr>
<td>20.00 PSF (70.7 MPH)</td>
<td>51.3’</td>
<td>41.4’</td>
</tr>
</tbody>
</table>

*See Installation Instruction **Recommended

**Factor of Safety**
- 1.5
- 2.3

### Towers mounted on these bases must be bracketed or guyed

## Prices and Specifications Subject to Change Without Notice.
533 Octave Graphic Equalizer

The 533 Octave Graphic Equalizer is a studio quality product which has wide application in recording, sound reinforcement, radio and TV production, and high fidelity music systems. It is a successor to the popular UREI Model 532 offering 10 filter sections with increased control range, and more output capability.

Model 535 Dual Graphic Equalizer

- Two channels in one compact package
- 10 adjustable equalizers on ISO one-octave center frequencies for each channel
- 12 dB boost or 12 dB attenuation at each center frequency
- Stepless, noiseless, calibrated controls
- Gain variable from -10 dB to +20 dB
- State-of-the-art synthesized LC filter circuitry
- Low distortion, lowest noise, minimum phase shift
- Standard rack mounting, only 3¼ inches high
- Optional front panel security cover
- Competitively priced
- UREI quality of course

Model 537 1/3 Octave Graphic Equalizer

- 27 adjustable equalizers on ISO 1/3-octave center frequencies
- 12 dB boost or 12 dB 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 20 dB gain
- Standard rack mounting, only 3¼ inches high
- Optional front panel security cover
- Competitively priced
- UREI quality of course

Model 546 Dual Parametric Equalizer

- Two independent channels in one package
- Four sections of Parametric Equalization in each channel all continuously variable in Bandwidth, Frequency, and Boost and Cut
- Bypass switches for both channels and each parametric filter section
- Expanded Single Channel mode provides eight sections of parametric equalization
- End cut filters tunable over a wide range for bandwidth restriction
- Large, easy-to-adjust controls
- Multi-point overload detection circuits
- Balanced or unbalanced bridging inputs
- Transformer isolated outputs
- Gain variable over a 30 dB range
- UREI quality, of course

Equalizers and Filters

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>Sub-Sonic Processor</td>
<td>$88.00</td>
</tr>
<tr>
<td>525</td>
<td>Electronic Crossover</td>
<td>$696.00</td>
</tr>
<tr>
<td>533</td>
<td>Octave Graphic Equalizer (mono)</td>
<td>$296.00</td>
</tr>
<tr>
<td>535</td>
<td>Dual Graphic Equalizer</td>
<td>$498.00</td>
</tr>
<tr>
<td>537</td>
<td>1/3-Octave Graphic Equalizer</td>
<td>$846.00</td>
</tr>
<tr>
<td>539</td>
<td>Room Equalizer</td>
<td>$996.00</td>
</tr>
<tr>
<td>545</td>
<td>Parametric Equalizer</td>
<td>$396.00</td>
</tr>
<tr>
<td>546</td>
<td>Dual Parametric Equalizer</td>
<td>$696.00</td>
</tr>
<tr>
<td>562</td>
<td>Feedback Suppressor</td>
<td>$546.00</td>
</tr>
<tr>
<td>567</td>
<td>PA Processing System</td>
<td>$846.00</td>
</tr>
<tr>
<td>568</td>
<td>SC2 Security cover for 525</td>
<td>$36.00</td>
</tr>
<tr>
<td>569</td>
<td>SC1 Security cover for 535</td>
<td>$36.00</td>
</tr>
<tr>
<td>570</td>
<td>SC1 Security cover for 537</td>
<td>$36.00</td>
</tr>
<tr>
<td>571</td>
<td>SC1 Security cover for 539</td>
<td>$36.00</td>
</tr>
<tr>
<td>572</td>
<td>SC1 Security cover for 546</td>
<td>$48.00</td>
</tr>
<tr>
<td>573</td>
<td>SC1 Security cover for 547</td>
<td>$36.00</td>
</tr>
<tr>
<td>574</td>
<td>SC1 Security cover for 562</td>
<td>$36.00</td>
</tr>
<tr>
<td>575</td>
<td>SC2 Security cover for 567</td>
<td>$36.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
BL-40 Modulimiter
The BL-40 Modulimiter is specifically designed for AM broadcasting, but will also find wide application in TV and CCTV audio signal processing, background music systems and commercial sound systems.
For the AM broadcaster, Modulimiter eliminates unwanted overmodulation without clipping. Independent adjustments are provided for RMS and peak limiting, and variable positive overmodulation up to 125%.
Modulimiter features low noise, low distortion integrated circuitry, and occupies only 3" of rack space. Three separate meters indicate RMS LIMITING, PEAK LIMITING and OUTPUT LEVEL simultaneously.

LA-4 Compressor/Limiter
The LA-4 Compressor/Limiter is another great performer in the continually expanding product line from UREI — the company which has built and sold more limiters and compressors throughout the world than any other manufacturer. Making use of patented Electro-Optical Attenuator technology owned by UREI, the LA-4 offers smooth, predictable performance coupled with ease of operation. Its electroluminescent light source is a light-emitting semiconductor, which will not change or deteriorate with age.

Model 1178 Dual Peak Limiter
- Two independent Peak Limiters with perfect tracking when used in stereo mode
- Attack time front panel adjustable from 20-800 micro-seconds. Independent of peak duration or frequency
- Release time front panel adjustable from 50 ms to 1.1 seconds
- 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)
- UREI quality, of course

Limiters and Compressors

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-4</td>
<td>Compressor/Limiter</td>
<td>$446.00</td>
</tr>
<tr>
<td>DR-1</td>
<td>Double Rack Mount for two LA-4's</td>
<td>24.00</td>
</tr>
<tr>
<td>SR-1</td>
<td>Single Rack Mount for one LA-4</td>
<td>26.00</td>
</tr>
<tr>
<td>1176LN</td>
<td>Peak Limiter</td>
<td>546.00</td>
</tr>
<tr>
<td></td>
<td>SC2 Security cover for 1176LN</td>
<td>36.00</td>
</tr>
<tr>
<td></td>
<td>1176SA Stereo Adaptor</td>
<td>46.00</td>
</tr>
<tr>
<td>1178</td>
<td>Dual Peak Limiter</td>
<td>796.00</td>
</tr>
<tr>
<td></td>
<td>SC2 Security cover for 1178</td>
<td>36.00</td>
</tr>
<tr>
<td>BL-40</td>
<td>Modulimiter</td>
<td>596.00</td>
</tr>
<tr>
<td></td>
<td>T4C Electro-Optical Attenuator (replacement for BL-40)</td>
<td>48.00</td>
</tr>
</tbody>
</table>

Prices and Specifications Subject to Change Without Notice.
**Model 200 X-Y Recorder Mainframe for 2000 Series Modules**
- Electrostatic paper holddown alignment guides
- Disposable pens or standard felt tip pens
- Desk top or rack mounting
- Plug-in versatility with modular electronics
- Single chassis rugged casting
- Switch selectable universal power facility
- Pen, Servo, Chart and Line switches
- Continuous duty servo motors

**Model 811A Time Aligned™ Studio Monitor System**
- The 811A uses a newly developed* high frequency horn utilizing UREI’s Diffraction Buffer plus other new techniques. This results in smoother response, extended H.F. range, and improved off-axis response.
- Provides a reduction in transient distortion
- The new 800H-A H.F. horn incorporates many unique features which afford improved matching of the horn driver throat to free air and substantially reduce the “Shadow Effect” common to some coaxial type loudspeakers. In addition, other acoustic techniques have been employed to significantly reduce transient distortion (ringing). These features improve the combining of the low and high frequency drivers in a smooth time and magnitude relationship
- Low loss crossover network allows maximum power transfer to the transducers and corrects the spatial alignment of acoustic centers
- BNC connector on the crossover network allows use of Conductor Compensation as available on the UREI Model 6500 Power Amplifier. This reduces the reactive effects of the speaker cable and improves damping
- 604 ceramic duplex with UREI custom H.F. horn for extended and more uniform H.F. response
- Size is ideal for small control rooms, broadcast or mastering rooms, and audition rooms
- <5 cu. ft. enclosure with pressure control aperture for excellent L.F. damping good efficiency and low distortion
- Unique enclosure damping method provides high efficiency conversion of low frequency sound pressure to abibatic energy

*Patent pending

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**Specialty Items**
- 200 X-Y Recorder Mainframe $1996.00
- 201 Display Interface Mainframe 698.00
- 2000 Frequency Response Plug-in Module 1846.00
- 2010 Level and Frequency Detector Plug-in Module 1946.00
- 2020 DC Input Module 346.00
- 20 Warble Generator (Accessory for 2000) 126.00
- DR-2 Double Rack Mount for two 964’s 24.00
- SR-2 Single Rack Mount for one 964 26.00
- 112 Stereo Transcription Preamplifier 366.00

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**Accessories**
- 301 XLR/OZ Adaptor (For models LA4, 535, 537, 539 525, 1178, 1178LN) 26.00
- 40-0022 2½” Modute ("A") Scale VU Meter w/Bezel 26.00
- 40-0026 2½” Modute ("A") Scale VU Meter w/Bezel Backlit 30.00
- PS24-2 Power Supply 376.00
- T48 Electro-Optical Attenuator (replacement for LA3A and LA2A) 48.00
- 5275 Security Cover (silver panel only) 36.00
- 529 Security Cover (silver panel only) 36.00
- 530 Security Cover (silver panel only) 36.00
- 537 Security Cover (silver panel only) 36.00
- 539 Security Cover (silver panel only) 36.00

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**Time Aligned™ Speakers and Networks**
- 811A Studio Monitor System (Complete, less grille) $1276.00
- 811GA Grille 48.00
- 813A Studio Monitor System (Complete, less grille) 1776.00
- 813GA Grille (Optional Accessory) 52.00
- 815A Studio Monitor System (Complete, less grille) 1996.00
- 815GA Grille 62.00
- 801AA Altec Lansing/UREI 8 ohm coaxial driver with custom 800HA horn 696.00

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**Direct Boxes**
- 315 Passive Direct Box 126.00
- 325 Active Direct Box 198.00

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**Power Amplifiers**
- 6150 Power Amplifier 596.00
- 6250 Power Amplifier 796.00
- 6300 Power Amplifier 1296.00
- 6500 Power Amplifier 2196.00
- 6505 Power Module (replacement module for 6500) 846.00

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**Prices and Specifications Subject to Change Without Notice.**
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, and 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 systems offered in spherical, hemispherical, and flat envelopes. They house pan, 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)
Manual video switchers are offered in non-illuminated pushbutton, status indicator, and illuminated pushbutton versions, either terminated or looping. Models are available for switching from four to sixteen camera inputs. All switchers are available in desktop or rack-mounted versions.

SWITCHERS (AUTO)
Automatic video switchers cycle camera positions at selected rates. These switchers (manual, alarm programmed, and broadcast level routing) are offered as either single or dual package models, in homing, bridging, looping, and looping bridging versions. Dual switchers feature local control and remote switching, hardwired and FSK modulated. Ranging switchers are microprocessor controlled versatile matrix systems.

HOUSINGS
Vicon offers a wide range of both indoor and outdoor housings and enclosures including theproof, tamper-proof, concealed, maximum security, explosion-proof, dust-proof, and pressurized models in a variety of sizes to fit each and every application. Add-on's for housings include heaters, blowers, wipers, washers, and a variety of other special accessories.

MOUNTINGS
Vicon mounting accessories include adjustable and fixed support for cameras both indoor and outdoor housings, scanners, pan and tilt units, and video-monitors. Mounting is possible from all horizontal and vertical surfaces on most Vicon units. Models intended for industrial use and/or decorator installation comprise a comprehensive line to fit all usual mounting requirements.

CONTROLS (SINGLE)
Vicon controls are offered in both desktop and standard 19" rack panel configurations for the remote operation of pan and tilt units, scanners, lenses, enclosures, and infrared illuminators. Each control has been designed to operate a specific product and to form a compatible combination with other controls in the formulation of a complete system - both operationally and aesthetically.

CONTROLS (MULTIPLE)
In order to conserve panel or desktop space, Vicon offers several multiple control units for operating remote equipment such as pan and tilts, scanners, and zoom lenses. Multiple control units are either dual station, which operate remote units from two locations, or single station, which operate several remote units from a single control location.

CONTROLS (DIGITAL)
Vicon's digital control systems include long-distance pulse modulated and VPS 1200™ controls, and medium distance Modopulse™ and Vicon™ coaxial cable control systems. These units are intended for use with large system remote control utilizing either twisted control cable or video coaxial cable as a medium for control signals for the purpose of simplifying cabling requirements. Vicon Model VPS 1200™ is a microprocessor based programmable system for flexible control of larger installations.

CONTROLS (MICROPROCESSOR BASED)
Vicon's microprocessor based programmable systems include the VPS 1200™ control with digital transmission over a dual shielded twisted pair and the VPS 1300 R.F.™ system with modulated control and video signal transmission over single coaxial cables. These systems offer half duplex transmission and continuous receiver polling for flexible control of larger installations.

VIDEO SIGNAL EQUIP.
Video signal equipment encompasses a wide range of video related products. This specialized equipment includes video amplifiers, distribution amplifiers, motion detectors, time/date generators, screen splitters, camera identifiers, and many others.

FIXED LENSES
Vicon's fixed focal length lenses include manual, motorized, and remote controllable focusing. Lens controls are variations of lens focus and iris control on a wide variety of lens types. Vicon's automatic lenses are compatible with virtually all existing camera systems. A wide range of focal lengths and lens speeds are available for both one inch and two-inch vidicon formats.

ZOOM LENSES
Vicon offers a comprehensive range of zoom lenses in a variety of focal lengths and speeds. Zoom lenses for both one inch and two-inch vidicon formats are offered in manual, motorized, and remote controllable focusing. Vicon zoom lenses are available in many unique configurations. Vicon zoom lenses are offered in both manual and automatic control, as well as compatible remote control in conjunction with other cameras now offered by most manufacturers.

Prices and Specifications Subject to Change Without Notice.
Model 4000 Multi-Phase Meter and VIRS Inserter

Prices and Specifications Subject to Change Without Notice.

Video Squelch
Model VS-1
The Video Squelch is an automatic video fault monitor and signal switch. By use of a unique circuit scheme, this unit monitors a main video feed for signal-to-noise ratio degradation below a customer set level or for complete loss of valid video signal. If either fault occurs, an alternate video source is selected and built-in visual and audible alarms are activated. An automatic 110 volt switched power source is provided to control auxiliary equipment when a fault occurs. The VS-1 is ideal for unattended control of remote repeaters, automatic alternate best feed selection in cable and satellite distribution systems, and continuous signal monitoring at broadcast stations and in industrial installations.

Color Burst Phase Meter
Model BPM-1 (Cabinet) $695.00
Model BPM-1R (Rack) 745.00
Model BPM-1 OPT: 02 H-phase 855.00
Model BPM-1 OPT: 03 (Rack with dual meters) 990.00

VACC's BPM-1 option: 02 Burst Phase Meter and H Phase Meter is both a low-cost substitute or replacement for most vectorscope applications where burst-phase errors need to be observed and measured. Likewise, the unit is a low-cost substitute for an oscilloscope where H-Phase errors need to be observed and measured. H-Phase adjustments are necessary during post-editing on VTR's and on video equipment such as cameras and time base correctors. When making H-Phase measurements on an oscilloscope, it is very common to encounter display shifts due to differences in DC restoration. The H-Phase meter eliminates this ambiguity. Technicians and engineers alike find the burst-phase and H-Phase meter easier to use, more accurate and convenient and one-fifth the cost of traditional equipment. The BPM's small size and low-cost find this instrument ideal for their recording room, TV studio and remote van.

Cross Pulse Generator

Model CPG-1
$325.00
Model CPG-1R (Rack) 360.00
Model CPG-1 OPT: 01 (External Sync) 355.00
Model CPG-1R with OPT: 01 410.00

VACC's Model CPG-1 Cross Pulse Generator BNC loop-thru connects to any video line (unity gain). Operates externally with any monitor or auxiliary equipment when a fault occurs. The VS-1 is ideal for unattended control of remote repeaters, automatic alternate best feed selection in cable and satellite distribution systems, and continuous signal monitoring at broadcast stations and in industrial installations.

Color Genlock Sync Generator
VACC's genlock provision allows you to synchronize your entire video system to an external video source (VTR, remote line, etc.) - Autoederal reference switch • Indicator lights (power, phase lock, external sync present) • Sub-carrier phase adjustment (coarse and fine) • NTSC stability long term • Phase lock • Outputs H drive, V drive, blanking, burst flag, sub-carrier, black burst and dual sync outputs • Inputs loop-thru composite video or black burst.

Helical tape recorder outputs have typically 1000 or more times the frequency variations of broadcast video. The Model 5000 OPT: 01 provides a very wide range genlock that is front panel selected to lock to helical recorder playbacks even with +/ - 1% speed variations, +/ - 10 microseconds skew and high amplitude head transition noise.

Model 5000 $1995.00

NTSC/RS170 COLOR SYNC GENERATOR
Model 100 $835.00
Model 100R (Rack) 995.00
Model 100DA (Cabinet with DA) 1050.00
Model 100RDA (Rack with DA) 1050.00

VACC's Model 100 NTSC color sync generator can help you get technically-correct pictures day after day for years and years. Outputs H-drive, V-drive, blanking, burst flag, sub-carrier, and black burst and NTSC stability term long.

Multi-Phase Meter and VIRS Inserter
VACC's Model 4000 Multi-phase meter/VIRS inserter is both a production tool and engineers' instrument. It can be substituted for a vectorscope when measuring VIRS-phase and Burst-phase errors. The Model 4000 is an ideal replacement for most oscilloscopes where H-phase errors need to be observed and measured. Both Burst-phase and H-phase can be measured simultaneously on easy-to-read, lighted analog meters. Production personnel, technicians and engineers alike find the Burst-phase and H-phase meter easier to use, five times more accurate and one-fifth the cost of traditional equipment.

Besides the capability of measuring VIRS-phase, Burst-phase and H-phase, VACC's Model 4000 allows you to add VIRS to line 19 of each television field. The principle purpose of the VIR signal is to monitor the amplitude phase parameters of TV material being transmitted. It can also be used to monitor equipment performance in a video system. For example, when inserted into all final video, the VIR signals can be a great benefit for equalize and adjust videotapes during playback.

Model 4000 Multi-Phase Meter and VIRS Inserter $1790.00

Cross Pulse Generator

Model CPG-1
$325.00
Model CPG-1R (Rack) 360.00
Model CPG-1 OPT: 01 (External Sync) 355.00
Model CPG-1R with OPT: 01 410.00

VACC's Model CPG-1 Cross Pulse Generator BNC loop-thru connects in any video line (unity gain). Operates externally with any monitor without modification.

Checks helical tape playback skew error allowing for correction while making duplicate tapes.

Checks helical switching head noise and line-to-line jitter.

Checks QUAD head tape playback errors.

Checks type of sync being used and errors such as clipping, overshoot, ringing, jitter and improper equalizing and serration pulses.

Provides a valuable tool in troubleshooting and adjusting many types of video equipment.
ELECTRO OPTICAL ISOLATOR
Model A-1 (For Sony KV1201, 1203, 1204, 1212, 1214, 1215, 1500, 1503, 1510, 1511, 1530, 1710 & CKV-171) ........................................ $190.00
Model A1-A (For Sony KV1711, 1711D, 1712D, 1722, 1723D, 1910, 1910D, 1920, 1920D, 2101) ........................................ $190.00
Model 810 (For Sony KV1207, 1515, 2602, 2647R) .................... $190.00
Installing a V.A.C.C. model A-1 optical isolator circuit in your Sony Trinitron” color receiver converts it for use as a high quality color monitor while still retaining the receiver function. Installation takes less than one hour by an experienced electronics technician. The kit includes one printed circuit board and mounting hardware. When using a hot chassis receiver as a monitor it is necessary to use heavy isolation transformers and circuitry which adds to the weight, size and cost of the receiver/monitor. To eliminate these disadvantages, V.A.C.C. uses the latest in technology—electro optical isolators. The devices use light emitting diodes and photo transistors to transmit video and audio information over light beams to the hot chassis circuit of the set.

GENERAL PURPOSE VIDEO LINE ISOLATOR
Model VL-1 .................................................. $270.00
VACC’s Video Line Isolator improves overall performance of your video system by providing better power-line isolation (80 dB) than traditional differential amplifiers. Common-mode ground loop problems are reduced between in-coming video signals and different AC power ground potentials. A neon indicator on the self-contained model VL-1 indicates dangerous ground potential voltages.

PARTY LINE (INTERCOM)
PL-1 (Single Unit) ............................................. $ 55.00
PL-1 BC (Party Line Unit with Belt Clip) ......................... 68.00
PLS-1 (Master Unit) ........................................... 100.00
VACC’s Party Line System is an Intercom Amplifier for use with low-impedance headset and carbon microphone (i.e. W.E. type and Telex CS-78). A system would consist of one master (PLS-1) unit and several (up to ten per Master) PL-1 units. The PL-1 Unit may be used without the PLS-1 Master if 8 to 12V well-filtered DC neg. ground is available. Interconnection is 3-wire, shielded twin lead (Belfoil). Using shield for ground is excellent. The talk circuit is not affected by gain control on each unit.

VIDEO ACTIVATED POWER SWITCH
Model VPS-1 ................................................ $79.00
VACC Model VPS-1 Video Activated Power switch provides easy remote control of AC power to any video monitor. Only six wires need to be connected internally in a video monitor; one wire to the video input connector, one wire to ground, two wires to the AC input of the monitor and two wires to the AC power cord in the monitor. The video switch is self-contained on one small 3” x 3½” printed circuit board for easy mechanical and electrical installation by a video technician or engineer.

Black Burst Generator Kit
Model BBG-1 ................................................ $99.00
VACC’s Model BBG-1 Black Burst Generator Kit provides easy addition of black burst to any NTSC color sync generator. Only eight wires connected to the sync generator’s outputs and +5 volt power supply makes electrical connection fast and easy to do. The generator kit is self-contained on one small printed circuit board for easy mechanical installation. Typical installation by a video technician or engineer is less than 30 minutes. Inputs — Subcarrier, burst flag, comp. sync, comp. blanking, +5 VDC.

Prices and specifications subject to change without notice
TSM-5 A 
WAVEFORM MONITOR

VSM-5 A
VECTORSCOPE

THE PERFECT COMPANIONS

Professional Test Equipment for the accurate monitoring and measurement of television waveforms and vector signals.

FEATURES

DIS-INTERNAL ILLUMINATED GRATICULE - With pulse-bar measurement capability for parallax free measurements.

TIME BASE - 2H, 1H, 1/2ls/DIV, 0.5/ls/DIV, 2V, 2V MAG.

FILTERS - Flat, IRE (per IEEE 205 Std.), Chroma, Differential Gain.

INPUTS - Selectable A/B video looping BNC inputs.

OUTPUTS Separately buffered video out 1VP-P into 75 ohm termination.

SYNC - Selectable internal/external input.

YRGB/RGB - 9 pin access connector for monitoring color processing amplifier waveforms.

DC RESTORATION - Selectable

HIGH VOLTAGE REGULATION.

NTSC/PAL - Standard NTSC 525 lines, 30 frame (60 Hz field rate) scan, 3.579545 MHz subcarrier frequency (or) PAL 625 lines, 25 frame (50 Hz field rate) scan.

COMPACT - Mounts in 5 1/4" of vertical rack space and one-half 19" rack width space.

VSM-5 A
VECTORSCOPE

FEATURES

INTERNAL ILLUMINATED GRATICULE - For parallax free measurements.

INPUTS - Selectable A/B video, looping BNC inputs and subcarrier "A" select, PAL pulse looping BNC inputs (PAL only).

REF - Selectable A/B, Calibrate subcarrier and external subcarrier loops.

TEST - NTSC: Test circle/alternate line push button, selectable, PAL: Test circle/NTSC push button selectable.

HIGH VOLTAGE REGULATION.

NTSC/PAL - Standard NTSC 525 lines, 30 frame (60 Hz field rate) scan, 3.579545 MHz subcarrier frequency (or) PAL 625 lines, 25 frame (50 Hz field rate) scan, 4.433618 MHz subcarrier frequency.

TSM-5 A Waveform Monitor without case ........................................... $1965.00

Options:

Single Standard Case ........................................... 30.00

Portable case w/handle and sunshield ............................. 118.00

Double rackmount case ........................................... 200.00

Blank panel ....................................................... 20.00

Dimensions: 5 1/4" (13.3 cm) H x 8 1/2" (21.6 cm) W x 18 1/2" (47.0 cm) D

Weight: 15 lbs.

VSM-5A Vectorscope without case ........................................... $2365.00

Options:

Single Standard Case ........................................... 30.00

Portable case w/handle and sunshield ............................. 118.00

Double rackmount case ........................................... 200.00

Blank panel ....................................................... 20.00

Dimensions: 5 1/4" (13.3 cm) H x 8 1/2" (21.6 cm) W x 18 1/2" (47.0 cm) D

Weight: 13 lbs.

Prices and Specifications Subject to Change Without Notice.
Videotek Trinitron Plus® color monitors and monitor/receivers are designed for use in closed circuit, cable and teleproduction application. Optional equipment is available, making the entire series most versatile and desirable for broadcast use. All of the monitors and monitor/receivers are totally compatible with portable recording equipment, one hundred percent solid state circuitry, complemented by the Trinitron Plus’ CRT assures maximum stability and reliability of all videotek color monitors.

STANDARD FEATURES ON ALL UNITS: DC Restoration, 8 Pin VTR Connector, Audio

OPTIONS AVAILABLE:
A-B Selection (not available with TV-Line-VTR Selection), Blue Gun, External Sync, Underscan, Pulse Cross, TV-Line-VTR Selection (not available with A-B Inputs) Standard on RM-8, 12, 15, 17, 19 and 26

VM-6A
Nine Inch
Dimensions: 11 1/4" H x 10 1/2" W x 11 1/8" D
Weight: 16 Lbs 5 Ozs
Price: $597.00

RM-6A
Nine Inch
Dimensions: 11 1/4" H x 10 1/2" W x 11 1/8" D
Weight: 16 Lbs 5 Ozs
Price: $597.00

VM-12
Twelve Inch
Dimensions: 13 3/8" H x 18 1/2" W x 15 3/8" D
Weight: 32 Lbs
Price: $947.00

RM-12
Twelve Inch
Dimensions: 13 3/8" H x 18 1/2" W x 15 3/8" D
Weight: 32 Lbs
Price: $947.00

VM-15
Fifteen Inch
Dimensions: 16 1/2" H x 19 1/2" W x 18 3/4" D
Weight: 34 Lbs
Price: $1160.00

RM-15
Fifteen Inch
Dimensions: 16 1/2" H x 19 1/2" W x 18 3/4" D
Weight: 34 Lbs
Price: $1160.00

VM-17
Seventeen Inch
Dimensions: 19" H x 22 1/2" W x 21 1/8" D
Weight: 39 Lbs
Price: $1510.00

RM-17
Seventeen Inch
Dimensions: 19" H x 22 1/2" W x 21 1/8" D
Weight: 39 Lbs
Price: $1510.00

VM-19
Nineteen Inch
Dimensions: 21 1/4" H x 24 1/2" W x 24 1/8" D
Weight: 44 Lbs
Price: $1960.00

RM-19
Nineteen Inch
Dimensions: 21 1/4" H x 24 1/2" W x 24 1/8" D
Weight: 44 Lbs
Price: $1960.00

VM-21
Twenty-One Inch
Dimensions: 24" H x 27 1/2" W x 26 3/4" D
Weight: 50 Lbs
Price: $2310.00

RM-21
Twenty-One Inch
Dimensions: 24" H x 27 1/2" W x 26 3/4" D
Weight: 50 Lbs
Price: $2310.00

VM-23
Twenty-Three Inch
Dimensions: 27" H x 30 1/2" W x 28 3/4" D
Weight: 56 Lbs
Price: $2660.00

RM-23
Twenty-Three Inch
Dimensions: 27" H x 30 1/2" W x 28 3/4" D
Weight: 56 Lbs
Price: $2660.00

VM-26
Twenty-Six Inch
Dimensions: 29" H x 33 1/2" W x 31 1/8" D
Weight: 62 Lbs
Price: $3160.00

RM-26
Twenty-Six Inch
Dimensions: 29" H x 33 1/2" W x 31 1/8" D
Weight: 62 Lbs
Price: $3160.00

VM-28
Twenty-Eight Inch
Dimensions: 31" H x 36 1/2" W x 33 1/8" D
Weight: 68 Lbs
Price: $3510.00

RM-28
Twenty-Eight Inch
Dimensions: 31" H x 36 1/2" W x 33 1/8" D
Weight: 68 Lbs
Price: $3510.00

VM-30
Thirty-Inch
Dimensions: 33" H x 39 1/2" W x 35 1/8" D
Weight: 74 Lbs
Price: $4060.00

RM-30
Thirty-Inch
Dimensions: 33" H x 39 1/2" W x 35 1/8" D
Weight: 74 Lbs
Price: $4060.00

VM-32
Thirty-Two Inch
Dimensions: 35" H x 42 1/2" W x 37 1/8" D
Weight: 80 Lbs
Price: $4510.00

RM-32
Thirty-Two Inch
Dimensions: 35" H x 42 1/2" W x 37 1/8" D
Weight: 80 Lbs
Price: $4510.00

Call or Write for Information on Options

Prices and Specifications Subject to Change Without Notice.
The complete Videotek line of professional Trinitron Plus color monitors was designed for convenient means of set-up and maintenance, most controls are located on the front panel, thus, permitting the equipment to be easily adjusted and operated. The entire series is constructed of rugged cast aluminum and steel to assure the durability needed in all areas of video productions. To make the professional line complete, Videotek offers the eight inch color monitor, which can be operated on AC or (12v - 24v) DC.

**PROFESSIONAL RACKMOUNT COLOR MONITORS**

**VM-12PR**
Twelve Inch

Dimensions: 10-1/2" H x 19" W x 18" D
Weight: 45 lbs
Price: $1175.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, external sync, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, R-G-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**VM-12PRO**
Twelve Inch

Dimensions: 10-1/2" H x 19" W x 18" D
Weight: 45 lbs
Price: $1480.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, R-G-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**STUDIO 12**
Twelve Inch

Dimensions: 10-1/2" H x 19" W x 18" D
Weight: 55 Lbs
Price: $2260.00

**FEATURES INCLUDE**
- High voltage regulation, A-B inputs, A-B split screen, A-B wipe, A-B mix, selectable sync stripping in A-B split mode, vector outputs, selectable horizontal time constant, pulse cross, normal/underscan function, switchable internal/external sync, automatic chroma control defeat, tally light, DC restoration, rackmount accessories

**VM-15PR**
Fifteen Inch

Dimensions: 24-1/2" H x 19" W x 18-3/8" D
Weight: 53 lbs
Price: $1730.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, R-G-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**VM-17PR**
Seventeen Inch

Dimensions: 17-1/2" H x 19" W x 21-1/2" D
Weight: 55 Lbs
Price: $1970.00

**FEATURES INCLUDE**
- Keyed back porch clamping, A-B inputs, external sync, tally light, R-G-B drive and background controls, aperture control and rackmount accessories

**OPTIONS AVAILABLE**
- Pulse cross and underscan

**VM-15PT**
Fifteen Inch

Dimensions: 24-1/2" H x 19" W x 18-3/8" D
Weight: 53 lbs
Price: $1730.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, R-G-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**VM-17PT**
Seventeen Inch

Dimensions: 17-1/2" H x 19" W x 21-1/2" D
Weight: 55 Lbs
Price: $1970.00

**FEATURES INCLUDE**
- Keyed back porch clamping, A-B inputs, external sync, tally light, R-G-B drive and background controls, aperture control and rackmount accessories

**OPTIONS AVAILABLE**
- Pulse cross and underscan

**VM-26P**
Professional color monitor

Twenty-six Inch

Dimensions: 25.1/4" H x 26" W x 23-3/4" D
Weight: 175 lbs
Price: $1795.00

**FEATURES INCLUDE**
- A-B inputs, internal-external sync, R-G-B gun switches, R-G-B drive and background controls, average preset adjustments for chroma, hue, brightness and contrast

**OPTIONS AVAILABLE**
- Pulse cross and underscan

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**PROFESSIONAL AC/DC COLOR MONITORS**

**VM-5PR AC/DC**
Single five inch color monitor

Weight: 17 Lbs
Price: $1240.00

**VM-8PR AC/DC**
Single eight inch color monitor with space for Videotek's TSM Waveform Monitor

Weight: 32 lbs
Price: $1230.00

**VM-8PRW AC/DC**
Single eight inch color monitor with space for Videotek's TSM Waveform Monitor

Weight: 32 lbs
Price: $1190.00

**VM-28P AC/DC**
Single twenty-six inch color monitor

Weight: 175 lbs
Price: $2160.00

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The complete Videotek line of professional Trinitron Plus color monitors was designed for convenient means of set-up and maintenance, most controls are located on the front panel, thus, permitting the equipment to be easily adjusted and operated. The entire series is constructed of rugged cast aluminum and steel to assure the durability needed in all areas of video productions. To make the professional line complete, Videotek offers the eight inch color monitor, which can be operated on AC or (12v - 24v) DC.

**PROFESSIONAL RACKMOUNT COLOR MONITORS**

**VM-12PR**
Twelve Inch

Dimensions: 10-1/2" H x 19" W x 18" D
Weight: 45 lbs
Price: $1175.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, external sync, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, A-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**VM-12PRO**
Twelve Inch

Dimensions: 10-1/2" H x 19" W x 18" D
Weight: 45 lbs
Price: $1480.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, R-G-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**STUDIO 12**
Twelve Inch

Dimensions: 10-1/2" H x 19" W x 18" D
Weight: 55 Lbs
Price: $2260.00

**FEATURES INCLUDE**
- High voltage regulation, A-B inputs, A-B split screen, A-B wipe, A-B mix, selectable sync stripping in A-B split mode, vector outputs, selectable horizontal time constant, pulse cross, normal/underscan function, switchable internal/external sync, automatic chroma control defeat, tally light, DC restoration, rackmount accessories

**VM-15PR**
Fifteen Inch

Dimensions: 24-1/2" H x 19" W x 18-3/8" D
Weight: 53 lbs
Price: $1730.00

**FEATURES INCLUDE**
- Raster size regulation, automatic degauss, keyed back porch clamping, A-B inputs, set-up switch, R-G-B gun switches, R-G-B drive and background controls, tally light, external sync, pulse cross, underscan and rackmount accessories

**VM-17PR**
Seventeen Inch

Dimensions: 17-1/2" H x 19" W x 21-1/2" D
Weight: 55 Lbs
Price: $1970.00

**FEATURES INCLUDE**
- Keyed back porch clamping, A-B inputs, external sync, tally light, R-G-B drive and background controls, aperture control and rackmount accessories

**OPTIONS AVAILABLE**
- Pulse cross and underscan

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Prices and Specifications Subject to Change Without Notice.
**Videotek RM-13**

Thirteen Inch Color Receiver/Monitor

The new Videotek RM-13 is ideal for home computer, classroom, government, industrial and medical use. Priced to be affordable in any budget.

**FEATURES:**
- TV-Monitor Selection
- DC Restoration
- 8 Pin VTR Connector
- E to E for Video Taping
- 100% Solid State
- Complete AC Chassis Isolation
- Slot Mask In-Line Tube

**Dimensions:** Thirteen Inch

**Weight:** 35 Lbs

**Price:** $656.00

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**Videotek RM-19B**

Nineteen Inch Color Receiver/Monitor

The Videotek RM-19B is ideal for classroom, government, industrial and medical use. And priced to be affordable in any budget.

**FEATURES:**
- TV-Line-VTR Selector
- DC Restoration
- 8 Pin VTR Connector
- E to E for Video Taping
- 100% Solid State
- Complete AC Chassis Isolation
- Slot Mask In-Line Tube

**Dimensions:** Nineteen Inch

**Weight:** 55 Lbs

**Price:** $799.00

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**Videotek APM-2R**

Audio Program Monitor

The Videotek APM-2R Audio Program Monitor is ideal for remote vans, editing suites, VTR monitor bridges, or for systems monitoring of audio signals.

**FEATURES:**
- 2 Inputs - Balanced/Unbalanced
- Wide Bandwidth for
- Accurate Monitoring
- Requires only 3½ Inches of Vertical Rack Space

**Dimensions:** 3-1/2" (8.89 cm) H x 10" (26 cm) W x 13" (33 cm) D

**Weight:** 14 Lbs

**Price:** $375.00

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**Videotek APM-8R**

Audio Program Monitor

The new Videotek APM-8R Audio Program Monitor is designed for professional monitoring of audio signals in remote vans, editing suites, VTR monitoring bridges, or for systems monitoring of audio signals.

**FEATURES:**
- 8 Inputs - Balanced/Unbalanced
- A/B Channel Mix Capability
- 10 Watt Amplifier
- External Speaker Output
- Headphone Jack on Front Panel
- 115/230 VAC - 50/60 Hz or +12 VDC Operable

**Dimensions:** 3-1/2" (8.89 cm) H x 19" (48 cm) W x 13" (33 cm) D

**Weight:** 18 Lbs

**Price:** $799.00

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**Prices and Specifications Subject to Change Without Notice.**
THE "EDITING" GROUP

A. MODEL 901A EDITING CONSOLE
Shelves adjust in 1" increments for perfect working height. All steel VTR shelves pullout with 12" safety stop. Editor shelf has 12" pullout workspace for scripts and schedules. Removable back panels conceal a 2" x 28" cable raceway. Overall dimensions 56 H X 28 D X 60 W

B. MODEL 900C CONSOLE
Rugged steel construction; all shelves adjust in 1" increments for comfortable working height. Model shown is bolted together as in-line console. Editor shelf pulls out 12" for better viewing of screens and dials. Console rolls on 5" industrial casters (2 locking). Overall dimensions 72 H X 28 D X 60 W

C. MODEL 900LC LOW PROFILE EDITING CONSOLE
Same rugged construction as all other Winsted Consoles. Console shown with three 14" rack cabinets. Other rack cabinets and configurations are available. Includes decorative walnut grain side panels and 2 pullout VTR shelves and one editor shelf. Overall dimensions 46 H X 45 D X 62 W

D. MODEL 3101-T VTR CONSOLE
Holds any 1 VTR. Overhead bridge adjusts up or down; has 10" rack space for monitor and rack cabinets for vector scope and waveform monitor. Base cabinet has hinged top plate rotate 360° for easier servicing and viewing. Overall dimensions are 78 H X 28 D X 32 W

THE "VIDEOCENTER" GROUP

E. MODEL A/V-34B LOW PROFILE MOBILE VIDEO CENTER
Designed for smaller groups or individuals. Top shelf is set back for easy access to VTR. Lockable base cabinet holds tapes or valuable video equipment. Center rolls easily on 4" industrial casters. Overall dimensions are 42" H X 22" D X 36" W

F. MODEL 900MVC ECONOMICAL MINI VIDEO CONSOLE
Wooden recorder shelf and steel monitor shelf. Each adjusts in 1" increments for greater working comfort. Rolls effortlessly on 3" industrial casters (2 locking). Includes 3 outlet electrical assembly, 3 wire 6 foot cord. Overall dimensions are 42" H X 22" D X 36" W

G. MODEL A/V-54B STANDARD HEIGHT VIDEO CENTER
Ideal for conference rooms and larger groups. Lockable lower cabinets for video tapes and equipment. All steel construction with beige and cocoa brown finish. Console moves easily on 4" industrial casters (2 locking). Overall dimensions 54" H X 22" D X 32" W

H. MODEL A/V-60EC VIDEO CONSOLE
Provides complete equipment security. Top section has pull-out VTR shelf for easier player operation and adjustable monitor shelf holds most 21" monitors. Vertically locking rear panel provides full access to rear of video equipment. Bottom cabinet stores tapes and other video accessories. Overall dimensions are 60" H X 20" D X 30" W

Prices and Specifications Subject to Change Without Notice.
THE "DUBBING" GROUP

I. MODEL 450A STATIONARY DUPLICATING CENTER. All shelves are on ball bearing rollers for easy pull out of machines vertically adjustable in 1" increments. Steel construction with beige and cocoa brown finish with walnut woodgrain shelves. Units can be bolted together for economical duplication system. Overall dimensions are 72" H X 20" D X 30" W

J. MODEL 464A SPACE SAVING DUPLICATING CONSOLES. Four pullout VTR shelves. Rack cabinet gives 14 of rack space for switching and monitor equipment. All shelves vertically adjustable in 1" increments. Overall dimensions are 72" H X 20" D X 30" W

K. MODEL V/C-72WO DUPLICATION CENTER. For 1" formats. All 6 shelves pull out for easier operation and are adjustable in 1" increments. Console rolls on 5 industrial casters (2 locking). Overall dimensions are 72" H X 20" D X 22" W

L. MODEL 990A MOBILE 1/2" DUPLICATION CONSOLE. Rugged all steel construction. VTR drawers pull out on ball bearing rollers. All shelves vertically adjustable in 1" increments. Console moves on heavy duty 4 industrial casters (2 locking). Overall dimensions are 72" H X 26" D X 30" W

THE "STORAGE" GROUP

M. MODEL TC-5BB VIDEOCASSETTE STORAGE. For 1/2" videocassettes. All shelves are adjustable in 1" increments. Holds 270 Beta tapes. All steel construction with beige and cocoa brown finish. Overall dimensions are 88" H X 5" D X 36" W

N. MODEL TC-12B VIDEO TAPE STORAGE SYSTEM. Holds 161 U-Matic tapes. Bolt together construction with adjustable shelves. Inside dimensions are 83" H X 8" D X 34½" W. Overall dimensions are 88" H X 8" D X 36" W

O. MODEL TC-8B U-MATIC TAPE STORAGE SYSTEM. For 1/2" U-Matic tapes. Build together construction with adjustable shelves. Holds 161 video cassettes. Inside dimensions are 83" H X 8" D X 34½" W. Overall dimensions are 88" H X 8" D X 36" W

P. MODEL TC-8B TYPE HIGH DENSITY STORAGE SYSTEM. This is an example of Winsted's high density storage system for 1/2" U-Matic tapes. Available for all other tape formats. Movable cabinets roll easily on steel tracks.

Prices and Specifications Subject to Change Without Notice.
MODEL 4305 OPTICAL MULTIPLEXER

Model 4305 consists of a pedestal mounted optical transfer assembly designed to the industry standard 48 inch optical centerline. The basic unit includes 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. Please indicate TV camera and projector types to be used at time of order. Where remote control is specified, please indicate cable footage required. Projectors ordered from ZEI-MARK include the necessary projection lens. Remote control is 24VDC operation.

The Preview option, 2nd TV camera output, is particularly desirable, providing a back-up TV camera in the event of prime output camera failure and to minimize "on-air" breaks. The Preview option, 2nd TV camera output, is particularly desirable, providing a back-up TV camera in the event of prime output camera failure and to minimize "on-air" breaks.

Since the 4305 optical multiplexer 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 thru the 4305 optical transfer and onto the TV camera field lens.

Notes:
1. For models 4307 and 4308, 4th input source must be reversible format film, e.g., 16 x 9, 35mm filmstrip, and "live" Tel-Op input.
2. For 1" format vidicon TV cameras, use 50mm "C" mount lens. For 1/2" format vidicon TV cameras, use 35mm lens.
3. At time of order, please specify TV camera and projector models to be used at each input station.
4. 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 & ACCESSORIES

MODEL NO.  DESCRIPTION
4305  Optical multiplexer, 3 inputs and 1 output. Custom model. Expandable to add Preview and 4th 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. 2nd 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 & 4307.  $3495.00

TV CAMERA & PROJECTOR SUPPORTS

TV camera support and adjustable mount. Fits all models.  $215.00
Same as 4310, but for TV cameras in excess of 30 lbs.  $250.00
Center input projector support.  $150.00
Custom fully skirted side mount for Left and Right film projectors. Fits all models.  $295.00
Custom side mount for Left and Right film projectors, less skirts. Fits all models.  $250.00

PROJECTOR PEDESTALS

Pedestal for either TV12M6 or TVM100A with adjustable mount. 48 inch optical centerline.  $300.00
Pedestal for either 930 or 930R with adjustable mount. 48 inch optical centerline.  $350.00

MULTIPLEXER REMOTE CONTROLS

Model 4306 remote control. Select Left, Center or Right input. Console styled 19 inch rack mount for either flat or vertical mounting. 3/4" high. Illuminated to match 4305 dome lamp colors.  $250.00
Model 4306 remote control. Same as RC4305 except includes Preview select switches.  $275.00
Model 4307 remote control. Same as RC4306 except includes 4th Input mode select switches.  $275.00
Model 4308 remote control. Same as RC4306 except includes Preview and 4th Input switches both.  $300.00

PROJECTOR RC MOUNTING PANELS

3/4 x 1 inch rack panel for mounting up to three RC modules listed below.  $70.00
3/4 x 1 inch rack panel for mounting four projector remote controls listed below. Custom designed to suit system requirements.  $175.00

PROJECTOR REMOTE CONTROL MODULES

E-2 remote control. Lamp on/off, forward and reverse.  $150.00
E-2 remote control, "Change" and dissolve "rate" options.  $100.00
LD-4200 remote control. Includes change, rate, individual and "hold" control.  $200.00
LD-4200 remote control. "Change" and dissolve "rate" options.  $275.00
TV12M6 remote control provides forward, forward w/lamp, reverse w/lamp and stop.  $200.00
TVM100A remote control provides forward, forward w/lamp, reverse w/lamp and stop.  $200.00
Singer 930 & 930R remote control. Forward, forward w/lamp and stop.  $200.00
Eiki RT-0 remote control. Forward, forward w/lamp, reverse & stop.  $200.00
Remote control for 16mm projectors not listed above. Up to four control switches (momentary and/or p-p).  $200.00
Remote control for 2420D1 automatic light control. Includes AGC and manual control.  $100.00

REMOTE CONTROL CABLES

Multiplexer remote control cable 11.00/ft.  $11.00/ft.
Projector remote control cable 11.00/ft.  $11.00/ft.
ND FILTERS

Filter kit. Set of six (6) x 3 inch Kodak gelatin ND filters w/values 0.1, 0.2, 0.5, 1.0, 2.0, & 3.0. Up to six may be ordered in any combination. Filter mounts and glass supplied as std. on all 4300 and 2000 series multiplexers.  $7.00

SLT-L0K2
Easy on, easy off TV camera mount. Use with all multiplexers. Allows for dual TV camera use and minimizes TV camera set-up.  $250.00
SLT-L0K1
One camera adaptor and one base.  $175.00
SLT-L0K2
One camera adaptor and two bases.  $250.00
SLT-L0K1
Base only.  $85.00

MISCELLANEOUS

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 multi-control electronics.  $140.00

Prices and Specifications Subject to Change Without Notice.
Wilson VC-4-DA Video Console

In a single, compact cabinet console, the VC-4-DA combines space for a monitor up to 21", a ball-bearing smooth slide out shelf for even the largest video recorder, and a convenient drawer for video cassettes and other materials. Semi-concealed swivel casters. May be ordered Factory Assembled only.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Dimensions</th>
<th>Shipping Wt. (Lbs.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC-4-DA</td>
<td>51&quot;Hx30&quot;Wx24&quot;D</td>
<td>220</td>
<td>$665.00</td>
</tr>
</tbody>
</table>

Wilson VC-5-D "Low-Boy"

A contemporary blend of black enameled square tubular steel and walnut grained wood laminate, the VC-5-D has the structural strength to hold the heaviest of video equipment. The walnut grained top shelf is recessed to permit easy access to the video recorder. Bottom cabinet, also of walnut grained laminated wood, has locking doors to give you secure storage for cassettes, other video materials. Moves effortlessly on fine furniture 2" hooded ball casters. Shipped semi-KD, with the base cabinet fully assembled.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Dimensions</th>
<th>Shipping Wt. (Lbs.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC-5-D</td>
<td>30 3/4&quot;x32&quot;x22 1/2&quot;D</td>
<td>90</td>
<td>$299.00</td>
</tr>
</tbody>
</table>

Wilson VCM 53 Video Console

A sturdy metal and wood video console that holds up to a 21" monitor. Monitor shelf is adjustable. Has a second ball bearing supported glide-out shelf for your video recorder. Also adjustable. Heavy gauge steel cabinet has charcoal brown baked enamel finish. Walnut grained laminated wood doors have full length continuous hinges and three-point locking action. 4" swivel casters; two lock. Overall size: 53"H x 32"W x 31"D. Ships unassembled.

Model VCM 53  Shipping weight 152 lbs. Price $468.00

Wilson VCM 32C Video Console

An all-metal "Low Boy" video console complete with locking cabinet and hooded ball casters. Heavy gauge steel cabinet and shelves have charcoal brown baked enamel finish. Tubular steel frame and legs are chrome plated. Top shelf; 30"W x 15"D. Second shelf; 20 1/2"D. Cabinet interior; 30"H. Overall; 32 1/2"H x 32"W x 20 1/2"D. Ships partially assembled. Shipping weight 56 lbs. Model VCM 32C  Price $238.00

VCM32 Console

Same construction, finish, and size as the VCM 32C, but does not have locking cabinet. Ships UPS unassembled. Shipping weight 30 lbs. Model VCM 32  Price $152.00
Compact Video Center
Wherever space and budget may be limited, the Wilson VTR40 is ideal. Floor space requirements are a mere 18" x 24".
The base cabinet provides "lock and key" security for video and other materials, while the adjustable height top shelf provides a sturdy platform for your video monitor. Space between the top of the base cabinet and the top shelf may be adjusted to 6-5/8", 10-5/8", or 17-3/4".
Side, and front and back, openings are 15" and 20¾" which makes removal of many VCR's virtually impossible without first removing the top shelf assembly.
The VTR40 rolls effortlessly on 2" hooded ball swivel casters. Colors of the baked enamel finish are brown and almond. "E" model furnished with electrical assembly.

<table>
<thead>
<tr>
<th>Model</th>
<th>Ht. (In.)</th>
<th>Shelf Size (In.)</th>
<th>Approx. Ship.Wt. (Lbs.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTR40</td>
<td>40*</td>
<td>18 x 24</td>
<td>54</td>
<td>$178.00</td>
</tr>
<tr>
<td>VTR40E</td>
<td>40*</td>
<td>18 x 24</td>
<td>56</td>
<td>200.00</td>
</tr>
</tbody>
</table>

*With shelf at highest position.

Video Tables and Cabinets
Wilson Tables give you a choice of flat or 5° slanted top shelves, as noted in the ordering information below. All except SPEC 48 feature "Uni-Strong" shelves with raised rims on all four sides. Cabinetized Tables provide "lock and key" storage. All units feature easy-rolling 4" swivel casters; two may be locked. Non-slip rubber mats are provided for the top shelves.

<table>
<thead>
<tr>
<th>Model No. Description</th>
<th>Top to Middle Shelf Size (In.)*</th>
<th>Middle to Bottom Shelf Size (In.)*</th>
<th>Shelf Size (In.)</th>
<th>Ship. Wt. (Lbs.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>W54S Top shelf slants 5°</td>
<td>54 x 25</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>59</td>
<td>$154.00</td>
</tr>
<tr>
<td>W54TV Top shelf flat</td>
<td>54 x 26 1/2</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>62</td>
<td>150.00</td>
</tr>
<tr>
<td>W48S Top shelf slants 5°</td>
<td>48 x 19</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>56</td>
<td>147.00</td>
</tr>
<tr>
<td>W48T Top shelf flat</td>
<td>48 x 20 1/2</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>57</td>
<td>143.00</td>
</tr>
<tr>
<td>SPEC48S For extra wide TV, top shelf slants 5°</td>
<td>48 x 20 1/2</td>
<td>17 1/2</td>
<td>25 x 34</td>
<td>69</td>
<td>187.00</td>
</tr>
<tr>
<td>W42T Top shelf flat, For TV and general use</td>
<td>42 x 12 1/2</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>55</td>
<td>140.00</td>
</tr>
</tbody>
</table>

TV CABINETIZED TABLES

<table>
<thead>
<tr>
<th>Model No. Description</th>
<th>Top to Middle Shelf Size (In.)*</th>
<th>Middle to Bottom Shelf Size (In.)*</th>
<th>Shelf Size (In.)</th>
<th>Ship. Wt. (Lbs.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>W54SC Top shelf slants 5°</td>
<td>54 x 25</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>78</td>
<td>$230.00</td>
</tr>
<tr>
<td>W54C Top shelf flat</td>
<td>54 x 26 1/2</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>78</td>
<td>226.00</td>
</tr>
<tr>
<td>W48SC Top shelf slants 5°</td>
<td>48 x 19</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>75</td>
<td>224.00</td>
</tr>
<tr>
<td>W48C Top shelf flat</td>
<td>48 x 20 1/2</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>76</td>
<td>220.00</td>
</tr>
<tr>
<td>W42TVC Top shelf flat</td>
<td>42 x 12 1/2</td>
<td>17 1/2</td>
<td>24 x 28</td>
<td>74</td>
<td>217.00</td>
</tr>
</tbody>
</table>

VIDEO TABLES AND CABINETS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Top to Middle Shelf Size (In.)*</th>
<th>Middle to Bottom Shelf Size (In.)*</th>
<th>Shelf Size (In.)</th>
<th>Ship. Wt. (Lbs.)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTR29</td>
<td>Open table for video equip.</td>
<td>29</td>
<td>20 1/2</td>
<td>18 x 40</td>
<td>46</td>
<td>$119.00</td>
</tr>
<tr>
<td>VTR29MC Fully enclosed</td>
<td>29</td>
<td>20 1/2</td>
<td>18 x 40</td>
<td>65</td>
<td>221.00</td>
<td></td>
</tr>
</tbody>
</table>

Specify "E" for electrical assembly; add $22.00.*

*Dimensions indicate clearance between shelves.

Accessories for items on this page
WEA Electric Assembly - 20' power cord with double receptacle; U.L. listed; $27.00. CSA approved $30.00. 5" Caster; $11.00. AWS Web Strap to hold receiver securely to top shelf 11'; $18.00. W15058 Tape Rack holds 24 video tapes; $32.00.
TEMPO 76 EDITOR

- Frame-Accurate Editing
- Program Duration Display
- Event Duration Display
- VaraScan™ — Slow Motion, Reverse and Freeze-Frame Viewing
- Alphanumeric Self-Scan Panel Display by Burroughs Features Large, Easy-To-Read Character Display Panel with 80% Contrast Ratio
- Keyed Entry of Edit Parameter
- Edit Shift and Edit Trim
- Manual Preview
- Automatic Preview
- Automatic Edit
- Two Audio-Channel Edit Capability
- Audio, Audio/Video and Video Edit Selection
- Switcher Control
- Auto-Assembly
- Edit Decision Storage
- Text Edit Option
- A/B or B/A Rolls
- Special Memory to Speed-Up Succeeding Edits
- Edit Abort Logic
- Servo Sync of Two or Three VTR’s
- Motion Control of One, Two or Three VTR’s
- Automatic Search of One, Two or Three VTR’s
- Extended Memory to 300 Events
- System Debug Option

The new Datatron TEMPO 76 Series is a high-performance, microprocessor-centered, expandable control system that takes advantage of integrated circuitry to provide state-of-art ease and flexibility in either Control Track and/or SMPTE Time Code editing modes.

The control center of the series is the TEMPO 76 Editor, featuring TIME SYNC* and VaraSCAN™. The Editor can function equally well using standard SMPTE Edit Code or the standard Control Track pulses.

When using the standard SMPTE Edit Code, the code is recorded on one audio channel (usually the cue track) of the program material source tape and the electronically-edited master tape (EE master).

Since each recorded event coincides with a specific time value to the frame, TIME CODE makes it possible to locate any scene by running the tape to a designated time.

Similarly, when editing in a Control Track mode, pulses are recorded on the magnetic tape coincident with each field. By counting these pulses, TIME SYNC makes it possible to identify the actual frame of video information required to generate the (EE) master. Of course, control-pulse editing is not as consistent nor as accurate as SMPTE Time Code Editing.

With the TEMPO 76 Editor as a base, one can begin building his ultimate editing capabilities gradually with a two-VTR Time Sync or SMPTE Time Sync.

The TEMPO 76 Editor provides for automatic synchronization of video tape recorders (VTR’s) and the precise transfer of information from a playback source to a "record" VTR.

VANGUARD EDITOR

The Vanguard is a high-performance microprocessor based editing system uniquely suited for today's highly creative, cost conscious editing environment. It allows you to perform fast, accurate edits involving up to five VTR's and a switcher—on-line or off-line, SMPTE code or control track. It offers features and conveniences normally found only in expensive, top-of-the-line editing systems, including: an interactive CRT operator display and color coded dedicated function keybord; adjustable operator reaction time compensation; selectable preroll and postroll times; dual VaraScan™ shuttle controls; auto assembly; edit list management; and a large selection of VTR, ATR and film chain interfaces, just to name a few.

- TOTALLY FLEXIBLE VTR INTERFACING
- Field-proven interfaces are available to allow the Vanguard to operate with a wide variety of VTR's, ATR's and film chains.

- OPERATES WITH A VARIETY OF SWITCHERS
- Vanguard interfaces to a number of manufacturers' computer compatible switches, including Datatron's own 2100E model.

- SMPTE CODE OR CONTROL TRACK OPERATION
- Insert or assembly editing can be performed on the Vanguard using either SMPTE time code or control track pulses for tape position referencing (a SMPTE jam-sync generator is required to perform assembly edits in SMPTE mode).

- DUAL VARASCAN™ SHUTTLE CONTROLS
- VTR's capable of variable speed play and shuttle modes can be controlled by Datatron's Varascan variable speed slider search control.

- MARK EDIT POINTS ON-THE-FLY OR KEYBOARD ENTER THEM
- Edit-in and edit-out times can be marked on-the-fly from the time code being read from a moving tape, or they can be entered manually from the keyboard.

- FIVE TiER SCRATCHPAD MEMORY WITH TIME CODE CALCULATOR
- The CRT scratchpad display can accommodate up to five memory time code values entered from the keyboard.

- FULLY AUTOMATIC CUING, PREVIEWING AND EDITING
- The Vanguard offers fully automatic cueing, previewing and editing sequences involving up to three VTR's, plus a single VTR preview sequence.

- ON-THE-FLY (SYNC'D ROLL) EDITS AND PREVIEWS WITH UP TO FOUR SOURCES
- Vanguard can perform edits and previews on-the-fly with up to four source VTR’s rolling.

- UP TO 999 EVENTS OF EDIT LIST MEMORY WITH POWERFUL LIST MANAGEMENT
- Vanguard can store up to 999 lines of edit events in its semiconductor memory; 320 events of memory come standard.

- AUTO ASSEMBLY FROM UP TO FOUR PLAY SOURCES
- The entire edit decision list, or a designated block of it, can be automatically previewed or edited sequentially, pausing only when new reels must be mounted, or when a manual switcher setting is required.

- AN OPERATOR KEYBOARD AND DISPLAY THAT GUARDS AGAINST ERRORS
- All editing functions of the Vanguard system are controlled by the operator from a desktop keyboard and CRT display.

- EDIT LIST INPUT/OUTPUT IN INDUSTRY-STANDARD FORMATS
- The Vanguard can be equipped with several types of edit list input/output devices.
Electronic Video is the key to communications in the 80's! And not just broadcast video, nor consumer video for the home. We're talking about CORPORATE video, INSTRUCTIONAL video, EDUCATIONAL video, SECURITY video. And, VIDEO isn't just pictures, it's PROFITABILITY for your organization.

Video has the ability and diversity to significantly improve the fundamental operations of your business. From employee relations and motivation to new product introductions; from sales training to security and surveillance. Video offers what no other medium can – both sight and sound in a variety of appealing modes.

VIDEO IMAGES is the source for all your video needs, with quality components at competitive prices. Thousands of advanced technology products and supplies from 100 top name brand suppliers and manufacturers. This allows you to compare the largest assortment of video equipment available in one location.

However, VIDEO IMAGES is much, much more than products and supplies. Our commitment to excellence in sales, selection and service insures your complete satisfaction for whatever function video serves you. "Service after the sale" will always be our first concern.