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ON THE COVER:
The Buyers Guide is a comprehensive directory for radio and TV broadcasters. This special BE publication can be used as a guidebook whenever an equipment purchase is being planned. Keep this annual publication on your desk for reference throughout the year. (Design by Kim Bracken, art director.)
Digital Video Testing Just Got Easier...

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The S310 Digital Video Analyser is the only patented, all-in-one analyzer designed to take the frustration out of digital video testing. The S310 performs real time, on-line tests of key signal parameters for both composite and component, serial or parallel digital video, without complex and time consuming interpretation.

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A-V-S By Sencore
The Name To Know In Digital Video Testing
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Welcome to the 1995 Broadcast Engineering Buyers Guide. Continuing the tradition, this 14th reference issue contains a wealth of information regarding manufacturers, distributors and industry associations for the broadcast, cable and production environments.

The Manufacturer Address Directory includes data regarding almost 1,500 companies from 26 different countries. When the headquarters of a company is not in the United States, both the foreign and domestic addresses are included.

In some cases, advertisers have elected to include additional sales offices. In others, they preferred to include a comment about their company or product line. A ♦ preceding a name indicates an advertiser.

For those wishing to make telephone or fax contact with companies outside the United States, we have included country codes and city codes, where known. Keep in mind that when calling an international number, typically a '0' preceding a city code should not be dialed.

The Product Directory includes more than 6,700 entries in 217 product categories within seven major sections — Audio, Video, RF, Computer, Ancillary, Test/Measurement and Services.

In Audio, Video and RF, the products are grouped according to function — acquisition, signal processing, presentation, etc. In all other sections, categories are arranged alphabetically. In some categories, one or more letters or numbers permit division of the category into more precise subgroups. Advertisers within the entire Product Directory are highlighted in blue.

This issue also brings back a listing of dealers and/or distributors of broadcast and production equipment. They are listed alphabetically by state.

The final section of the 1995 Buyers Guide presents a number of the professional organizations associated with the broadcast, cable and production industries. The telephone numbers provided for ITVA and SBE chapters are the latest information possible.

Thank you for helping Broadcast Engineering continue the tradition of serving the industry in a first-class manner. And as the grid structure for the Information Superhighway gains size and strength, we hope you’re a frequent passerby.

Carl Bentz
Directory Editor
NIKON'S NEW ENG LENSES ARE MAKING SMALL NEWS

Smaller Size  Smaller MOD  Smaller Price

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Nikon's two new ENG lenses, the S15x8.5B1-III and the S9x5.5B1-II are lighter, smaller and incorporate an internal focus system for greater flexibility and ease of operation. Both boast aspheric lens technology for high performance with minimal chromatic aberration.

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Advanced Audio Visual Systems designs, manufactures and markets a wide variety of specialized products for the broadcast and professional video industries. These include the S310 All Format Digital Video Analyzer, the S90 Video Image Multiplexer and EVA, an automation package for network station automation. The S310 is a modular test system designed to performance test and troubleshoot digital video systems. The S310 is compatible with composite or component formats and has both serial and parallel outputs. The S310 provides a quick ‘go/no go’ test as well as in depth information on all signal parameters.

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Advanced Broadcast Systems Inc 1659 Production Drive Burlington KY 41005 606-282-7580 Fax: 606-282-7581

Advanced Designs Corp 804 N College Ave Bloomington IN 47404 812-333-1922

Advanced Digital Imaging 1250 N Lakewick Dr Aahaheim CA 92807 714-779-7772 Fax: 714-779-7773

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* denotes an advertiser in this issue. See the advertiser index for more information.
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The Model 1616D breaks new ground in serial digital video switching. With state-of-the-art cable equalizers on every input and a 2 GHz GaAs crosspoint array, the Model 1616D provides the performance you need:

- 16 x 16 serial digital switching matrix
- Data rates from 140 to 400 Mbps
- Automatic equalization for up to 300 meters of cable
- RS-232 or RS-422 serial port for external control
- Up to 64 control panels on a robust RS-485 network
- Modular design, in just 1 RU

In your move to serial digital video, you can count on Sierra Video Systems to lead the way. The proven leader in analog routing switchers is now the new name in digital video.

Sierra Video Systems — for an easy move to serial digital video.

To find out more about the Model 1616D Serial Digital Video Routing Switcher, contact your nearest SVS dealer, or call Sierra Video Systems at (916) 478-1000.

P.O. Box 2462
Grass Valley, CA 95945 USA
Tel (916) 478-1000
Fax (916) 478-1105
Circle (23) on Reply Card
### Headphones, Headsets

- Akg Acoustics
- Akg Acustische und Kino-Geräte
- Audio Intervisual Design
- Audio-Technica
- beyerdynamic
- Broadcast Devices
- Canford Audio
- David Clark
- Clear-Com Systems
- Continental Electronics
- Energy Plus
- Fantronics
- Fostex
- HM Electronics
- Koss
- Nady Systems
- Pacific Radio Electronics
- Philips Drakens
- Photomart Cine-Vdeo
- Plantronics
- Professional Sound
- R-Columbia Products
- ROH Products
- Sennheiser electronic
- Selcom
- Stanton Magnetics
- TASCAM
- Technical Projects
- TOA Electronics
- Yamaha

### Intercoms

- AEO
- Ampco Sound Lab (ASL)
- Anchor Communication/Porta-Com
- Audioarts Engineering
- Bogen Communications
- Canford Audio
- David Clark
- HAE Audio
- Heikki Malkki
- HES Electronics
- HM Electronics
- Image Video/Div of 1077541 Ontario
- IRT Electronics
- ITI Electronics
- JBL Professional
- JNS Electronics
- Kurk Monitoring Systems
- Malcolm Hill Associates
- Nady Systems
- Panasonic Pro Audio/Ramsa
- Parma Power Electronics
- Photomart Cine-Video
- Profi Audio
- Profi-Bel
- Professional Sound
- Pro-Com
- QM
- Radio Design Labs
- Radio Systems
- Ram Broadcast Systems
- Ramco Research
- Samson Technologies
- Scanex Labs
- Schafer World Communications
- Seum Audio/AS
- Sesscom
- Siemens Austria
- Siemens Audio
- Solid State Logic
- Solidyne
- Sonic Solutions
- Sonosax SA
- Sony Broadcast International
- Sony Business & Prod Group
- Sound Designers Studio
- Sound Tech
- Soundcraft Electronics
- Soundtracs PLC
- Spectra Sonics
- Stanton Magnetics
- Studer Professional Audio
- Studer Revox America
- TASCAM
- Telfax Communications
- Tel-Test
- TOA Electronics
- Total Audio Concepts
- Trident Audio Developments
- Unicron
- Ward-Beck Systems
- Wheatstone
- Whirlwind
- Yamaha

### Speakers & Enclosures

- Includes integrated amplifier-speaker units.
- AAVS/Advanced Audio Visual Systems
- Acoustech
- AKG Akustische und Kino-Geräte
- Alexis
- Altec Lansing
- Atlas/Soundolier
- Audio Intervisual Design
- Audix Corp
- Auerhneimer Labs
- Auratone
- BGW Systems
- Canford Audio
- Clear-Com Systems
- Conex Electro Systems
- Continental Electronics
- Drawmer/QMI
- Dukane
- EELA Audio
- Electro-Voice
- Fantronics
- Fostex
- Photomart Cine-Video

### GENELEC®

- Genelec
- Group One
- HBB Communications
- Image Video/Div of 1077541 Ontario
- ITI Electronics
- JBL Professional
- JNS Electronics
- Koss
- KRR Monitoring Systems
- Malcolm Hill Associates
- Nady Systems
- Panasonic Pro Audio/Ramsa
- Parma Power Electronics
- Photomart Cine-Video
- Profi Audio
- Profi-Bel
- Professional Sound
- Pro-Com
- QM
- Rho-Heinz
- SCV Audio
- Sound Tech
- Spectra Sonics
- Studer Professional Audio
- Tannoy/TGI North America
- Television Systems
- TOA Electronics
- UREI
- Vanderberghe Prolenex
- Videogroup Research
- Westlake Audio

### Amplifiers, Monitor, Power

- Acoustech
- ADM Systems
- AEO
- Alexis
- Altec Lansing
- API Audio Products
- Arrakis Systems
- Astley Audio
- ATI Audio Products
- Audio Intervisual Design
- BGW Systems
- Biamp Systems
- Bogen Communications
- Broadcast Devices
- Bryston
- Canford Audio
- Carver
- Clyde Electronics
- Conex Electro Systems
- Continental Electronics
- Crown International
- Dukane
- EDCOR Electronics
- EELA Audio
- Electro-Voice
- Energy Plus
- Fantronics
- FM Acoustics
- Focusrite Audio Eng
- Furman Sound
- Group One
- Hill Audio
- Image Video/Div of 1077541 Ontario
- Industrial Strength Industries
- IRP Professional Sound Products
- IRT Electronics
- Ivie Technologies
- JBL Professional
- JNS Electronics
- Lee Dan Communications
- Link Electronics
- Logitech Electronic Systems
- Malcolm Hill Associates
- Modular Audio Products
- Panasonic Pro Audio/Ramsa
- Photomart Cine-Video
- Portland Instrument
- Practel International
- ProTech Audio
- QSC Audio Products
- Radio Design Labs
- Ramco Research
- Renkus-Heinz
- ROH Products
- Scansex Labs
- Siemens Austria/Audio & Video
- Sonosax
- Sound Tech
- Spectra Sonics
- Studer Digilec
- Studer Professional Audio
- Symetrix
- TASCAM
- Television Systems
- UREI
- Videogroup Research
- Videomex
- Whirlwind
- Yamaha

### Telephone Hybrids

- AAVS/Advanced Audio Visual Systems
- AEO
- Audio Intervisual Design
- Audix Broadcast
- Comrex
- EELA Audio
- Gentner Communications
- Hall Communications
- IRP Professional Sound Products
- ITI Electronics
- JT Communications
- NTP Electronics
- Omicron
- Omicron Audio
- Omicron/Advanced Audio Visuel
- Open
- Panalex
- Panasonic
- Perma Power Electronics
- Philips Components
- Photomart Cine-Video
- Portland Instrument
- Professional Sound
- R-Columbia Products
- Solidyne
- Sonotex
- Studer Professional Audio
- Studer Revox America
- Swettek
- Telos Systems
- Vortex Communications

### Transformers, Matching & Spliiting

- Alphatron/Niko Acustia
- Altec Lansing
- Audio Intervisual Design
- Black Audio Devices
- Bogen Communications
- Canford Audio
- Deerfield Laboratory
- Fantronics
- FSR
- Group One
- HES Electronics
- ITI Electronics
- Jensen Transformers
- Georg Neumann
- North Hills Electronics
- Philips Components
- Photomart Cine-Video
- QSC Audio Products
- Ramco Research
- Renkus
- Scansex
- Solidyne
- Spectra Sonics
- Studer Professional Audio
- Tannoy/TGI North America
- TASCAM
- Videogroup Research
- XTA Electronics

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**Audio**

- Fidelicop
- Focusrite Audio Engineering
- For-A
- Fostex
- Fuggerolle Audio/Videc
- Furman Sound
- G Prime
- GM (UK)
- Graham-Patten Systems
- Group One
- Halikanen & Friends
- Harrision by GLW
- Henry Engineering
- Hill Audio
- Image Video/Div of 1077541 Ontario
- IRP Professional Sound Products
- J Lab
- JLCooper Electronics
- JT Communications
- Kailoronic
- Logitik Electronic Systems
- LPB
- Markie Designs
- Mark IV Pro Audio Group
- McCurdy Radio Industries
- Media Touch Systems
- MicroAudio
- Micron Audio Products
- Mida
- Modular Audio Products
- Nady Systems
- Neoteck
- Neutrik
- Technics
- Ogenic Technologies
- Otari
- Pacific Recorders & Engineering
- Panasonic Pro Audio/Ramsa
- Photomart Cine-Video
- Pro-Bel
- Professional Sound
- ProTech Audio
- QM
- Radio Design Labs
- Radio Systems
- Ram Broadcast Systems
- Ramco Research
- Samson Technologies
- Scanex Labs
- Schafer World Communications
- Seum Audio/AS
- Sesscom
- Siemens Austria
- Siemens Audio
- Solid State Logic
- Solidyne
- Sonic Solutions
- Sonosax SA
- Sony Broadcast International
- Sony Business & Prod Group
- Sound Designers Studio
- Sound Tech
- Soundcraft Electronics
- Soundtracs PLC
- Spectra Sonics
- Stanton Magnetics
- Studer Professional Audio
- Studer Revox America
- TASCAM
- Telfax Communications
- Tel-Test
- TOA Electronics
- Total Audio Concepts
- Trident Audio Developments
- Unicron
- Ward-Beck Systems
- Wheatstone
- Whirlwind
- Yamaha

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**Broadcast Engineering**
At soccer's World Championship Tournament, held at sites across America for the first time in 1994, one of the most powerful performances is being turned in by one of the smallest performers — Schmid's SIAT-MAX Audio Test Generator.

Using the portable, hand-held SIAT-MAX unit at live broadcast sites, along with a Schmid measurement receiver at its control center, the European Broadcast Union can quickly, repeatedly check site-to-center audio links. In doing so, EBU can assure the quality of its transmissions under the most challenging, time-critical conditions.

Innovative audio testing applications like the EBU's are what SIAT-MAX — and Schmid's entire family of short interval audio testing products — are all about. Portability, speed, accuracy, ease-of-operation and low cost all add up to the best, fastest, most versatile audio test solutions on the market today.

Whether you need to conduct audio proofs from remote sites or conduct fully automated tests across your entire network…whether you need to troubleshoot in the field or test audio paths in-house…Schmid has the products to give you peak audio performance. For more information or to arrange a free demo, call 800-438-3953 toll-free today.
## Audio

<table>
<thead>
<tr>
<th>Pre-Amplifiers, Mic &amp; Phono</th>
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<tbody>
<tr>
<td>ADM Systems</td>
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<td>Alphatron Elektroakustik</td>
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<td>IRP Professional Sound Products</td>
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<td>JNS Electronics</td>
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<td>Modular Audio Products</td>
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<td>Sony Business &amp; Prof Group</td>
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<td>TC Electronic</td>
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<td>Valley Audio Products</td>
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<td>Yamaha</td>
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<td>Z-Systems</td>
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</tbody>
</table>

### Dynamics Processors
- Including compression, limiting, expansion, noise reduction, de-esser, spectral enhancements
- AEQ
- Aconcepts
- Amek Systems & Controls
- Aphex Systems
- API-Audio Products
- Apogee Electronics
- Applied Research & Technology
- Ashly Audio
- ATI-Audio Technologies
- Audio Design
- Audio Development
- Audio Intersitial Design
- Barco-EMT/Audio
dev
- BBE Sound
- BF Enlarge Medium & Electron
- Biamp Systems
- BSS/ Accessed Acoustics
- Circuit Research Labs
- Continental Electronics
- Cutting Edge Technologies
- DOD Electronics
- Dolby Laboratories
- Dorrough Electronics
- DMR Electron
- Drawmer/QMI
- Dan Dugan Sound Design
- Eventide
- FM Systems
- Focusrite Audio Engineering
- Furman Sound
- G Prime
- Gartner Communications
- GML (UK)
- Group One
- Harman dbx Group
- Inovorics
- IITIME
- Irie Technologies
- JBL Professional
- DJ Communications
- Kintek
- Klar Teknik
- Lexicon
- Mark IV Pro Audio Group
- Modulator Audio Products
- Modulation Sciences
- Georg Neumann

### Equalizers
- HP-1/2-P: Filters, parametric, psophometric, swept
- Aconcepts
- Amek Systems & Controls
- Aphex Systems
- API-Audio Products
- Applied Research & Technology
- Ashly Audio
- ATI-Audio Technologies
- Audio Development
- Audio Intersitial Design
- Barco-EMT/Audio
- Biamp Systems
- BSS/Accessed Acoustics
- Cedart Audio
- Continental Electronics
- DOD Electronics
- Drawmer/QMI
- Dukane
- Electro-Voice
- Focussite Audio Engineering
- Furman Sound
- G Prime
- GML (UK)
- Graham-Patten Systems
- Group One
- Harmonia mundi acustica
- International Tallen
- IRP Professional Sound Products
- Klar Teknik
- Mark IV Pro Audio Group
- Merlin Engineering Works
- Orban
- Pacific Recorders & Engineering
- Panasonic Pro Audio/Ramsa
- Pre-Bel
- ProTech Audio
- Publision
- QMI
- Radio Design Labs
- Ramko Research
- Roland Pro Audio/Video
- Sabine
- Sadie
- Sample Rate Systems
- Samson Technologies
- SCV Audio
- Siemens Austria/Audio & Video
- Siemens Audio
- Orban
- Pacific Broadcast Systems
- Panasonic Pro Audio/Ramsa
- Pravol International
- QMI
- Radio Design Labs
- Ramko Research
- Rane
- Sabine
- Sample Rate Systems
- Samson Technologies
- SCV Audio
- Siemens Austria/Audio & Video
- Siemens Audio
- Orban
- Pacific Broadcast Systems
- Panasonic Pro Audio/Ramsa
- Pravol International
- QMI
- Radio Design Labs
- Ramko Research
- Rane
- Sabine
- Sample Rate Systems
- Samson Technologies
- SCV Audio
- Siemens Austria/Audio & Video
- Solid State Logic
- Solidyne
- Sony Business & Prof Group
- Spatial Sound
- Spectra Sonics
- Summit Audio
- Symetrix
- PC Electronic
- TC Electronic
- Total Audio Concepts
- TV/Com International
- UREI
- Valley Audio Products
- Yamaha
- Z-Systems

### Stereo Correctors, Synthesizers
- Includes audio phase correction systems
- ADM Systems
- AudioControl Industrial
- Barco-EMT/Audio
- BFE Farmmelek & Elektronik
- Cedat Audio
- FM Systems
- G Prime
- ITI Electronics
- JNS Electronics
- LEXCON
- Multidyne
- Siemens Austria/Audio & Video
- Solid State Logic
- Solidyne
- Sony Business & Prof Group
- Spatial Sound
- Symetrix
- TC Electronic
- Total Audio Concepts
- TV/Com International
- UREI
- Ward-Beck Systems
- White Instruments/C Van R
- Yamaha
- Z-Systems

### Telephone Bandwidth Extenders
- AEQ
- Comrex
- Gartner Communications
- Solidyne
- TSI Industries
- Vortex Communications

### Timing Modification Eqpt
- Products permitting time compression, expansion of recorded material
- Audio Intersitial Design
- Lexicon
- Micro Technology Unlimited
- Ogenic Technologies
- Solidyne
- Sony Business & Prof Group
- Spectral
- TSI Industries
- TimeLine Vista

### CD Players
- Accurate Sound Audio Design
- Barco-EMT/Audio
- Canford Audio
- Carver
- Continental Electronics
- Denon Electronics
- Digital Broadcast Associates
- EuroSon America
- NSM Consumer Electronics
- Fougerolle Audio Video
- G Prime
- G lens Systems
- Grozer Associates
- Kowa Optimized
- The Management
- Optical Media International
- Photomart Cine Video
- Richmond Sound Design
- Roke Data
- Stanton Magnetics
The problem is obvious.

No more studio clutter! Reduce overall costs and simplify monitoring needs by letting one unit do all the work.

The VIEWPLEX-2000 is the ultimate video signal multiplexer. It will display up to 16 different channels on one screen with excellent clarity, making applications virtually unlimited.

VIEWPLEX-2000 is ideal for monitoring in a closed circuit setup, broadcasting multiple images in a collage, or broadcasting sequential images for instructional formats.

If you’re thinking of upgrading, don’t get more equipment; just get the one you really need.

Features include: • Video signal format NTSC. • High quality 8 bit picture resolution. • 16 maximum input channels. • 40 different display configurations. • Completely programmable. • Real time picture refreshing at 30 frames/sec. • 8 color character generator built in. For dealer inquiries and further information, contact:

SUMITOMO ELECTRIC
U.S.A., Incorporated.
Telephone: (310) 782-0227
Facsimile: (310) 782-0211

SUMITOMO ELECTRIC
Circle (29) on Reply Card
Audio Mixers, New York
Fred Venetski (pictured) and Jimmy Regan have the distinction of owning and operating the most used Foundation 2000 on the planet.

Project Studios
Whether you're working on a complicated soundtrack with thousands of edits, or on a straight ahead music demo, Foundation 2000 is fast and easy. Audio scrubbing is so clean that you'll swear you're rocking reels. Edits are seamless. Fades are smooth and glitch-free. Plus, you can specify the "Light Pipe" for direct digital interface with the popular ADAT™ and RD-8 digital recorders.

Soundstorm, Burbank
Gordon Ecker's busy facility (sound for "A Clear and Present Danger" and "Cobb") has a Foundation 2000 which controls and chases a JVC S-VHS video deck "beautifully."

Post Production Suites
Foundation 2000 is the fastest and easiest to use digital audio workstation available today. Dedicated editing buttons let you work at lightning speed, intuitively. Define a splice, cut it, and play it back instantly. Don't like it? Undo it and re-do it up to ten levels deep. And Foundation's Removeable Project Environment lets multiple editors work on a single machine.

ADAT is a registered trademark of Alesis Corp.
Merrill Lynch, New York
Scott Kersey is the audio engineer who recommended Foundation 2000 for one of the largest private television networks in the U.S.

Corporate A/V Facilities
A low cost plug-and-play solution for in-house production, Foundation 2000 offers comprehensive machine control and synchronization capabilities. You can integrate this system into an existing production set-up without any ancillary equipment. Need to bring in a free-lance engineer to work on a hot project? You can teach him how to operate this system in fifteen minutes.

Vermont Public Radio
Sam Sanders, a happy Foundation 2000 user since January, estimates that he has cut his production time in half.

Broadcast Production Facilities
Our unique Edit Controller looks and feels just like the recorders you work with every day. Foundation 2000 has no keyboards, front-end computers or mice to slow you down. The built-in touch screen shows you a wave form picture of your sound for instant visual reference. There's even an ASRC option so that you can convert one sample rate to another.

Foundation 2000LS
Designed specifically for broadcast production, this random access recorder/editor features the speed, the ease of use, and uncompromising audio quality of Foundation 2000—for less than $15,000! It's the same dedicated user interface with touch screen display, real time operation, event based editing, wave form display, and expandability to a full Foundation 2000 at any time—the only workstation of its kind to offer this important feature. Test drive the high performance Foundation 2000LS in your studio. Call 1-800-7-FOSTEX today to schedule a demo.
A LOT GOES INTO BUILDING THE BEST... LIKE QUALITY

100% Solid State ....... YES
For High Reliability and Economical Operation

Modular Configuration ... YES
Accessibility, Soft Failure Capability Ease of Maintenance

Separate Visual Aural Amplification ...... YES
Eliminates In-Band and Out-of-Band Intermodulation

Superior Cooling ....... YES
Redundant Fans in each Amplifier Module to extend service life

Full Power ................. YES
The only transmitter with Individual Power Supplies in Every Amplifier Drawer

Have you ever calculated the cost of NOT having high quality? The cost of breakdowns, the high cost of repairs, lost ad revenues, extra phone calls, headaches, and frustration because of dead air time! Since 1960 EMCEE has supplied the world with durable, reliable, low and medium power UHF and VHF transmitters and transposers from 1 watt to 5000 Watts.

SAY YES TO QUALITY.

Model TTU1000ES
1000 Watt UHF Transmitter

EMCEE Broadcast Products P.O. Box 68, White Haven, PA 18661
800-233-6193 or 717-443-9575 FAX 717-443-9257

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www.americanradiohistory.com
Video

Matthes Studio Group/ITE  DT
Micron Tool/ Cammate  DT
Miller Fluid Heads  DT
Nalpak Video Sales  DT
Neilsen-Hordell  DT
O’Connor Engineering  DT
OpTex  DT
Panther  DT
Penny & Giles  DT
Peter Lisand  DT
Photofiltre Cine-Video  DT
Pro Battery  DT
Quickset International  DT
Radamec EPO  DT
The M S Russian Group  DT
Sachtler AG-  DT
Kommunikationstechnik  DT
Shotmaker Dollies & Cranes  DT
Telemetrics  DT
Tiffen Mtg  DT
TMT electronics  DT
Troll Technology  DT
ULTIMATTE  DT
Velbon Internazionale  DT
Vicon Industries  DT
Vinter Broadcast  DT

Film Cameras/Editors
Includes motion picture film cameras and editing equipment
Alan Gordon Enterprises  B
Arriflex  B
BCC Associates  B
Energy Plus  B
Keystone Metal Products  B
Lightworks/USA  B
Sony Business & Prof Group  B
Sprocket Digital  B
Steinbeck  B

Filters, Optical
Includes visual effect, ND illumination level compensation and color correction
Alan Gordon Enterprises  B
F Prime Optics  B
LE Nelson Sales  B
Lee Filters  B
Marshall Electronics  B
Optical Systems  B
Nikon  B
Philips Components  B
Photofiltre Cine-Video  B
Rosco Labs  B
F J Westcott  B

Lens Systems
Fixed and zoom units for video cameras, including adapters, extenders
Alan Gordon Enterprises  B
Angeneux  B
Arriflex Corp  B
BURLIE INDUSTRIES  B
Canon USA  B
Century Precision Optics  B
Energy Plus  B
F Prime Optics  B
Fujinon  B
Innovision Optics  B
Marshall Electronics  B
Optical Systems  B
Nikon  B
OpTex  B
Photofiltre Cine-Video  B
Tamron Industries  B
Tiffen Mtg  B

Vicon Industries  B
Visual Methods  B

Telecine Systems
Film-to-video presentation, transfer systems
BTS Broadcast Television Systems  B
Buhi Optical  B
Da Vinci Systems - Dynatech  B
DGG/ Digi-Grade Systems  B
Eventz Microsystems  B
Imagica  B
L-W Athena  B
Perflectone  B
Rangertone Research  B
Rank Cintel  B
SANDOR Willy Hungerbuhler  B
Tamron Industries  B

Desktop Video & Production Systems
May include functions of time base correction, switching, effects, graphics
Accom  D
Accu-Weather  D
ADCOM Electronics  D
Adda Technologies  D
Advanced Digital Imaging  D
Audio Interial Digital  D
AV Digital Technology  D
AVS Graphics  D
BCC Associates  D
Bio-Electronics  D
Broadcast Electronic Services  D
Burst Electronics  D
Colorgraphics - Dynatech  D
Data Translation/MultiMedia Group  D
Digital Processing Systems/DPSS  D
Dubner International  D
Dynatech Video Group  D
EMC - Dynatech  D
Ensemble Designs  D
FAST Electronic  D
Fast Forward Video  D
Feral Industires  D
For-A  D
FutureVideo  D
IDX Video  D
Image Logic  D
Imagine Products  D
ImMIX Interface Engineering  D
James Grunder & Associates  D
Link Electronics  D
Liron Lamb Video Animation Systems  D
Matrix Electronic Systems  D
The Network Connection  D
Newtek  D
Nova Systems  D
Palex International  D
Panasonic Broadcast & Television Systems  D
Pinnacle System  D
Prime Image  D
Prime Image D  D
Quantel  D
Questech  D
Ringwood Associates  D
Sony Business & Prof Group  D
Strasser Editing Systems  D
Sundance Digital  D
Technical Aesthetics Operations  D
Tel-Test  D
Toshiba Corp  D
TouchVision Systems  D
United Media  D
Video Associates Labs  D
Videomedia  D
Visionetics Int'l  D
VistaCom  D
Vistek Electronics  D

Video Recording Systems
1 - Types C or B  1
3 - U-Matic  1
5 - non-digital Betacam(SP) - (S)-VHS(C)  1
8 - Hi-8, 8mm  1
D - Stillstores  1
P - Dupicators  1
S - Solid-state, RAM  1
T - Time, Network delay  1

Accom
9 - Ralph Gordon Enterprises  B
Asaka/ShibaSoku  D
Aston Electronic Designs  D
AVS Technologies  D
Audio Kinetics  D
BCC Associates  D
Broadcast Electronic Services  D
Colorgraphics - Dynatech  D
Data Translation/MultiMedia Group  D
Digital Processing Systems/DPSS  D
Dubner International  D
Dynatech Video Group  D
EMC - Dynatech  D
Ensemble Designs  D
FAST Electronic  D
Fast Forward Video  D
Feral Industires  D
For-A  D
FutureVideo  D
IDX Video  D
Image Logic  D
Imagine Products  D
ImMIX Interface Engineering  D
James Grunder & Associates  D
Link Electronics  D
Liron Lamb Video Animation Systems  D
Matrix Electronic Systems  D
The Network Connection  D
Newtek  D
Nova Systems  D
Palex International  D
Panasonic Broadcast & Television Systems  D
Pinnacle System  D
Prime Image  D
Prime Image D  D
Quantel  D
Questech  D

Recording Systems
1 - D1 or D5 formats  D
2 - D2 or D3 formats  D
H - HDTV  D

Accom  D
Ampec Corp  D
Ariel Communications  D
Audio Interial Digital  D
Broadcast Electronic Services  D
Intelligent Resources Integrated Systems  D
Lazerus  D
Panasonic Broadcast & Television Systems  D
Sierra Design Labs  D
Sony Broadcast International  D
Sony Business & Prof Group  D
Sundance Digital  D
Thomson Broadcast  D
Toshiba  D

Editing Controllers
Includes cuts-only, A/B roll, large scale on-line, off-line; ATR and transport synchronizer (not frame synchronizer) equipment
Accom
ADCOM Electronics  D
Ampec  D
Ariel Communications  D
Audio Interial Digital  D
Broadcast Electronic Services  D
Intelligent Resources Integrated Systems  D

Grass Valley Group
Grass Valley Group

CMX/Chyron Group  B
Daqest  B
Dynatech Video Group  B
Eastman Kodak  B
Editing Technologies/ETC  B
Energy Plus  B
Fast Electronic US  B
FutureVideo  B

Time Code Eqpt
Generators, readers, character insertion, film frame counting, film data products
Adrienne Electronics Corp  B
Alessis Corp  B
Amplex Corp  B
Audio Kinetics UK  B
Avitel Electronics  B
AVS Graphics  B
Axon Digital Design BV  B
Bio-Electronics  B
Broadcast Electronic Services  B
Canford Audio  B
Cipher Digital  B
Clark & Associates  B
Denecke  B
Dquest  B
Energy Plus  B
ESE  B
Evertz Microsystems  B
Fast Electronic US  B
Fast Forward Video  B

Continued on page 71

Introducing the ADS-300. History Repeats Itself. Digitally.

If you're in the market for a routing switcher, you'll be happy to know Dynatech/Utah Scientific's new ADS-300 is the ultimate achievement of four generations of router technology. In 1978, our AVS-1 proved that rugged, versatile routing switchers could also be affordable. Today the ADS-300, with analog/digital capability, is the most sophisticated member of a full family of mature, reliable routing products. The ADS-300 is built for growth. It can go from 32 x 32 to 256 x 256. And beyond. It's compatible with every control system we've ever built, so it integrates into any Utah installation. And not only does the ADS-300 manage D1 (serial component) and D2 (serial composite) formats, it's ready for 360 Mh/sec. data rates of future ATV signals. Far more capability, yet it's priced competitively.

Experienced Support, Too.

Over time, we've also learned about what you need in the way of support. That's why we offer a 24-hour, 7-day Global Customer Service Support Center, training and on-site repair, and a 10-year warranty. Call 1-800-453-8782 for information about the ADS-300. Before you do something you might regret.

utah scientific
Panasonic, with more firsts in digital video technology than any other manufacturer, now improves S-VHS performance...digitally, of course. Supercam, a milestone in the development of S-VHS video recording systems, is the industry's first professional camcorder to incorporate Emmy Award-winning Digital Signal Processing technology in a one-piece, 3 CCD unit.

MORE CREATIVE CONTROL WITH DSP

Digital Signal Processing delivers unprecedented reliability and flexible control of analog signals. Users will find Supercam to be easy to set-up and simple to match with other cameras, as well as delivering superb stability. And with DSP, Supercam offers seven scene files for instant set-up of specific shooting environments. Shooters will appreciate spending more time concentrating on the subject, less time on preparation.

LOW LIGHT PERFORMANCE

Supercam uses three 1/2-inch Frame Interline Transfer CCDs for exceptional image quality with minimum smear. Today, S-VHS provides high quality images—even in low light conditions—for virtually any professional application including ENG, sports and event videography, post-production, computer graphics, and on-air operations for broadcast, cable and corporate television.

HIGHER QUALITY AT LOWER COST

Now, broadcast and professional videographers can get their hands on the most advanced digital camcorder technology for a fraction of the cost of typical broadcast studio and EFP cameras. Panasonic's Supercam. Further proof that Panasonic is the first in Digital Video.
AJ-D310 D3 1/2" Digital 1-Piece Camera/Recorder

- Integrated digital camera and digital VTR permits 1-person operation

Camera Features
- Three 1/2" frame interline transfer CCD image sensors for minimal vertical smear • 400,000 pixels, resolution of 750 TV lines, f/5.6 at 2000 lux, 62dB S/N ratio • Registration within 0.05% in all zones • Stable, reliable picture quality through digital processing • Fast and easy digital setup of operating parameters • Variable speed electronic shutter (1/100, 1/200, 1/400, 1/800, 1/1600, 1/3200 sec.)

VTR Features
- High picture quality, 52dB video S/N ratio, 5.5MHz (±0.5dB) video bandwidth • 4 PCM audio channels, with a frequency response of 20Hz to 20kHz (±0.5dB) and dynamic range of more than 90dB • Maximum 64 minutes of recording on 1 compact 1/2" cassette (AJ-TD60S) • 3 selectable mic/line inputs (front/rear 1/ rear 2) for 4 channels of PCM audio • Color framing and auto backspace editing for high picture quality at successive recording transition points • Phantom power supply to mic/line connector • Built-in SMPTE time code generator (VITC/LTC) with addressable user bits • Record start/stop, fast forward, rewind, search and eject • Viewfinder playback adaptor (optional, AJ-PB30) allows B/W playback through viewfinder, or color playback on an external monitor • Return button enables quick review of recorded results • Self-diagnostic function prevents errors prior to recording • Accepts AJ-BP402 or Anton/Bauer battery pack

Standard Accessories
- AQ-VF1–1.5" viewfinder • Tripod adaptor • Carrying strap • Rain cover • Module extenders • Operation/service manual

Specifications

General
- Power Requirement: 12VDC (11 to 17V)
- Power Consumption: Maximum 40W
- Operating Temperature: 32°F to 104°F (0°C to 40°C)
- Operating Humidity: Less than 85%
- Weight: Approx. 14.3 lbs. With viewfinder approx. 18.7 lbs.
- Dimensions: 10"H x 5¾"W x 14¼"D

VTR Section
- Longitudinal Tracks: Time code 1; CTL 1
- Recording Time: Maximum 64 minutes with AJ-TD60S
- Cassette Type: D–3 cassette (5 size)
- FF/Rew Time: Within 5 minutes (using AJ-TD46S cassette)

Camera Section
- Pickup Device: Frame interline transfer 1/2" CCD image sensor (3X)
- Pickup Element: 754(H) x 487(V)

Optical System
- Optical Filter: A: 3200K; B: 5600K; C: 5600K + ¼ ND; D: 5600K + ¼ ND
- Lens Mount: Special bayonet type
- S/N Ratio: 62dB (typical)
- Horizontal Resolution: > 750 TV lines
- Registration: ±0.05% over entire screen (excluding lens)
- Highlight Compression: Approx. 600%
- Gain: 0, +9, +18dB
- Digital Processing
  - Sampling Frequency: 14.3MHz/28.6MHz

Input/Output Signal
- Genlock Video Input: 1.0V p-p, 75 ohm, BNC
- Time Code Input: 1.0V to 4.0V p-p, high impedance, BNC
- Audio Mic/Line Input: -60dBm/0dBm selectable, high impedance balanced, XLR 3-pin
- Front Mic Input: -60dBm, 3K ohm balanced, XLR 3-pin
- Video Output: 1.0V p-p, 75 ohm, BNC
- Monitor Output: 1.0V p-p, 75 ohm, BNC
- Time Code Output: 2.5V p-p, low impedance, BNC
- Earphone Output: -20dB, 8 ohm, mini jack
- Ext DC Input: XLR 4-pin
- Playback Adaptor: 37-pin multiconnector
- Lens: 12-pin multiconnector
- Extension Control Unit: 6-pin multiconnector
- Viewfinder: 12-pin multiconnector
AJ-D580 D5 Component Digital Studio VTR
- Full transparent CCIR-601 4:2:2 10-bit (13.5MHz) component recordings without compression • Selectable 13.5 or 18MHz sampling rates • 62dB S/N, 6.75MHz video bandwidth at 13.5MHz rate • 56dB S/N, 9MHz video bandwidth at 18MHz rate • Full 2-hour rec/play time on 15/4" MP tape • 4 channels of 20-bit, 48kHz AES/EBU PCM audio • Analog cue track • Full LTC/VITC time code • Full editing capability, insert, assemble and preread • High speed search 50X play • Auto tracking range -1 to 2X • Built-in test generator • Multicue • Serial and parallel digital video input and output • 9-pin RS-422 control, 25-pin RS-232C control, 50-pin parallel control • 6 RU in height

Options
- AJ-MK10 analog component video input and output • AJ-MK20 composite digital output, analog output also when combined with AJ-MK10 • AJ-MK30 analog audio input and output • AJ-MK35 D-3 playback processor for playback of D-3 tapes

AJ-D320 Design Digital Portable VTR
- High picture quality, 52dB video S/N ratio and 5.5MHz (±0.5dB) video bandwidth • 4 PCM audio channels, with a frequency response of 20Hz to 20kHz (+0.5/-1dB) and dynamic range of more than 90dB • Maximum 64 minutes of recording on 1 compact 1/2" cassette (AJ-TD60S) • Compact and lightweight: 5/4"H x 11/4"W x 14/3"D, main unit 15.4 lbs. • Digital video signal input terminal • Built-in A/D converter allows video signal input from an analog camera • SMPTE-standard 26-pin camera terminal • Built-in playback circuit allows audio/video playback without additional equipment • Time code window in playback picture • Selectable audio in level: -60/-20/4+4dB • Phantom power supply (48VDC/12VDC) to mic line connector • Built-in SMPTE time code generator (VITC/LTC) with addressable user bits • 5X normal speed search and 16X normal FF/REW with color picture • Record review and key inhibit functions • Battery pack holds 2 AU-BP402 or 2 Anton/Bauer Compac Magnums

AJ-D340 Design Digital Studio VTR
- 4 rack unit size • Industry's smallest digital VTR, yet delivers 4 hours of recording and playback • 8"H x 17/4"W x 21/4"D • Ideal for OB vans and applications requiring multiple VTRs, or as source players for transmission/dubbing • Accepts all 3 cassette sizes (L/M/S) without an adaptor • Equipped with a continuous signal level display and direct-access control panel • Control panel allows direct storing of 8 cues, index search and WFM signal output selection • 8-14 coding • 6.2MHz video bandwidth • 54dB S/N ratio • 8 fsc oversampling • 4 PCM audio channels with frequency response from 20Hz-20kHz • Single longitudinal audio channel is also provided • Multigeneration recording • 100X normal speed shuttle search forward/reverse • Advances to the next or previous 30-second tape spot in 5 seconds • On-screen setup display with settings easily changed • Full confidence playback allows real-time monitoring of pictures while recording • Tiltable operation panel • SMPTE time code generator/reader REC inhibit switch • Error indicator • Serial digital in/out with AES/EBU digital audio in/out • Analog in/out • 9-pin serial RS-422A • RS-232C terminal • Small and large extender boards • Optional video encoder remote controller, AJ-ER30

AJ-D350 Design Digital Studio VTR
- High picture quality, 54dB video S/N ratio and 6MHz video bandwidth • 4 PCM audio channels, with a frequency response of 20Hz to 20kHz (±0.5dB) and wide dynamic range (20 bits) • Maximum 245 minutes of recording on 1 compact 1/2" cassette (AJ-TD240L) • Single format system expandability with 3 cassette sizes • PCM 4-channel audio allows independent editing and advanced technology suppresses editing degradation • Rotary erase heads enhance sound quality by achieving complete erasure • Multigeneration dubbing capability (up to 20 generations) • High-speed 100X normal speed search with color playback • Auto tracking allows noiseless still/slow playback (1X to 3X normal speed) • Program play permits playback speed adjustment • Advanced low-tape tension mechanism minimizes tape-to-head abrasion and enhances durability • Both read-before-write and read-after-write possible • Complete editing functions include assemble, insert, audio split editing, spot erase and variable memory editing (VME) • Optional monitoring software AJ-SF30 computes management • RS-422 9-pin serial, 50-pin parallel and RS-232C interfaces • Digital I/O capability for other digital equipment (video: RP-125X; audio: AES/EBU standards) AJ-D350 NTSC version AJ-D350E PAL version

For further information call: 1-800-528-8601 (upon request enter product code 04)
AQ-20D/11D 3CCD Portable Digital Processing Cameras

- Digital processing section provides 2-dimensional cross-color filter; variable enhancement frequency, 3.6MHz-7.2MHz (2-H enhancer) * High-chroma aperture correction (chroma DTL)
- Accurate 1-touch digital gamma adjustment (0.35-0.55) * Auto-knee circuit * Optical fiber digital transmission system consisting of AG-20D camera head, base station and control panels
- 400,000 pixel CCD * 750 lines horizontal resolution * 62dB S/N
- Cable can be extended up to 12.4 miles when local power is supplied to the camera, or 1.5 miles with power supplied through the cable
- Can be connected to a VCR for ENG use, to a multicore system or docked with an MII VCR * Central picture control: Digital setup allows control parameters to be set numerically; control is provided through both the remote control operation panel and the master control unit connected to the base station
- Master control unit can control up to 40 cameras (additional CSUs are needed) * Scene files can be stored in IC card memory
- Sensitivity: f/8 at 2000 lux * Min. required illumination: 7.5 lux
- 6-speed variable electronic shutter * Auto white/black balance (A/B preset) * SMPTE color bar output * 0, +9, +18dB gain
- Genlockable * 4-step color temp filter and neutral density filter
- Flare correction circuit * Black stretch switch * Circuit breaker for overload * Bayonet lens mount

Standard Configuration
- Camera head * Tripod attachment * Shoulder strap for MII VCR combination * Rain cover for MII VCR combination * Extension circuit board
- AQ-20D Frame interline transfer 1/3" CCD
- AQ-11D Interline transfer 1/4" CCD with 4-position filter wheel

System Control for AQ-20D/11D (Partial Listing)

AQ-BS200 Optical Fiber Base Station Unit
Connects with AQ-20D (with the AQ-CA55) via optical fiber cable for digital signal transmission, and is equipped for analog composite and analog component video output

AQ-RC200 Remote Control Operation Panel (RCOP)
Provides remote control over virtually all camera functions, including digital setup, and can be used to load and save up to 4 complete setup variations on an IC memory card. The joystick provides easy control over iris setting.

AQ-MC200 Master Control Unit (MCU)
Includes the camera select unit (CSU) and master control panel. 1 CSU can be linked with 8 cameras; with additional CSUs, a single master control panel can remotely control up to 40 cameras. The large electro-luminescent display shows all settings for easy confirmation.

AQ-CA1 ENG Camera Adaptor
Equipped with a 26-pin camera terminal for connection to a variety of other systems such as D-3 and MII
- AQ-CA3 Stand-alone adaptor (AQ-20D/11D)
- AQ-VF1 1.5" viewfinder (AQ-20D/11D)
- AQ-VF50 5" viewfinder (AQ-20D)

For further information call: 1-800-528-8601 (upon request enter product code 07)
AT-H1905DP 19" Diagonal NTSC/PAL Selectable Digital Signal Color Video Monitor

- PAL/NTSC decoder
- Decodes PAL or NTSC composite analog or digital signals
- Auto setup probe optional
- Digital signal processing of analog and digital signals through 5-line adaptive comb filter for elimination of dot crawl; 1 and 0 axis demodulation
- Direct inputs for serial composite, serial component, parallel composite and parallel component digital signals for the highest versatility
- NTSC analog inputs and RGB/YPbPr input
- Switchable 4:3 and 16:9 aspect ratio
- SMPTE-C phosphor for true color renditions
- EDH check function for early warning of deteriorating serial digital transmission
- Improved extra high tension voltage for very stable bright pictures
- UL listed
- More than 900 lines horizontal resolution
- Frequency response: 100Hz ~ 8MHz ± 1dB
- CRT: (0.28mm), (Dot pitch) dot inline 90° deflection impregnated barium cathode for long CRT life, Invar shadow mask for stable purity
- Color temperature: 9300K; 6500K; 3200K and user memory

ET-AK105 Auto setup probe. For automatic white balance adjustment or copying master monitor's settings to other AT-H1905DP monitors

RSK-L1905 Rack slide kit

AS-D700 Composite Digital Production Switcher

- 15 composite serial digital inputs standard
- 4 buses and 2 maskable key layers
- Internal analog, parallel, aux bus I/O option
- Ergonomic, user friendly operation
- ASICs provide compact size (SU) and low power consumption (350W)
- Varied wipe patterns: 13 basic patterns and 48 total combinations
- System flexibility: integral send bus for DVE connection; tally outputs (27-pin) GPI input
- Optional shadow generator: includes edge, outline, drop and variable flying shadows
- Dynamic Rounding™ process for either 8-bit or 10-bit output
- Standard RS-422 serial control
- Control panel is rack-mountable

"Dynamic Rounding™" is used under license from Quantel Limited.

Accessories

AS-A701/702 Analog composite signal input/output module for using the AS-D700 in existing analog systems (up to 2 boards can be mounted)

AS-A701 8 bits, 4 inputs, 2 outputs
AS-A702 10 bits, 2 inputs, 2 outputs
AS-A703 Parallel input/output module, provides 4 inputs and 2 outputs conforming with SMPTE parallel digital standards
AS-A704 RGB chroma key unit
AS-A705 Shadow generator
AS-A706 Video effect processor interface
AS-A707 Extender board
AS-A708 Rack-mounting adaptor
AS-A709 Memory card
AS-A720 Analog processing rack. Mounts up to 10 digital/analog modules
AS-A721 Module. Converts analog signals into 8-bit serial digital signals. Has 3 analog distribution lines and 3 digital outputs
AS-A722 Module. Converts analog signals into 10-bit serial digital signals. Has 3 analog distribution lines and 3 digital outputs

AS-D590 32 x 32 Digital Routing Switcher

- Can be set up by connecting coaxial cables
- Dedicated 16 input/16 output crosspoint ASIC
- Dedicated ASICs make serial digital switching stable and precise
- Automatic cable equalizer for serial digital signal input; equipment can be connected with cables up to 650' (using B281 cable)
- Switcher is equipped for RS-232D, RS-422 and parallel switching control

AS-D740 Component Digital Production Switcher

- 10-bit 4:2:2 at 13.5MHz component digital I/O
- 1 mix/effects processor
- 3 linear key processors
- 16 standard serial inputs (auto timing)
- 12 assignable external keys
- 20 effects memories with transitions
- Dual chroma key option
- 625/525 selectable
- 16:9 aspect at 13.5MHz selectable
- Rack-mount control panel
- 5 RU main chassis
AU-62H/63H MII ENHANCED SERIES Studio Players

Common Features
- High-quality 90-minute playback
- Built-in digital 3-D type field TBC featuring correction range of 1 field, 262.5H
- Digital freeze still
- Noiseless still
- 4-field sequence color framing
- 4-channel audio with independent level adjustment
- 4 VU meters
- Dolby C noise reduction
- Internal time code reader (VITC/LTC/UB)
- User bits can be retrieved independently from either VITC or LTC
- NTSC 16:9 wide aspect compatibility
- Y/C output
- RS-422A serial interface
- High-speed search/Jog
- Provides up to 32X normal speed in forward and reverse
- On-screen setup menu with search dial for settings
- Built-in digital hour meter
- Improved superimpose capability
- Optional CCIR601 output (digital component video) capability
- AU-MK26
- Tape speed override allows manual 15% playback speed adjustment in 1% steps
- Optional encoder remote control
- AU-ER65B
- 8-digit FL display
- 19" rack-mount capability using AU-M60 adaptor (requires only 6 vertical rack units)

AU-63H MII ENHANCED SERIES Studio Player
With Auto Tracking (AT)

Includes common features plus:
- Auto tracking function allows noiseless playback from -1X to +2X normal speed, plus instant starts from still frames in variable mode
- Variable memory playback: Changes in tape speed and direction can be memorized on model's incorporating variable memory control functions (AU-65H, AU-A950HD)
- Program play: Using the variable (A/T) mode, playback speed can be adjusted from 80%-120% in 0.1% steps to allow easier time compression or expansion for on-air production

AU-65H/66H MII ENHANCED SERIES Studio Recorders

Common Features
- High-quality 90-minute recording and playback
- Picture-in-picture
- 1-event assemble editing and a full range of insert editing operations for video, audio (CH1/CH2), and time code
- Offers preview, review, go to, trim and auto tag
- Audio split editing
- Variable memory editing: When used with AU-63H Player, playback contents of the player's A/T mode within the range extending from normal speed in reverse to twice normal speed forward can be memorized by the recorder for playback and editing
- >49dB S/N video (component Y); >56dB S/N audio
- Built-in digital 3-D type field 8-bit TBC featuring correction range of 1 field, 262.5H
- Digital freeze still
- Noiseless still
- 4-field sequence color framing
- 4-channel audio with independent level adjustment
- 4 VU meters
- Dolby C Noise reduction
- Internal time code reader (VITC/LTC/UB)
- User bits can be retrieved independently from either VITC or LTC
- NTSC 16:9 wide aspect compatibility
- Y/C in/out connector
- RS-422A serial interface
- High-speed search/Jog
- Provides up to 32X normal speed in forward and reverse
- On-screen setup menu with search dial for settings
- Built-in digital hour meter
- Improved superimpose capability
- Optional CCIR601 output (digital component video) capability
- AU-MK26
- Tape speed override allows manual 15% playback speed adjustment in 1% steps
- Optional encoder remote control
- AU-ER65B
- 8-digit FL display
- 19" rack-mount capability using AU-M60 adaptor (requires only 6 vertical rack units)

AU-65H MII ENHANCED SERIES Studio Recorder
Includes common features

AU-66H MII ENHANCED SERIES Studio Recorder
With Auto Tracking (AT)
Includes common features plus auto tracking and confidence playback (audio and video)

For further information call: 1-800-528-8601 (upon request enter product code 01)
AU-W32H/W33H/W35H POWER W Series MII Studio Recorder/Players

The “Power” Series MII products are designed for specific application where RS-422 control will be used to drive these machines. Machine to machine editing can be accomplished by using either the AU-66H or AU-65H “EnHanced” Series MII decks as the recorder and any “Power” Series MII products as the source machine. The “Power” Series MII Recorder (AU-W35H) front panel does not have any edit control capability. Both the “Power” Series and “EnHanced” Series MII products can be controlled by the AG-A300 slow-motion controller and the AG-A350 single-event RS-422 edit controller products.

Common Features
- Full component bandwidth recording/playback system for superb picture quality
- Full 90-minute record/playback with AU-M9OL tape
- Built-in 3-D type digital TBC with full 1 field correction capability
- 4 audio channels: FM (CH3/CH4) and linear audio (CH1/CH2); with 4 input and 4 output jacks
- 2-bar graph type audio level meters
- Built-in Dolby-C noise reduction circuitry for linear audio tracks
- Full 4 field color framing control
- Built-in SMPTE time code generator/reader (VITC/LTC/User Bits)
- Adjustment knobs for all TBC setups (also remoteable)
- Y/C (S1-Video) input/output connectors for S-VHS editing and dubbing
- On-screen menu setup for simplified parameter settings
- NTSC 16:9 wide aspect ratio compatibility
- Maximum search speed 32X, job/shuttle capable when using an edit controller
- RS-422A 9-pin serial interface
- Digital field freeze picture output during Stop mode produces noiseless stills
- Optional 4:2:2 output (digital component video) capability
- (with AU-MK26)
- Tape speed override (TSO); ±5% playback speed adjustment, 1½ steps
- Standard 19” rack-mount—6RU with tiltable operation panel in addition for the AU-W33H only
- Noiseless pictures in still and slow motion with AT (auto tracking) (–1X to +2X normal speed, in 56 steps)
- Program play: noiseless playback speed adjustment (80%-120%), 0.1% steps

AU-W32H  MII "Power" Series player
AU-W33H  MII "Power" Series player with auto tracking
AU-W35H  MII "Power" Series recorder
AU-MK26  Component digital (4:2:2) output

MII Metal Particle Tape
- AU-M9OL  90-minute video cassette tape
- AU-M60L  60-minute video cassette tape
- AU-M30L  30-minute video cassette tape
- AU-M20L  20-minute video cassette tape
- AU-M10L  10-minute video cassette tape
- AU-M20S  20-minute video cassette tape (small)
- AU-M10S  10-minute video cassette tape (small)
- AU-MPSCL  Metal particle cleaning cassette tape (small)
**Panasonic**

Broadcast & Television Systems Company

**AU-45H** MII **Dockable Recorder/Player**
- 68-pin connector allows direct docking with a variety of cameras (WV-F700ASH, F565/F250BH, etc.)
- 4 audio channels: FM audio (CH3/CH4) and linear audio (CH1/CH2) with Dolby C noise reduction circuitry
- Built-in SMPTE time code generator (VITC/LTC/UB) with independent TC in/out terminals
- 2-year backup battery for TC/CTL record/review function
- On-screen setup menu with digital time meter
- Self-diagnosis function prevents errors prior to recording
- Tape and battery meter
- Accepts AU-BP402 or Anton/Bauer battery pack

**AU-55H** MII **Portable Recorder/Player**
- Component signal (Y/PB/PR) level-check function
- BNC component signal output (Y/PB/PR)
- Color-framing compatibility (recording/playback)
- Sony BVR-3 remote controller can also be used
- 4 audio channels: FM audio (CH3/CH4) and linear audio (CH1/CH2) with Dolby C noise reduction circuitry
- Phantom power supply (48VDC) to mic/line connector
- Convenient record/review functions
- Built-in SMPTE time code generator (VITC/LTC) and reader (LTC) with superimpose capability on the video output
- 5X normal speed search with color picture and time code
- RS-422A 9-pin serial interface
- Audio AGC (CH1/CH2)
- Video output level adjustment (Video Level, Sync Phase, SC Phase)
- External genlock

The name and mark Sony is the property of Sony Electronics Inc.

**AU-410** Dockable MII Recorder/Player
- Delivers high quality pictures on par with 1" VTRs
- Records using component signals to deliver high quality pictures from NTSC type video cameras
- Employs compact, lightweight cassettes with 20-minute recording time, usable in MII editing without an adapter
- Playback heads for both audio and video, in addition to the recording head, to enable on-the-spot review of recording quality
- Automatic backspacing of 20 frames (approx 0.7 sec); successive pictures are recorded by means of "assemble" type recording for a smooth, glitch-free bridge
- Built-in time code generator: VITC/LTC
- Jamsync: time code can be recorded continuously at the edit points when performing backspace editing
- Ext. time code input
- 4-channel audio recording: 2 linear with Dolby C noise reduction, 2 FM multiplexed with the color signal
- Warning indicator lamp for: head drum or capstan servo trouble, head clogging, tape slack- ing or jam, excess humidity
- LED indicators
- Soft-touch buttons
- Phantom power (+48V) can be supplied to the audio input connectors for CH1/CH2

For further information call: 1-800-528-8601 (upon request enter product code 01)
Outland Technology
Options International
Gray
Sundance Digital
The Network Connection
Micropolis
ImMIX
Hewlett-GEE Broadcast Systems
Digistore
AVID Technology
AF
ADT (Applied Digital Technology)
Accom
Video-Matic Group
3M
Sony
Sprague Magnetics
Northern Magnetics
Energy Plus
Ampex
Vortex Communications
VideoLab Para Technologies
Video Markets
Back-up
3M
Microvideo
Nortel
Outland Technology
Softel Systems
Softimage
Warner
Bush
KUB Systems
Laurentian Systems
Linker Systems
Lyon Lamb Video Animation Systems
Matrox Electronic Systems
Microtime
Neilson-Hordell
Oxberry
Parallax Graphics Systems
P. E. Photon
Pinnacle System
Prime Image
Prime Image
Aurora/Chyron
AVS Graphics
Axiom Software
BCD Associates
Chyron
Colorgraphics - Dynatech
CoSA-The Company of Science & Art
Data Translation/MultiMedia Group
Diaquest
Digital Processing Systems DPS
Discreet Logic
Dynatech Video Group
Electric Image
FAST Electronic
Fast Forward Video
GEE Broadcast Systems
Getus images
ImMIX
Intelligent Resources Integrated Systems
Intervideo
JL Cooper Electronics
Prime Image
Quantel
Questech
Recognition Concepts
Ringwood Associates
Snell & Wilcox
Softimage
Spaceward Graphics
ULTIMATTE
Vertigo Technology
Viewpoint Data Labs
Visionetics Int'l
Wavefront Technologies
WeatherNews America
WSI
XAOS Tools
Yamashita Engineering
Captioning, VBI Data Systems
Includes Teletext, Videotext equipment; S software
Asaca/ShibaSoku

3M Audio and Video Markets
3M Professional AV & Specialty Products
Video-Matic Group

Video Server
Accom
ADT (Applied Digital Technology)
AF Associates
AVID Technology
Chyron
Chyron
Digistore - Dynatech
GEE Broadcast Systems
Hewlett-Packard/VID Div
ImMIX

CHYRON CORPORATION
Received

video

180 12 59 59

142 SIERRA STREET, EL SEGUNDO, CA 90245
(310) 322-2136 FAX: (310) 322-8127

Circle (39) on Reply Card

Broadcast Engineering 71

www.americanradiohistory.com
**Video**

**Character Generators, Titlers**
Video titling systems; excludes time code character insertion

**Graphics Systems**
Dedicated and PC-based products; software packages

**Digital Effects Systems**
}
Applications

- Remote ENG
- Communications
- Field Strength Measurements
- Pop-up Jamming
- Remote Surveillance
- Noise Level Measurements
- Temporary Floodlighting
- Environmental Sensors
- Military Communications

HILOMAST
TELESCOPIC PNEUMATIC MASTS

Applications

- Remote ENG
- Communications
- Field Strength Measurements
- Pop-up Jamming
- Remote Surveillance
- Noise Level Measurements
- Temporary Floodlighting
- Environmental Sensors
- Military Communications

for Further Information Contact Jim Osborne

ALLEN OSBORNE ASSOCIATES, INC.
756 LAKEFIELD RD. Bldg. J
WESTLAKE VILLAGE, CALIFORNIA 91361
Tel:(805)495-8420 Fax:(805)373-6067

If You Liked Mark Antennas Before,
Wait Till You See Us Now.

The good news for you, our customer, is we are now a part of COMSAT RSI, a worldwide telecommunications leader.

COMSAT RSI's resources will strengthen our ability to manufacture new microwave and wireless products for the industry. Access to new technical capabilities will boost our R&D efforts, bringing you newer products faster.

So we invite you to get reacquainted with us under our new name: COMSAT RSI, Mark Antennas.

We think you'll like what you see.
Now You Can Transmit CD Quality Audio Over Digital Teleco T1 Lines. It's Digital. And It's Better.

With an Intraplex digital solution, you'll gain better reliability versus analog alternatives. And, in fact, digital multiplexers give you more than greater reliability; they are more flexible and less expensive as well.

Intraplex has been building digital audio transmission networks in North America for over seven years. Stations and networks across the country have adopted Intraplex solutions to meet their audio transmission requirements. Talk to us about your transmission requirements. Today.

Circle (42) on Reply Card

Grass Valley Group

Grass Valley Group: HEDCO Image Video/DvD of 1077541 Ontario
IRIS Technologies
IRT Electronics
JFJW Industries
Katronics
Kna Video
Kramer Electronics
Leightronix
Leitch
Lighthouse Digital Systems
Lightwave Systems
Link Electronics
Miranda Technologies
Monroe Electronics
Multidynx
Multivideo Image Display
Network Technologies
Nova Systems
Omicron Video
Pansonic Broadcast & Television Systems
PESA Switching Systems
Philip Drake Electronics
Pixel Instruments
Practel International
Pro-Bel
ProTech Audio
Questech
Ram Broadcast Systems
ROH Products
Sandar Electronics
Scantex Labs
Shinton
Siemens Österreich/Audio & Video
Sierra Video Systems
Sigma Electronics
Sony Business & Pro Group
ST Elektron Systems
System Video
Target Technology
Tech Electronics

Switchers, Routing
- T - Routers, large-matrix
- U - Utility, small-matrix
AAVS/Advanced Audio Visual Systems
ABC Telecommunications
Adrienne Electronics Corporation
Alpha Image - Dynatech
Asaka/ShibaSoku
Avetel Electronics
Axon Digital Design
BAL Broadcast
Blamp Systems
Bio-Electronics
Broadcast Video Systems
BSM/West Star Infi
BITS Broadcast Television Systems
Burst Electronics
Canare Cable
Channelmatic
Crestlon
Datatek
Di-Tech
DNF Industries
DYNAR Electronics
Dynatech Video Group
Extron Electronics
For-A
Fougerolle Audio/Video
FSR
GEE
GEO Systems
Grass Valley Group
HEDCO Image Video/DvD of 1077541 Ontario
IRIS Technologies
IRT Electronics
JFJW Industries
Katronics
Kna Video
Kramer Electronics
Leightronix
Leitch
Lighthouse Digital Systems
Lightwave Systems
Link Electronics
Miranda Technologies
Monroe Electronics
Multidynx
Multivideo Image Display
Network Technologies
Nova Systems
Omicron Video
Pansonic Broadcast & Television Systems
PESA Switching Systems
Philip Drake Electronics
Pixel Instruments
Practel International
Pro-Bel
ProTech Audio
Questech
Ram Broadcast Systems
ROH Products
Sandar Electronics
Scantex Labs
Shinton
Siemens Österreich/Audio & Video
Sierra Video Systems
Sigma Electronics
Sony Business & Pro Group
ST Elektron Systems
System Video
Target Technology
Tech Electronics

Amplifiers, Distribution
- Video, Pulse, Clamp, EQ
- AAVS/Advanced Audio Visual Systems
- Alpha Image - Dynatech
- Ampex
- Asaka/ShibaSoku
- Audio Visual Solutions
- Avetel Electronics
- BAL Broadcast
- Bio-Electronics
- Brek Connolly Group
- BSM/West Star Infi
- BURLE INDUSTRIES
- Burst Electronics
- Dwight Cavendish
- Channelmatic
- Communications Specialties
- Datatek
- Digital Processing Systems DPS
- Di-Tech
- DT Electronics
- DYNAR Electronics
- EJantec
- ESE
- Extron Electronics
- FM Systems
- For-A
- GEE Broadcast Systems
- Grass Valley Group
- HEDCO Image Video/DvD of 1077541 Ontario
- InLine
- IRT Electronics
- J-Lab
- Kaitronics
- Knox Video
- Kramer Electronics
- Leitch
- Link Electronics
- Matthey Electronics
- McCurdy Radio Industries
- Mira Vision
- Miranda Technologies
- Modulation Sciences
- Monroe Electronics
- Multidynx
- Network Technologies
- Nova Systems
- Omicron Video
- Opamp Labs
- Pacific Radio Electronics
- Philips Broadcast Networks
- Pixel Instruments
- Practel International
- Pro-Bel
- ProTech Audio
- Radio Design Labs
- RE
- ROH Products
- Ross Video
- Sandar Electronics
- SAV
- Scantex Labs
- Sescron
- Shinton
- Sierra Video Systems
- Sigma Electronics
- Snell & Wilcox
- ST Keltc
- Target Technology
- Tekniche
Generators, Safe
Area/Source ID
Asaca/ShibaSoku America
Boland Communications
Broadcast Video Systems
Burst Electronics
DT Electronics
ESE
Gray Engineering Labs
Hamlet Video International
Hondta
Link Electronics
Lyons Lamb Video Animation Systems
Magni Systems
Microvideo
Multidyne
Practel International
QSI Systems
Sigma Electronics
Tektronix
Video Accessory
Video Data Systems
Videopaque Research
Vorixmap Communications

Sony Broadcast International
Sony Business & Prof Group
Spectrum Digital
ST Keltec
Tektronix
Television Equipment Associates
Thomson Broadcast
VGV (Video Gainesville)
Video Associates Labs
Video Intl Development
Visionic Int'l
Videok Electronics
Vorixmap Communications
Yamaha Engineering Mfg

Signal Correction
Eqpt
C - Color correction, component level adjustment, color enhancement
E - Enhancement, luminance detail
N - Noise reduction

AAV/Advanced Audio Visual Systems
Accom
Alpha image - Dynatech
Ampex
Audio Intellisual Design
Avid Electronics
Axion Digital Design
BAL Broadcast
Channennet
Chromatek Scan Process
Communications Specialties
Digital Design
Digital Video (DV Sweden)
DT Electronics
DYNAIR Electronics
Dynatech Video Group
Elantec
Ensemble Designs
Everett Microsystems
EVS Broadcast Equipment
Extron Electronics
Farouja Laboratories
Fast Forward Video
Feral Industries
Folsom Research
For-A
Fougerolle Audio/Video
GEE Broadcast Systems

Grass Valley Group
Grass Valley Group
ict
ICT Video Inc
Image Video/Div of 1077541
Ontario
Intelligent Resources Integrated Systems
James Grunder & Associates
Kramer Electronics
Leitch
Lyons Lamb Video Animation Systems
Merlin Engineering Worksc
Microvideo
Mira Vision
Miranda Technologies
NTL
OptiOn International
Philips Components
Pro-Bel
Raytheon Semiconductor
RE
RGB Spectrum
S & W Wilcox

Prime Image
Prime Image
Pro-Bel
Quanta Corp - Dynatech
Questech
Raytheon Semiconductor
RGB Spectrum
SAV
Shintron
Sigma Electronics
S & W Wilcox
Sony Business & Prof Group
System Video

Thomson Broadcast
Tokyo America
Victor Industries
Vistek Electronics
Y/C Plus

continued on page 81
Discover the difference...

Providing the highest quality digital video for desktop video solutions.

The core of a complete modular video system, Video Explorer, is transforming the professional video industry with advanced solutions for on-line editing, compositing, animation, graphics and much more.

Video Explorer Solutions

- **Linear On-Line Editing**
  For much less than the cost of a traditional system, Video Explorer and MediaWare’s Video Navigator™ create an on-line A/B roll edit controller, switcher with wipes, dissolves, keys and special effects, still stores, and access to character generation, paint and animation. The bottom line? Component Digital (D1), Betacam SP™ and/or Composite format editing capabilities for a fraction of the cost.

- **Animation & Graphics**
  The broad range of available software such as Electric Image™, Linker Systems Animation Stand™, Fractal Designs Painter™, Crystal Graphics Crystal Topaz™, and Adobe Photo-Shop™, plus high-quality video input/output, makes Video Explorer the platform of choice for both animators and designers alike. Employ multiple high-end graphics and animation stations for less than the cost of a single dedicated electronic paint system.

- **Compositing & Rotoscoping**
  Create high-quality, low-cost multi-layer compositing, special effects and graphics over video by integrating Video Explorer with ADI’s Digital Magic™ and QuickTime™ compatible software such as CoSA After-Effects™ and Adobe Premiere™

- **Character Generation & Video Tools**
  Keep edit sessions moving smoothly using Video Explorer. Output high-quality anti-aliased fonts and computer graphics, perform touchups, and create complex mattes, right in the edit suite.

Highest Quality Video

BBC, NHK, RTL, NBC, Fox Television, ITN, SWF, SBP, ORF, VOX, ZDF, Veronica Broadcasting, Euro-News, the 1994 Winter Olympics, the Academy Awards – broadcast, post production, design, and multimedia companies alike depend on the quality and creative flexibility of the Video Explorer system.

System Features

- Video Explorer configurations support NTSC, PAL, SECAM, and Macintosh video rates.
- Protect your investment with Video Explorer’s interchangeable modular components which allow system customization and future upgrades.
- Designed with VideoBahn®, Intelligent Resources’ real-time video bus for transfer of uncompressed digital video between multiple cards, allowing multiple video inputs and outputs, as well as integration with third-party products such as MPEG and JPEG compression systems, digital disk recorders, Ultimatte matting, and digital video effects processors.
- The Video Explorer system provides uncompromised image quality in: Component Digital (CCIR 601), Multi-Component (including MII, Betacam, SMPTE YUV, & RGB), RGB and Composite/S-Video.
THE WORLD'S FUTURE IN VIDEO PRODUCTION
The core of a complete modular video system, Video Explorer, is transforming the professional video industry with advanced solutions for on-line editing, compositing, animation, graphics and much more.

"The Video Explorer system became a very powerful tool and was an important element in the mix. Because the typography and graphics were so intensive, we couldn't have done it (1994 Winter Olympics from Lillihamer, Norway aired on CBS) without the Video Explorer card."
Paul Sidlo, President, ReZ.n8, Hollywood, California, U.S.A.

"It has really changed the way we do business. For type design, layouts, and filters, it's a perfect extra tool to have in the edit suite. Operation within the edit suite is more efficient. I wouldn't build an edit room without the Video Explorer."
Jeff Heusser, Technical Director, Editel Chicago, Chicago, Illinois, U.S.A.
A leading post production facility

"It didn't take long before we discovered the Intelligent Resources product, that we realized we could eliminate a few steps and make the quality much better."
Karl Paulsen, Director of Engineering, Digital Post & Graphics, Seattle, Washington, U.S.A., excerpt from the NAB '94 panel discussion entitled "Video Production in 1994 and Beyond"

"We have more choices to offer the client. An unlimited number of software and applications— all wired in (CCIR) 601. Thanks to the IR (Video Explorer) we can transfer between everything. The IR (Video Explorer) allows us to feed directly to tape, or to a Quantel Harry for compositing."
Chris Homer, Manager Post Production, Fox Television, Los Angeles, California, U.S.A., excerpt from the NAB '94 panel discussion, entitled "Video Production in 1994 and Beyond"

"With the Video Explorer digital video processing system, which gives us access to the Macintosh world and all its software, we are on the leading edge of a revolution comparable to what happened in the print world with desktop publishing."
Pierre-Marie Fenech, Head of Post Production, Transatlantic Video, Paris, France

"The Video Explorer card stands alone as the quality card...It is so robust in design that new uses are continually being found for it."
David Leathers, President Eye Square, Cultur City, California, U.S.A., and contributing editor to Video Systems magazine

"Products like the Video Explorer mean people can produce exceptional programs for less than thought possible. As a producer, it means I can literally do it myself. I have control over the images. And, I can generate the quality I require."

"The Video Explorer is the key link that enables our graphics to look so good on television."
David Piña, President, Piña Designs, Burbank, California, U.S.A. (graphics designer for the "Academy Awards", "Tony Awards", and the "Miss America Pageant")

"Using the Intelligent Resources/ADI combo we recorded elements for this motion picture direct to the disk. We realized this was perfect. We've got an affordable desktop environment that you can go into Broadcast or Film Production and you don't have to make excuses."
Scott Billups, Director Digital Prod., Billups Communications, Los Angeles, California, U.S.A., Director of Special Effects for the movies "Pterodactyl Woman From Beverly Hills", "Roswell", and "Fantastic Four"
Standards Converters

Inter-standard conversion among composite video NTSC, PAL-N/M, SECAM, may include video component input and output capabilities.

AACS/Advanced Audio Visual Systems
AVS Broadcast
BKC Broadcast
Breker Connor Group
Chromatek Scan Process
Elantec
FM Systems
For-A
Fougerolle Audio/Video
Grass Valley Group
Intelligent Resources Integrated Systems
J-Lab
Microtron
Nova Systems

TBCs, & Frame Synchronizers

Video signal timing correction equipment

Allen Avionics
Alpha Image - Dynatech
Alta Group - Dynatech
Audio Kinetics UK
Breker Connor Group
Broadcast Electronic Services
Digital Processing Systems DPS
DT Electronics
Elantec
Ensemble Designs
FAST Electronic
Feral Industries
For-A
Fougerolle Audio/Video
Grass Valley Group
Hamrot Video International
Hotronic
IPIX Video
James Grundner & Associates
Leitch
Microtron
Nova Systems

Keyers

DSK, chroma, linear, luminance, compositing

AACS/Advanced Audio Visual Systems
Alpha Image - Dynatech
Breker Connor Group
Broadcast Video Systems
DT Electronics
Elantec
EMC - Dynatech
For-A
Image Video/Div of 1077541 Ontario Interface Engineering
J-Lab
Leitch
Microvideo
Palflex International
Practel International
Precision Equipment Photon
Pro-Be
Quantel
Questron
Snell & Wilcox
Tel-Test
Thomson Broadcast
VGV Inc (Video Games Ville)
Vistek Electronics
Vortex Communications

Circle (35) on Reply Card →
Radio Products

AM Antenna Ept
A - AM directional arrays
R - Remote indicators
S - Sampling Equipment
U - Tuning units

Alan Dick AU
CCA Electronics U
Continental Electronics ARSU
CRS-Lammeau BSU
Day Tronics SU
Delta Electronics S
Doty-Moore Tower Services S
Erie Antennas Research A
Frontier Communications AU
GEC-Antenna Communications AU
Gorman-Redlich MG AR
Hallkainen & Friends R
Harris Broadcast (Harris Allied) AU
ITAME U
Jampro Antennas U
Kintronics Labs ARU
LBA Technology ASU
LeBlanc & Royle Telcom A
LPB A
Marconi Communications AU
Old Dominion Broadcast Eng ARSU
Potomac Instruments S
Practel International RS
Sainless A
Telefunken Sendertechnik AU
Thomcast ARU
Utility Tower A

Antennas, Other
E - Earth station
F - FM
M - Microwave, ENG, ITFS, MMDS, STL, ICR
P - Antenna position systems for microwave, satellite antenna controllers
T - TV vhf/uhf

Advent Communications EP
Alan Dick FT
Andrew MTE
Antenna Concepts FT
Arden Technologies M
Asire Systems T
Astroguide EP
Blonder-Tongue Labs E
Broadcast Communications FM
Broadcast Microwave Services M
Browning Labs FMT
Cablewest Systems FM
Comark Communications
A Thomcast Co F
COMSAT-RRS, Mark Antennas M
ComStream Corp/A Spar Co E
Comtech Antenna Systems EP
COMWAVE M
Conner M
Continental Electronics FM
Continental Microwave EMP
CRS-Lammeau EP
CTE International FM
DB Electronica
Telecommunicazioni FMT
DH Satellite EP
Dielectrics Communications (General Signal) FT
Dop SRL EPFM
Doty-Moore Tower Services FT
E-N-G Mobile Systems EP
Electronics Research EP
Elenos M
EMCE Broadcast Products M
ERI-Electronics Research FMT
Fougerolle Audio/Video M
Gabriel Electronics M
GEC-Marcons Communications F

Microwave Radio
NSI MP
Nucomm M
Nural Technologies EMP
Orbital International FMT
Orbitron International Complete Satellite Systems EP
Precision Specialties P
Quetskent International P
RF Technology EMP
Robert & Schwarz FT
Scala Electrico FMT
Scientific Atlanta P
Shively Labs FM
SIRSA Sistemi Radio FT
SWR FT
Technosystem FMT
Telefunken Sendertechnik FT
Tennaplex Systems FT
Thomcast FMT
Vertex Communications EP
Viewsonics EMF
PFL Cable Service E

De-icer Systems
Continental Electronics CR-Lammeau
Dieselic Communications (General Signal Corp)
Dolp SRL/ Via B. Pontecorvo
Electronics Research
Environmental Technology
ERI-Electronics Research
Ice Crackers
Jampro Antennas
Loma Scientific
Southen Illinois Antennas SW
Technosystem
Utility Tower
Vertivision Communications
Vizcom/Satellite Systems

Exciters, Generators
A - AM, AM stereo
F - FM, FM stereo, Subcarrier
T - TV, TV stereo, SAP, PRO

Advent Communications
Asaca/SharbaSoku T
Audio Intervisual Design A
Avocet Instruments T
Beec M
Broadcast Eastern
Broadcasting Labs FT

Eng Components, Electronics
MDMS, ITFS, MDS Components, Electronics
Arden Technologies Broadcasting Labs
Cablewest Systems
Cofner
Continental Microwave

Harris Broadcast
(Harris Allied)
Inovons
ITAME
ITELCO
ITS
JT Communications
Larcan-TTC
LDF Communications
LNR Communications
Loma Scientific LDP
Marconi Communications
Marti Electronics
Modulation Sciences
Multidyne
National Science
OMT Sistemas Electronicos
Orban
Pacific Coast Marketing
QEI
RF Plante
Richard Hirschmann
Rohe & Schwarz
SACS Data Systems
Sharp Electronics/HPG Ind
Srl Sistemi Elettronici
Solidyne
Technosystem
Tectan
Teko Telecom
Telefunken Sendertechnik
Tepco
Thomcast FT
VG Electronics FT

Hirschmann
Richard Hirschmann
Rohe & Schwarz

Modulators, TV
Advent Communications
Asaca/SharbaSoku
Aster Systems
Barco
Beat
Browning Labs
Cado
Comar.Broadcast
Com.industry
Continental Microwave
CSE International
DB Electronica Telecommunicazioni
Dolp
Elcom
ELT-Ellettronica Italiana
FUBA Hansel Kolbe
GI Communications
General Instrument
Harris Broadcast
(Harris Allied)
ISS Engineering
ITELCO
ITS
Larcan-TTC
LDF Communications
Loma Scientific
LYS Electronic DTDA
Marconi Communications
Marshall Electronics/ Optical Systems
OMT Sistemas Electronicos
Philips TV Test Equipment
T R Pits

Receivers, AM, FM, SCA
Advent Communications
Audio Intervisual Design
Avocet Instruments
Beec
Continental Electronics
CSE International
Day Tronics
DB Electronica Telecommunicazioni
Delta Electronics
Elcom
ELT-Ellettronica Italiana
GI Communications
Inovons
ITELCO
Marconi Communications
Marti Electronics
Milestone Technologies
Modulation Sciences
P R Pits
Polotam Instruments
Reach Electronics
SCA Data Systems
Technosystem
Tectan
TFT

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Introducing the 635N/D—the same “nail-hammering” durability—infused with the power of N/DYM®

The Electro-Voice 635N/D and 635N/D-B (Camera Black) mics may look and sound like the legendary 635A, but there are some very powerful differences. We’ve added a new, ultrahigh-output neodymium iron boron magnet assembly (N/DYM®). Then cradled it in an even more protective structure—for quality audio under even the most demanding news/field conditions.

When there’s one chance to get it right call 800/234-6831.

Electro-Voice, Inc. a MARK IV company 600 Cecil St. Buchanan, MI 49107 616/695-6831 In Canada: 613/382-2141

Circle (35) on Reply Card
We don’t make TVs or radios.

(But we’ve helped make them the dynamic media they are today.)

Harris Allied has been there from the beginning with innovative products and solutions. When Harris Allied entered the broadcast industry in 1922, commercial television was still decades away, and radio was just beginning to be established. In the years since, we have grown to become a world leader in broadcast technology and service.

Our more than 60 major innovations in broadcast engineering, distribution and service are a direct result of our commitment to match technology with the demands of broadcasters worldwide. Today we offer more than 10,000 different products from 350-plus manufacturers, and complete systems capability.

From standard-setting radio and television transmitters, to studio and satellite equipment, fixed facilities, mobile broadcast units, expert system design, installation, and unmatched after-sale support, Harris Allied can be your one source for broadcast solutions that work.

As broadcasting continues to change our world, the people of Harris Allied will continue to be at the forefront of the industry as it shapes the way the world sees and hears itself.

Call us any time. We’ll tell you where we’ve been. And help take you where you want to be.

U.S. and Canada: 217-222-8200 or fax 217-224-1439
International: 217-222-8290 or fax 217-224-2764
Radio

DB Elettronica Telecomunicazioni
Dielectric Communications
(General Signal)
Doip
Electronics Research
Elenos
ELIT-Elettrofica Italiana
FUBA Hans Kolbe
Jampro Antennas
JFW Industries
Kintronic Labs
Loma Scientific
Loral Microwave-Narda
Marconi Communications
Micro Communications
Mu-Del Electronics
MYAT
North Hills Electronics
North Hills Signal Processing
OMS Sistemas Electronicos
Richard Hirschmann
Scala Electronic
Shively Labs
SiRA Sistemi Radio
Southern Illinois Antennas
SWR
Technosystem
Tennaplex Systems
Thomcast
Wide Band Engineering

Pressurization Eqpt
Andrew
Arden Technologies

Cablewave Systems
Continental Electronics
Dielectric Communications
(General Signal)
Doip
Environmental Technology
Jampro Antennas
LeBlanc & Royle Telcom
Loma Scientific
Marconi Communications
Shively Labs
SiRA Sistemi Radio
Southern Illinois Antennas
SWR
Technosystem

Switchers, RF
Coaxial
Alan Dick &
Bird Electronic
Comark Communications
A Thomcast Co
Continental Electronics
DB Elettronica Telecomunicazioni
Delta Electronics
Dielectric Communications
(General Signal)
ELIT-Elettrofica Italiana
GEC-Marconi Communications
Jampro Antennas
JFW Industries
Kintronic Labs
LBA Technology
Leitch
Loma Scientific
Loral Microwave-Narda
Marconi Communications
MPJ Enterprises
Micro Communications
Monroe Electronics
Pacific Radio Electronics

RIZ-Transmitters
Shively Labs
SiRA Sistemi Radio
SWR
Technosystem

Transformers, Power, Modulation
DB Elettronica Telecomunicazioni
Dielectric Communications
(General Signal)
EPE Technologies/Square D
Jampro Antennas
JFW Industries
North Hills Signal Processing
Perma Power Electronics
Peter Dahl
Philips Components
RCA Broadcast/GE Support Services
Technosystem
Telefunken Sendertechnik
Thomcast

Jampro Antennas
JoLida
LeBlanc & Royle Telcom
Loma Scientific
Loral Microwave-Narda
Marconi Communications
Micro Communications
Microelect
MYAT
Nucomm
Phasetek
RIZ-Transmitters
Scala Electronic
Shively Labs
Southern Illinois Antennas
Technosystem

Universal Audio/Video Sync Generation
Digital Audio Transmission
Synchronous AES/EBU Digital Audio Routing
RS-422 Central Data Routing

Digital Audio Conversion, Processing & Sync
Digital Audio Sample Rate Conversion
AES/EBU & Time Code Routing

Call for our Digital Audio Design Handbook and Product Catalog:
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916/265-1000
800/719-1600
LARCAN-TTC is the answer. We’re so successful in today’s competitive transmitter market because everything we build is designed for simplicity, efficiency, reliability and long life. And everything we sell is backed by the resources of the LeBlanc Communications Group, one of the world’s largest suppliers of RF transmission equipment and services.

Which company delivers maximum efficiency in high power IOT UHF transmitters?

80kW IOT High Definition Ready (HDR) Transmitter sold to KCSM, San Mateo/San Francisco, CA

Which company’s low power UHF transmitters and translators are specified in FCC filings three times more often than all other competitors combined?

XLS Series LPTV Transmitters/Translators: 1W-1kW. 100 watt shown

Who has sold more high power solid-state FM transmitters than anyone else?

FMS Series FM transmitters: 1 kW-8kW

Whether it’s a 50 watt translator or a 240kW powerhouse, when you’re ready to upgrade your UHF or FM facility, look to LARCAN-TTC. And for North America’s most popular VHF transmitter, it’s the legendary solid state LARCAN M Series. Let us help you write your own success story. Call LARCAN-TTC for the full story on our complete product line.

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LARCAN-TTC

www.americanradiohistory.com
Radio

Telumken Sendentechnik
Thomcast
Utility Tower

Transmitter Remote Control, Telemetry
Includes transmitter logging systems.

Burk Technology
Conex Electro Systems
Contiental Electronics
CTE International
DB Eletronica Telecomunicazioni
Dolp
Electronics Research
Eienis
ELIT-Eletronica Italiana
GEC-Marconi Communications
Gentner Communications
Hallikainen & Friends
Harris Broadcast
(Harris Allied)
Intrapex
Marconi Communications
Moseley Associates
NTL
Potomac Instruments
Pradel International
Poluzi Engineering
RF Technology
Schmid Telecom
Technosystem
Telefunken Sendertechnik
Thomcast
Troll Technology

Tubes & Solid-state Devices
K - Klystron, IOT, TWT power devices
P - Power Tetrodes, Triodes
R - Rectifiers, vacuum tube & solid-state

Advent Communications
Astre Systems
Audio Intervisual Design
B&F Communications
Broadcast Devices
BURREL INDUSTRIES
California Tube Lab
Comark Communications
A Thomcast Co
Contiental Electronics
Daily Electronics
DB Eletronica Telecomunicazioni
Econco
EEV
Eleonis
ELIT-Eletronica Italiana
Fusion Electronics
Jolida
Loma Scientific
MCL
Motorola Semiconductor Products
Sector
Newark Electronics
Penta Labs
Philips Components
Richardson Electronics
Sharp Electronic/HPG Ltd
ST Kettle

Varian Microwave Power Tubes KPR
Varian Canada
Varian Microwave Eqpt Products

Vacuum Contactors
Advanced Broadcast Systems
JoLida
Kintronic Labs
LBA Technology
Phaselet
Sorcom Associates
Svetlana Electron Devices
Vacuum Tube Industries

Towers, Antenna Support
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Aluma Tower
Andrew
Broadcast Communications
Central Tower
Continential Electronics
Electronics Research
Express Tower
FVT
GEC-Marconi Communications
Jampro Antennas
Kine Towers
LBA Technology
LDL Communications
LeBlanc & Royle Telecom
Magnum Towers
Malouf Engineering International
Marconi Communications
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Fred A Nudd
Pirood
T R Pitts
ROHN
SG Communications
Stainless
Swager Communications
SWR
Technosystem
Teko Telecom
Telefunken Sendertechnik
Tenco Tower
Thomcast
Transmission Structures
Trylon Towers
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Valmont Industries/CPD
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A - Accessories, guys, insulators
L - Tower lighting products
P - Portable masts

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Alten Osborne Associates
Aluma Tower
Electronics Research

Flash Technology
Kline Towers
PIROO
T R Pitts
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Leightron
Louth Automation
MATCO
MEMEX Software
The Network Connection
Odeoics Broadcast
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Softel Systems
Sprintec
Sony Business & Prof Group
Surand Digital
Tech Electronics
Texscan MSI
Time Logic
Video Data Systems
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B&B Electronics Mfg
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JL Cooper Electronics
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Menick
Micro Express
NGD Phoenix
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Network Technologies
Newark Electronics
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Rorie Data
Scott Studios

Sealene System
Silicon Graphics
Tech Electronics
TECH-SA-PORT
TVEusion/Raster Ops

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C - Drawing, CAD
D - Diagnostics, maintenance

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Dedicated, PC-based, supporting software packages.

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Autoce

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Our Reputation Speaks For Itself... 1994 Broadcast Equipment Survey

FM TRANSMITTERS

<table>
<thead>
<tr>
<th></th>
<th>% OF TOTAL REPLIES</th>
<th>BUY AGAIN</th>
<th>RECOMMENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.E.</td>
<td>17.95%</td>
<td>85.71%</td>
<td>85.71%</td>
</tr>
<tr>
<td>Collins</td>
<td>7.69%</td>
<td>66.67%</td>
<td>33.33%</td>
</tr>
<tr>
<td>Continental</td>
<td>28.21%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Harris</td>
<td>28.21%</td>
<td>72.73%</td>
<td>72.73%</td>
</tr>
<tr>
<td>RCA</td>
<td>8.97%</td>
<td>28.57%</td>
<td>28.57%</td>
</tr>
<tr>
<td>Other</td>
<td>8.97%</td>
<td>28.57%</td>
<td>42.86%</td>
</tr>
</tbody>
</table>

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PXL Cable Service

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AAVS/Sencore
Anritsu Wtron
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Boonton Electronics
Dwight Cavendish
Delta Electronics
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Hewlett-Packard/VID Div
Kay Electronics
LNR Communications
MFJ Enterprises
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Wide Band Engineering
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Includes automated systems
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(E General Signal)
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Jampró Antennas
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LBA Technology
Loral Microwave-Narda
Marconi Communications
MFJ Enterprises
RF Industries
Technosystem
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Wide Band Engineering

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Standard Tape Laboratory

Thermal Devices
Soledor Absorbing Technology-SAT S

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EFI Electronics
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Center Video Industrial
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John Gorrill Woodworking
Hall Electronics Inc/dba:Hall Electronics
Image Video Teleproductions
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BDL Autoscript
Beachwood Studios
BERC-Broadcast Eqt Rental
Center Video Industrial

PTL Cable Service

Frequency Measurement, Coordination
Communications Data Service
Doty-Moore Tower Services
Eckom Bauer
Johnson Measurement Service
LPB
Microflect
Lawrence L Morton Associates
National Supervisory Network
Newman-Kees Freq Measurements/ Engineering & Installations
NTL
Old Dominion Broadcast Eng Service
Phil McQuatters/ Broadcast Frequency Measurement Service
ROH Products
Society of Broadcast Engineers-SBE
Standard Frequency Measuring Service
Teletech
Ziehl Electronic Service
PTL Cable Service

Head Refurbishing, Relapping
Austeri Technical Services
GEE Broadcast Systems
Hall Electronics Inc/dba: Hall Electronics
International Electro-Magnetics
JRF Magnetic Sciences
Northern Magnetics
Panasonic Broadcast & Television Systems
Spraak Magnetics
Videomagnetics

Instrument Calibration
APS Professional Video Products
Loral Microwave-Narda
Rohde & Schwarz & Co Kg
Spraak Magnetics

Lens Repair
Alan Gordon Enterprises
Alpine optics inc
Century Precision Optics
F Prime Optics
Opti Tex
SAV

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Carpel Video
Center Video Industrial
Coarc Video
Devlin Video Service
DGG-Sdi-Grade Systems
Hero Productions
KABA Research & Development
Optical Media International
Options international
Sony Recording Media
Tayo Industries
Video Dub
Video-Matic Group

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AirCraft Production Libraries
Beachwood Studios
The Blue Ribbon Soundtracks
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98 Broadcast Engineering
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Circle (52) on Reply Card

Broadcast Engineering 99

www.americanradiohistory.com
California

Advanced Marketing
PO Box 97
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415-365-3944; Fax: 415-365-1630
Products handled: Audio; Video

Audio Services
10639 Riverside Drive
North Hollywood CA 91602
818-980-9891; 800-228-4429;
Fax: 818-480-9111
Products handled: Used Eqpt; Video

Band Pro Film/Video
425 N Moss Street
Burbank CA 91502
818-841-1655; 800-853-5600;
Fax: 818-841-7649
Products handled: Audio; Video

B&K Broadcast Store
1840 Flower St
Glendale CA 91201-2041
818-551-5858; Fax: 818-551-0686
Products handled: Audio; Video

Birns & Sawyer
1026 N Highland Ave
Hollywood CA 90036
213-466-8211; Fax: 213-466-7049
Products handled: Audio; Used Eqpt; Video

Cartoni
960 Enchanted Way #104
Simi Valley CA 93065
805-520-6068; Fax: 805-520-6949
Products handled: Video

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7210 Jordan Ave #B-45
Canoga Park CA 91303
818-883-2138; Fax: 818-347-4366
Products handled: Audio; RF Eqpt; Video

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960 Enchanted Way #104
Simi Valley CA 93065
805-520-4911; Fax: 805-520-7342
Products handled: Video

Adolph Gasser
181 2nd St
San Francisco CA 94105
415-495-3852; 800-994-2773;
Fax: 415-543-2615
Products handled: Audio, Test, Maintenance; Video

KABA Research & Development
24 Commercial Blvd
Novato CA 94949
415-883-5041; 800-231-8273;
Fax: 415-883-6222
Products handled: Audio

LINES Communications
PO Box 748
Burbank CA 91503-0748
818-840-8366; Fax: 818-840-8375
Products handled: RF Eqpt; Video

Marcom
PO Box 66507
Scotts Valley CA 95066
408-438-4273; Fax: 408-438-6617
Products handled: RF Eqpt; System Integrator; Used Eqpt

Marshall Electronics
Optical Systems Div
PO Box 2027
Culver City CA 90230
310-390-6608; 800-800-6608;
Fax: 310-391-8926

Mobile-Cam Products
340-F Vernon Way
El Cajon CA 92020
619-441-1295; Fax: 619-441-9263
Products handled: Vans

Pacific Coast Marketing
14125 Capri Dr
Los Gaicos CA 95303
408-370-3505; Fax: 408-370-3508

Pacific Radio Electronics
969 N La Brea
Los Angeles CA 90038
213-969-2035; 800-634-9476;
Fax: 213-969-2053

Professional Sound
10639 Riverside Dr
N Hollywood CA 91602
805-295-9395; Fax: 805-295-8398
Products handled: Audio; RF Eqpt

RF Specialties of California
3463 State St #229
Santa Barbara CA 93105
805-682-9429; Fax: 805-682-5170
Products handled: Audio; RF Eqpt

Shotmaker Dollys & Cranes
28145 Ave Crocker
Valencia CA 91355
805-257-1444; 800-426-6284;
Fax: 805-257-6197
Products handled: Used Eqpt; Video

Sprague Magnetics
15720 Stagg St
Van Nuys CA 91406
818-994-6602; 800-553-9712;
Fax: 818-994-2153
Products handled: Audio; RF Eqpt; System Integrator; Used Eqpt; Vans

SSL Industries Inc
4935 Anne Louise Ln
Placerville CA 95667
916-644-2033

Products handled: Audio; System Integrator; Test; Maintenance; Video

Studio Spectrum
1056 N Lake St
Burbank CA 91502
818-843-1610; Fax: 818-843-1145

Products handled: Audio; System Integrator; Video

Synelec
259 Mi Heron Road #101
Scotts Valley CA 95066
408-461-1193; 800-796-3532;
Fax: 408-461-1196

Products handled: System Integrator; Video

System Associates
PO Box 3631
Culver City CA 90231
310-636-1111; Fax: 310-836-5966

Products handled: Used Eqpt

TCS Distributors
501 W Glenoaks Blvd #343
Glendale CA 91202
818-547-9478; Fax: 818-547-9473

Video Tape Products
320 N Madison Ave
Los Angeles CA 90405
213-664-1144; 800-422-2444

Products handled: Audio; RF Eqpt; System Integrator; Used Eqpt; Video

Yale Electronics
6616 Sunset Blvd
Hollywood CA 90028
213-465-3186; Fax: 213-465-5630

Products handled: Audio; Video

Colorado

Microvideo USA
333 Downsworth Road
Bethany CT 06625
203-393-0598; Fax: 203-393-0576

Products handled: Video

Connecticut

Computer Promoting & Captioning
3408 Wisconsin Ave NW
Washington DC 20016
202-966-6980; 800-977-6678;
Fax: 202-966-9881

Florida

Baf Communications
314-16 Northstar Court
Sanford FL 32771
407-324-8250; 800-633-8223;
Fax: 407-324-7860

Products handled: Vans

Bencis Associates
3730 NE 42 Ave
Ocala FL 34479
904-732-9777; 800-342-0197;
Fax: 904-867-8691

Products handled: Audio

Broadcast Int'l Group
8280 NW 27th #515
Miami FL 33122
305-599-2112; Fax: 305-599-1133

Broadcasters General Store
2480 SE 52nd St
Ocala FL 34480
904-622-7700; Fax: 904-629-7000

Products handled: Audio; RF Eqpt

Ceil
2500 NW 39th St
Miami FL 33142
305-633-8020; Fax: 305-635-5445

Products handled: RF Eqpt

Command Corp
20505 US Hwy 19 N #12
Clearwater FL 34624-6010
813-724-1200; 800-841-6307;
Fax: 813-724-1840

Products handled: Audio; Video
Products handled: Audio; RF Eqpt; System Integrator; Used Eqpt; Vans; Video

Control Technology
2950 SW 2nd Ave
Fort Lauderdale FL 33315
305-761-1106; 800-327-4121;
Fax: 305-764-3298
Products handled: Audio; RF Eqpt; System Integrator; Used Eqpt

Electrex
18620 NE 2nd Ave
Miami FL 33179
305-651-5752; Fax: 305-654-1386
Products handled: Audio; RF Eqpt; System Integrator; Used Eqpt

Gendra Broadcasting
2800 Biscayne Blvd
Miami FL 33137
305-372-8845; Fax: 305-372-0757
Products handled: Audio; RF Eqpt; System Integrator; Vans; Video

Hi-Tech Trading Co
11100 66th St N #27
Largo FL 33717
813-321-2122; 800-330-3873;
Fax: 813-321-2272
Products handled: Audio; Used Eqpt; Video

Media Concepts
559 49th St S
St Petersburg FL 33707
813-321-2122; 800-330-3873;
Fax: 813-321-2272
Products handled: Audio; Used Eqpt; Video

Photomart Cine-Video
6327 S Orange Ave
Orlando FL 32809-5109
407-851-2000; Fax: 407-851-2553
Products handled: Audio; Used Eqpt; Video

Sintel - Systems International
205 S Hoover St #208
Tampa FL 33609
813-287-1081; Fax: 813-287-1081
Products handled: Audio; RF Eqpt; System Integrator; Video

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407-425-2010; Fax: 407-648-2604
Products handled: Used Eqpt; Video

GEORGIA
CCA Electronics
360 Bohannon Rd/PO Box 426
Fairburn GA 30213
404-964-3530; Fax: 404-964-2222
Products handled: RF Eqpt; System Integrator

Technical Industries
6000 Peachtree Road NE
Atlanta GA 30341
404-455-7610; 800-544-5440;
Fax: 404-458-2822
Products handled: Audio; RF Eqpt; System Integrator; Used Eqpt; Vans; Video

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PHONE:

102 Broadcast Engineering

ILLINOIS
Center Video Industrial
5815 W Howard St
Niles IL 60714
708-647-8700; 800-621-4354;
Fax: 708-647-8707
Products handled: Used Eqpt; Video

Discount Video Warehouse
PO Box 36
Mount Prospect IL 60056
708-299-4258; 800-323-8148;
Fax: 708-299-4206
Products handled: Audio; RF Eqpt;
System Integrator; Used Eqpt;
Vans; Video

Joseph Electronics
8830 N Milwaukee Ave
Niles IL 60646
708-297-4200; 800-323-9725;
Fax: 800-448-8366
Products handled: Audio; Video

Midwest Audio Video
Exchange
1131 Central Ave
Willette IL 60091
708-251-0001
Products handled: Audio; Video

Provid Supply Corp
3715 Ventura Dr #500
Arlington Heights IL 60004
708-670-7767; 800-929-2349;
Fax: 708-670-7892
Products handled: Audio; System Integrator; Test, Maintenance; Used Eqpt; Video

RADMAR Inc
1263-B Rand Road
Des Plaines IL 60016
708-298-7980; Fax: 708-298-1248
Products handled: Audio; System Integrator

Ram Broadcast Systems
PO Box 3100
Barrington IL 60011-3100
708-362-7575; 800-779-7575;
Fax: 708-382-8818
Products handled: Audio; System Integrator

Richardson Electronics
40W267 Keslinger Road
LaFox IL 60147
708-208-2200; 800-348-5580;
Fax: 708-208-2550
Products handled: Audio; RF Eqpt; Video

Roscor
1061 Feehanville Dr
Mount Prospect IL 60056
708-299-8080; 800-843-3679;
Fax: 708-299-4206
Products handled: Audio; RF Eqpt;
System Integrator; Used Eqpt; Video

Video Images-Chicago
1121 Tower Lane
Berwyn IL 60106
708-766-1100; 800-729-9986;
Fax: 708-766-1106
Products handled: Audio; System Integrator; Used Eqpt; Video

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Gray Supply
5204 Indianapolis Blvd
East Chicago IN 46312-3838
219-398-2362; 800-298-2244;
Fax: 219-398-0038
Products handled: Video

KANSAS
Computer Concepts
8375 Melrose Dr
Lenexa KS 66214
913-541-0990; 800-255-6350;
Fax: 913-541-0169
Products handled: Audio

Dixon Representation
2805 W 127th St
Leawood KS 66209
913-345-0958; Fax: 913-345-9990
Products handled: Video

RSC Electronics
131 Laura
Wichita KS 67201
316-267-5213; 800-456-6545;
Fax: 316-267-8917
Products handled: Audio; RF Eqpt; Video

Smith Audio-Visual
310 SW 6th St
Topeka KS 66603-3109
913-235-3481; 800-521-3936;
Fax: 913-235-3485
Products handled: Used; Audio; Video

KENTUCKY
RGB Dynamics
1445 Jamika Dr #3
 Erlanger KY 41018
606-282-7303; Fax: 606-282-8225
Products handled: Video

United States Broadcast
2794 Circleport Dr
Erlanger KY 41018
606-282-1802; Fax: 606-282-1804
Products handled: Audio; RF Eqpt; Video

MASSACHUSETTS
Adcou Inc
18 Billings St
Sharon MA 02067
617-784-8123; 800-232-3557;
Fax: 617-784-5553
Products handled: Video

Audiomation/Sellmark
30 Main St
Ashland MA 01721
508-881-7808; 800-266-1266;
Fax: 508-881-7928
Products handled: Audio

A/Z Associates
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Needham MA 02192
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Avtech Systems
141 Ayers Court
Teaneck NJ 07666
201-833-8777; 800-221-1300; Fax: 201-833-4995
Products handled: Video

BCTV Corp
280 Huyler St
Hackensack NJ 07606
201-489-9595; 800-221-2240; Fax: 201-489-0111
Products handled: Video

Comprehensive Video Supply
148 Veterans Dr
Northvale NJ 07647
201-767-7900; 800-526-0242; Fax: 201-767-7377
Products handled: Video

International Teletronics
PO Box 1298
Princeton NJ 08540
609-683-5050; Fax: 609-683-5151
Products handled: Audio; RF Eqpt; Test, Maintenance; Video

NETCOM
Netcom
1465 Paisadle Ave
Teaneck NJ 07666-3698
201-837-8424; Fax: 201-837-8384

OLE Corp
PO Box 805 (1 Airport Dr)
Williamstown NJ 08094
609-728-2020; 800-334-9154; Fax: 609-629-1751
Products handled: RF Eqpt

Quality Video Supply
76 Frederick St
Hackensack NJ 07602
800-461-6000; Fax: 201-487-3978
Products handled: Audio, Video

Tele-Measurements
145 Main Ave
Clifton NJ 07014
201-473-8822; 800-223-0052; Fax: 201-473-0521
Products handled: Audio, Video, System Integrator: Video

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Los Lunas NM 87031
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Albuquerque NM 87109
505-883-4998; Fax: 505-893-5250
Products handled: RF Eqpt; Video

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New York NY 10011
212-807-7474; 800-947-9920; Fax: 212-242-1400
Products handled: Video

Burlington Audio/Video Tapes
106 Mott St
Oceanside NY 11572
516-678-4414; 800-331-3919; Fax: 516-678-8959
Products handled: Audio

Communications Marketing & Consulting
601 Chesternut Ridge Rd
Chesternut Ridge NY 10977
914-356-5300; Fax: 914-392-8181
Products handled: Video

Digital Imaging Solutions
900 Broadway
New York NY 10003
212-388-9200; Fax: 212-388-9388
Products handled: Audio, System Integrator, Used Eqpt; Video

Elda Trading Corp
10 Cutter Mill Rd #201
Great Neck NY 11021
516-829-0174; Fax: 516-829-0657
Products handled: Audio, RF Eqpt; Video

HAVE
309 Power Ave
Hudson NY 12534
518-828-2000; 800-999-4293; Fax: 518-828-2008
Products handled: Audio, Used Eqpt; Video

Linbar Electronics
9131 Bedell Lane
Brooklyn NY 11236

Miller Associates
48 W 25th St
New York NY 10010
212-747-8011; 800-221-9328; Fax: 212-741-8026
Products handled: Audio, Video

Northeast Broadcast Lab
10373 Saratoga Rd
South Glens Falls NY 12803
518-793-2181; Fax: 518-793-7423
Products handled: Audio, RF Eqpt; System Integrator

Professional Electronics
2468 Albany St
Schenectady NY 12304
518-374-1515; 800-334-3603; Fax: 518-374-1535
Products handled: Audio, RF Eqpt; System Integrator; Video

Reeves A/V Systems
227 E 45th St
New York NY 10017
212-573-8652; Fax: 212-986-3591
Products handled: Audio, RF Eqpt; System Integrator; Video

Technical Necessities/TecNec
4 High St
Saugerties NY 12477
914-246-0428; 800-543-0909; Fax: 914-246-0626
Products handled: Audio, Test, Maintenance, Video

Television Eqpt Associates
PO Box 393
S Salem NY 10090
914-763-8893; Fax: 914-763-9158
Products handled: RF Eqpt; Video

Union Connector
300 Babylon Turnpike
Roosevelt NY 11575
516-623-7461; Fax: 516-623-7475
Products handled: Video

Video Central
76 9th Ave # 333
New York NY 10011
212-633-9200; 800-922-4745; Fax: 212-645-0081
Products handled: Used Eqpt; Video Equipment

Videsosound of Ithaca
1458 Slateville Road
Ithaca NY 14850
607-272-2060; Fax: 607-277-7374
Products handled: Audio, RF Eqpt; System Integrator; Used Eqpt; Video Equipment

Videotape Distributors
423 W 55 St
New York NY 10019
212-581-7111; 800-327-3724; Fax: 212-581-7977
Products handled: Video

Whirlwind
PO Box 12962
Rochester NY 14612
716-663-8820; Fax: 716-865-8930
Products handled: Audio, Video Equipment

NORTH CAROLINA
LBA International
PO Box 8026
Greensville NC 27835-8026
919-757-0279; 800-522-4464; Fax: 919-752-9155
Products handled: RF Eqpt

LBA Technology
PO Box 8026
Greensville NC 27835-8026
919-757-0279; 800-522-4464; Fax: 919-752-9155
Products handled: RF Eqpt

Broadcast Engineering

104

www.americanradiohistory.com
Long Communications Group
961 Burke St
Winston-Salem NC 27101
910-725-2306; 800-255-5564;
Fax: 910-777-8304

Products handled: Audio, Video

Techni-Tool
5 Apollo Road
Plymouth Meeting PA 19462
610-825-4990; Fax: 610-828-5623

SOUTH CAROLINA

EDR Systems
Professional Management Services
PO Box 141 (221 E Earle St)
Greenville SC 29602-0141
803-370-2400; Fax: 803-370-2314

Products handled: Audio, System Integrator

Vincent Lighting Systems
Consolidated Media Systems (CMS)
401 Spence Lane
Nashville TN 37210
615-244-3933; 800-826-4931;
Fax: 614-244-1031

Products handled: Audio, System Integrator, Video

OKLAHOMA

Walter Brewer
5200 S Yale Ave #501
Tulsa OK 74135-7490
918-493-7323; 800-255-9458;
Fax: 918-491-9817

Products handled: Video

OREGON

Cancomm
7703 SW Cirrus Dr
Beaverton OR 97005
503-671-9424; 800-993-0728;
Fax: 503-671-9826

Products handled: Audio, RF Eqpt; Video

Pennsylvania

CDR Systems
7432 Washington St
Pittsburgh PA 15218
412-351-1700; Fax: 412-351-4673

Products handled: System Integrator, Used Eqpt, Video

LPB inc
28 Flacton Hill Road
Frazer PA 19355
610-644-1123; Fax: 610-644-8651

Products handled: Audio, RF Eqpt

MBA
PO Box 427
Spring House PA 19477
215-543-4500

Products handled: Audio, Video

Tape World
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**RIA**
50 E Malvern
Salt Lake City UT 84115
801-406-8822; Fax: 801-486-2741
Products handled: Audio; RF Eqpt;
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711 Grandy St
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Products handled: Audio; RF Eqpt;
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**Hall Electronics**
706 Rose Hill Dr
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804-984-4255; Fax: 804-984-3299
Products handled: Audio; RF Eqpt;
Used Eqpt

**Old Dominion Broadcast Eng Service**
9505 Lakeview Court
Richmond VA 23229
804-740-4717; Fax: 804-740-4717
Products handled: Audio; RF Eqpt;
Used Eqpt

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1710 Goodridge Dr MS 1-4-5
McLean VA 22102
Products handled: Video

**SCMS**
PO Box 1043
Chatham VA 24531
804-432-0850; 800-874-7267;
Fax: 804-432-0853
Products handled: Audio; RF Eqpt;
System Integrator; Used Eqpt; Video

**The Whitlock Group**
230 Clearfield Ave #103
Virginia Beach VA 23456
804-671-7478; Fax: 804-671-7481
Products handled: Audio; System Integrator; Used Eqpt; Video

**WASHINGTON**

**Broadcast Supply West**
7012 27th St W
Tacoma WA 98466
206-565-2301; 800-426-8434;
Fax: 206-565-8114
Products handled: Audio

**BSW-Broadcast Supply**
Worldwide
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Fax: 206-565-8114
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**Daily Electronics**
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**Diversified Marketing**
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**Liebert**
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Blaine WA 98230-1890
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Products handled: Video

**Northshore Marketing**
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206-284-9699; Fax: 206-285-9412
Products handled: Audio

**Penstock Northwest**
10800 NE 8th St #905
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Fax: 206-454-1648
Products handled: RF Eqpt

**RF Specialties of Washington**
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**Camera Corner**
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Fax: 414-435-3619
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**Full Compass Systems**
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Madison WI 53719-1208
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Fax: 608-273-6336
Products handled: Audio; Video

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**Cabletek Electronics**
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**Major Technologies**
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Fax: 905-821-8849

**McCurdy Radio Industries**
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**First Broadcast**
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Fax: +44-273-821767
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Fax: +852-2839-0172
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103 Tokyo Japan
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Public Broadcasting Service (PBS)
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613-728-8692

Radio Free Europe/Radio Liberty
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No One Measures Up To
ShibaSoku® Accuracy

Designing and producing superior test instruments that are the industry's measure for accuracy

Performance engineering is clearly seen in ShibaSoku's CM205N Auto Setup Color Monitor. It reproduces images with the highest Color and Luminance Fidelity, but never adds or masks even minor video defects.

True NTSC Monitor

Utilizing Test and Measurement expertise, ShibaSoku manufactures monitors to true NTSC specifications. The NTSC Decoder uses a 1 Q Chroma Demodulation, tuned to Human-Eye color perception, for richer, more accurate Chroma saturation with less cross-color noise. The 205 has excellent Luminance Frequency response and uses a 0.28mm Dot Pitch. 20" Precision In-Line Dot CRT, able to display over 900 TV lines with Adjustment Free Convergence, accurate to ±0.2mm.

Auto Setup—Plus

ShibaSoku's Auto Setup system provides accurate and longer-term color temperature stability with impeccable chromaticity reproduction, to ±0.002 points on the CIE x/y scale — accurate as the best color analyzer. Unlike other systems, the Optical Sensor and CPU circuitry reduce measurement errors from compensation adjustments and eliminate optical filters in the probe. Auto Setup operation is executed with an internal CAL signal generator. Five Color temperature memories store Contrast and Brightness data, the R,G,B, Gain and Bias levels. Manual Front panel controls have Preset, UNCAL, switches for two separate settings without using Auto Setup. High Voltage Beam current detection circuitry ensures better Luminance stability plus higher luminance performance (to 88L).

Standard Features/Options

- Composite Video inputs
- Component and RGB inputs
- Y C input
- D1 Component Digital Option
- D2, D3 Composite Digital Option
- Auto Setup on any Input Signal
- PAL Decoder Option
- Dynamic Double Focus system
- Wideband CCD Comb filter
- 3 line Comb filter
- High Voltage Protection
- HV Stand-by function (Saves CRT life)
- Power Supply monitoring & protection
- Sync Burst circuit monitoring
- Automatic Degauss operation
- Chroma Gain compensation circuit
- Variable Aperture compensation
- Color: Mono Split Screen function
- Independent Preset/UNCAL switches
- Residual Subcarrier indication
- H V Pulse Cross modes

Full Line of Companion Models

The Multi-standard CM206N (900 TV line CRT) is capable of a combination of 3 decoders: NTSC, PAL, SECAM, D1, D2 and D3. Auto Setup is optional in addition to the decoders. Other Auto Setup models include the 20" CM201N, 14" CM141N, and Multi-standard CM202 and CM142, all 700 TV line CRTs.

Lasts Too Long

ShibaSoku's monitor design philosophy, anchored in Test and Measurement precision, is dedicated to giving video pros the means to inspect a video signal for ANY flaws or errors. There are many picture monitors, but only one line of Reference Quality monitors offers years of reliable, stable service. You get longer-term stability, sharper focus and resolution, and higher luminance control, which truly let you see what you've been missing in your video signal. Optimun ShibaSoku performance is demanded by top professionals. In fact, some users report having our monitors On-line for over a Decade. It seems the only way to get a new one into service is by engineering the Advancements you need.

Find out more about the monitor that lets you see what you need to see — circle the reader service card number below.

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Twenty five years ago Neil Armstrong made history by stepping on to the moon. Now Leitch has made history with technological achievements placing the company at the forefront of digital systems equipment. If we can't fly you to the moon, we can guarantee you out of this world performance from all our Digital Glue™ products.

Digital to Analog Encoders

Leitch pioneered monitoring encoders with the introduction of the VSM-6800. Its superior performance and features remain unsurpassed, giving four PAL/NTSC outputs as well as four reclocked serial outputs from a serial 4:2:2 input. It is also zero SCH locked and can pass vertical interval signals such as VITC, teletext and closed captioning.

This is the proven industry leader for monitoring encoders. The CES-3500 is a 'next generation' precision quality encoder. It uses 12 bit signal processing and unique filter circuitry to provide exceptionally high resolution PAL or NTSC outputs from a component digital source. It has many matchless features such as automatic timing to an external reference, low frequency digital jitter removal and advanced sync outputs all of which are setting new standards for composite encoders. This is an exceptional product at a surprisingly low price, and, it's available now!

When it comes to talking digital you should be talking with Leitch, the industry's No.1 choice. For more information on these and associated digital products call us today.

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