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BROADCAST MANAGEMENT/ENGINEERING

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# THE SOURCE

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# 1984 BUYER'S GUIDE

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AUDIO ■ VIDEO ■ LIGHTING  
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# The ADM 9000... Designed to Make Stereo Television Easy

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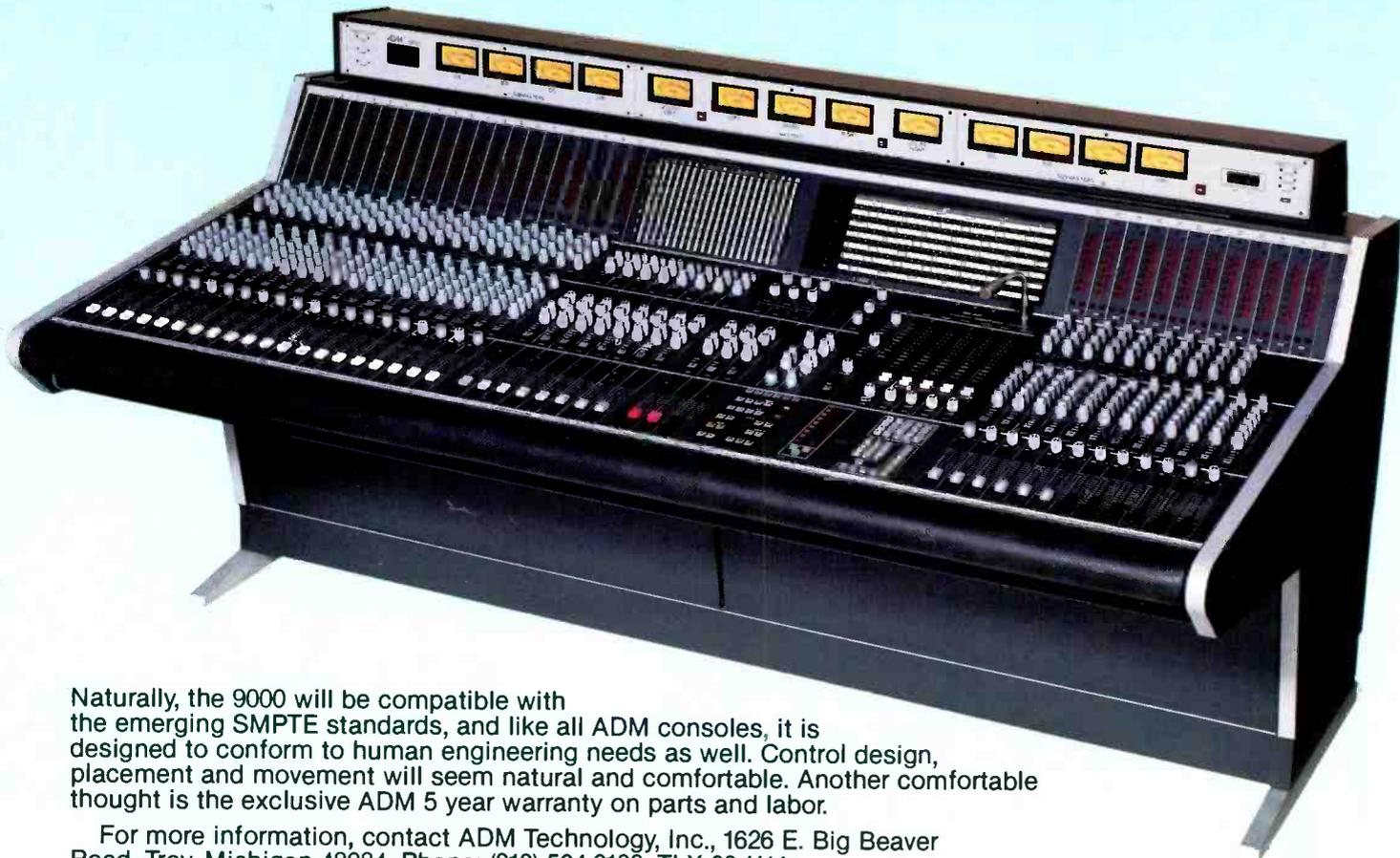
Imagine an in-line alpha numeric readout for source identification and module status.

Imagine being able to pre-program 99 console setups with the ability to arrange these setups in any combination of 10 sequences. Each sequence can include up to 100 events. Then, imagine being able to

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**"OUR NEWS IMAGE HAS NEVER BEEN BETTER."**

*-David Choate, News Director WSVN-TV, Miami*

"Ranked as a competitive activity, TV news would probably fall somewhere between rugby and wild boar wrestling in terms of fierceness. Which is why we're constantly on the lookout for anything that might give us an edge.

"Our 6 Betacam camera-recorder systems are a good example. Their image quality is spectacular, so we look great on-air.

"But even better, the mobility Betacam offers is a real incentive to our photographers to go for that really dramatic, unusual shot. The kind you won't see on every channel at 6 and 11. Because at least for the time being every station doesn't have Betacam."

**"THE ABILITY TO SEND OUT MORE CREWS ON MORE STORIES IS WHAT I CALL GOOD NEWS."**

*-Tom Kirby, VP/News WTCN-TV, Minneapolis*

"Before coming here, I was with Gannett's Denver station, KUSA, which was the



winner of the NPPA's 1983 'Station of the Year' award. And frankly, my goal here is to get to the finals again. A not unrealistic objective when you consider the talent we have, and the fact that we recently purchased 23 Betacams.

"After all, it seems obvious, the more people you have on the street, the better your chances are of coming up with a winner. Providing, of course, you give those people equipment that's as performance-minded as they are."

**"WITH SO MUCH LESS EQUIPMENT TO LUG AROUND, WE'RE SEEING A LOT MORE EXCITING TAPE."**

*-James Delmonico, President/General Manager WRGB-TV, Schenectady*

"I don't care how inspired or dedicated a photographer is, eight hours of hauling sixty-plus pounds of camera, recorder, lights,



and cable all over hell and gone is bound to have a stifling effect on someone's creativity.

"That's what initially got us interested in Betacam, and ultimately, why we made the decision to invest in it. The simple fact that you don't have to be a gorilla to use it. The maneuverability of this system is tremendous. So naturally we're seeing shots you just couldn't get before. And, of course, the image quality itself is magnificent.

"In fact, I'd have to say from the looks of things, we'll be adding more Betacam systems

# HOW THE PEOPLE WHO LIVE AND DIE BY THE RATINGS RATE THE SONY BETACAM.™

before long. If for no other reason than to stop our crews from fighting over who gets to use the ones we currently have."

**"THIS IS CLEARLY A SYSTEM BUILT FOR THE REAL WORLD."**

*-Allan Howard, VP/General Manager  
KXTV-TV, Sacramento*

"You rarely find news under ideal conditions. More likely you're getting jostled around by a huge crowd, buffeted by gale winds or caught in a very tense, fast-moving situation. All of which tend to play havoc with equipment life spans.

"Betacam, however, seems to have been designed especially for this environment. It's an extremely well-built, exceptionally rugged system, particularly for its weight. And the net result is that in the year we've had them, downtime has been virtually nil.

"Equally important, because Betacam is totally compatible with 3/4" systems, you can



move into this technology at your own pace. Which is another part of adapting to the real world, the world of equipment budgets."

These are just a few examples of the reports we're getting from stations that have made the move to Betacam. To hear more, or, better yet, to get a look at the system behind them, just give us a call. In the New York/New Jersey area (201) 833-5350;

in the Northeast/Mid-Atlantic (201) 833-5375; in the Midwest (312) 773-6045; in the Southeast (404) 451-7671; in the Southwest (214) 659-3600; in the West (213) 841-8711.

**SONY**  
Broadcast

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# “And the talent really loves their new wireless freedom”

Freedom of movement is a very good reason to use wireless microphones. Even though all wireless microphones offer the same freedom from cumbersome, noisy and ever present WIRES, there are plenty of real differences. After you've made the big decision to go wireless, take the time to: compare the sound, compare the options, and compare the price. Once you do, you'll choose Telex, the dependable performer!

W.E. (Bill) Thomson, audio engineer at KPRC-TV, Houston, Texas, already had wireless mics at his station. But, when he decided to go wireless with his on-camera weather people, it seemed like a good time to compare several brands. Audio quality is extremely important to this NBC affiliate. So, along with several others, he put the new Telex system through its paces. After weeks of careful evaluation, Bill determined

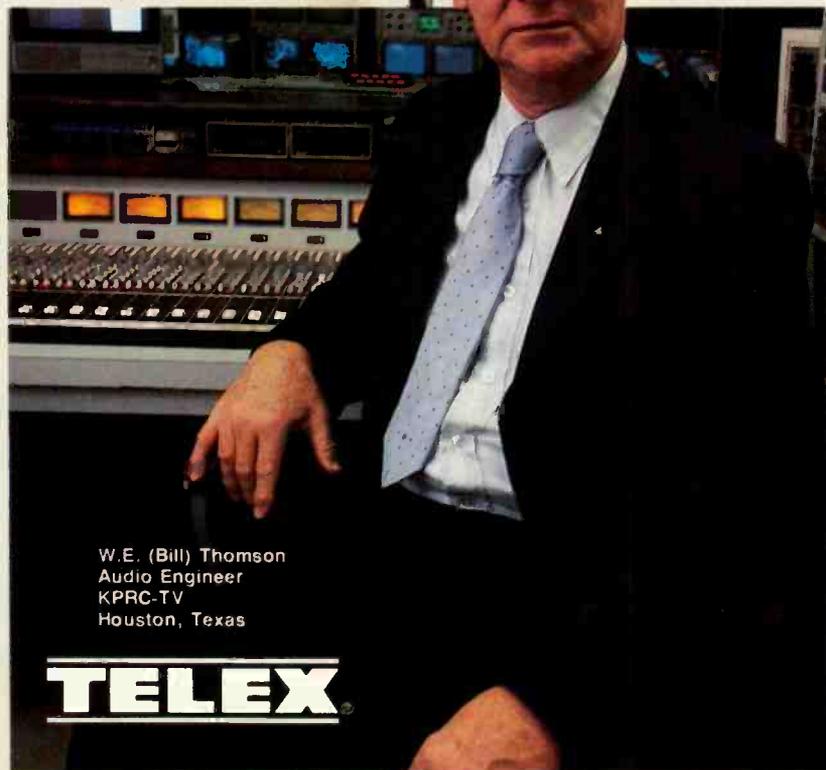
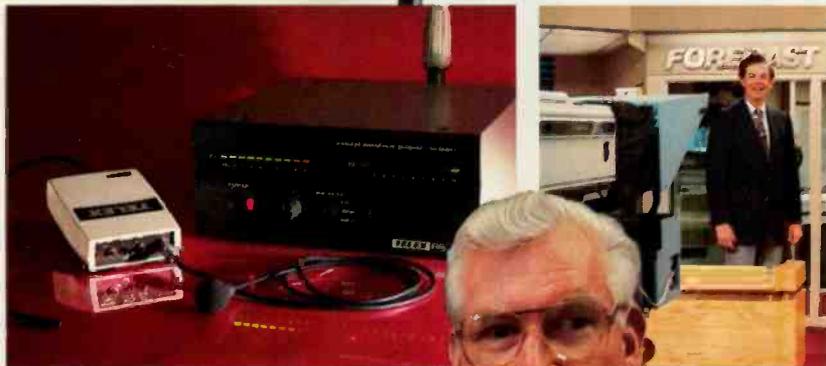
ACTUAL SIZE



that the Telex system was superior. In his own words, he liked, "...the full range response and the ready option of diversity reception". Furthermore, he told us that he was "...impressed with Telex's ability to manufacture such a high quality product... at so reasonable a price."

We're pleased that Bill, along with many others, has recently discovered our unique diversity receiver, our lightweight, miniature lavalier mics and our cardioid dynamic handheld microphone/transmitters. Bill tells us that he wouldn't hesitate to recommend it to anyone. Neither would we. For more information and detailed specifications, write to Telex Communications, Inc., 9600 Aldrich Ave. So., Minneapolis, MN 55420.

For quick information, call toll free **800-328-3771** or in Minnesota call (612) 887-5550.



W.E. (Bill) Thomson  
Audio Engineer  
KPRC-TV  
Houston, Texas

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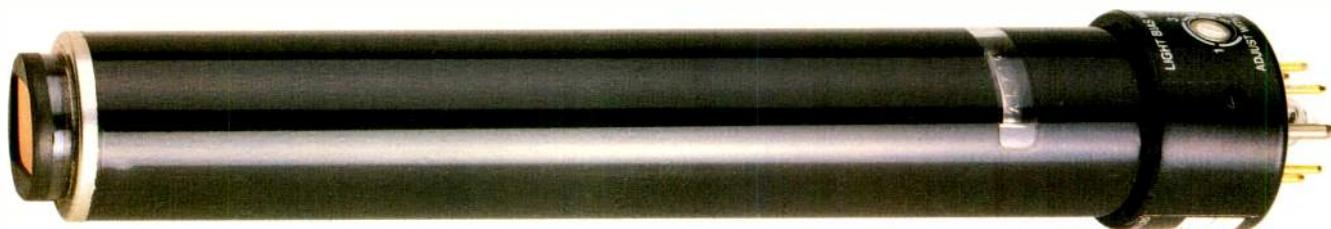
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COMING IN  
**SEPTEMBER:**  
IN HOUSE GRAPHICS  
PLUS  
AUDIO PRODUCTION  
REPORT

# The definition of the best color camera tubes in the world.



No matter how you define your color camera needs, you will want to be certain you have chosen the best tube for the job. And no technical appraisal can be complete without EEV Leddicons.

Take lag or smearing. Because Leddicons incorporate a unique light bias arrangement, shading is minimal. So is differential lag. The result is that a football in flight will always look like a football — not a flying saucer!

As for color imagery, you simply cannot improve on Leddicons. Extended reds have a precisely-engineered response with an infra-red filter providing cut-off exactly where you want it.

Or compare the highlight image performance of Leddicons with other tubes. The difference is that the retention effect is minimised by a unique target manufacturing process — even in the very difficult extended red channel where other tubes are simply unable to cope.

You'll certainly want to avoid blemishes. That's why all Leddicons must satisfy the most exacting manufacturing, testing and quality control standards. And it shows — in the fact

that Leddicons average less spotting than other tubes!

Then there's geometry. The optimised electron optical design of Leddicons ensures the best possible geometry.

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operating in areas of high ambient acoustic noise.

As for choice, there's simply none better than Leddicons. That's because the range covers fully-interchangeable sizes and types to suit virtually every type of studio, EFP and ENG camera used in the world today.

When you add up all the facts about Leddicons, there is only one conclusion — namely, the definition of the best tubes for your camera.

But don't leave it at that.



computer-matched sets for all three channels.

And what about microphony? With EEV's unique anti-microphonic mesh assembly, Leddicons provide the cleanest pictures — even from cameras

Next time specify Leddicons for your new equipment and as replacements and find out what that definition really means in practice.

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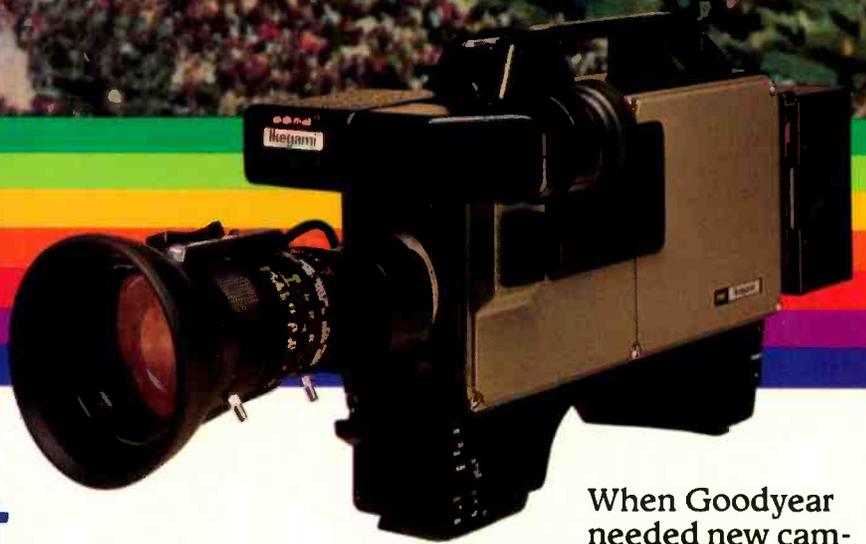
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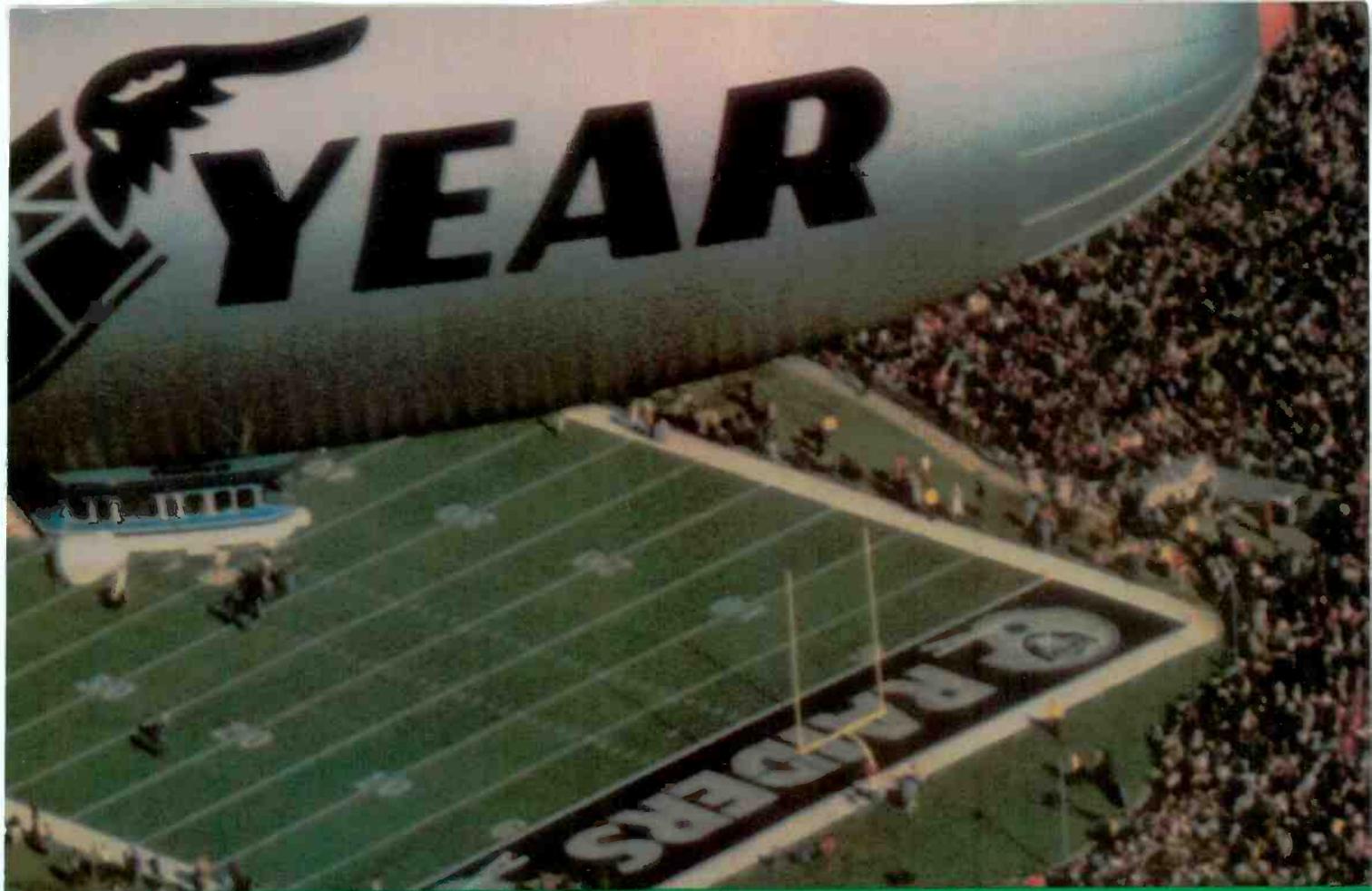
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Ikegami HL-79, Midwest ensured that Goodyear would continue to rise to the occasion. The next time you see a sporting event covered by a Goodyear Blimp, chances are that you are seeing Ikegami performance first hand.

With our unique systems approach we at Midwest can custom design and supply anything from mobile units to teleproduction systems with Ikegami cameras as the basic ingredient. And with Ikegami, you can depend on our systems to produce top quality results under the most adverse conditions.

Contact Midwest and we can help keep you on top of the action, like Goodyear Aerospace.



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## FCC TV Deregulation: Trouble in Paradise?

It's tempting to side with NAB president Eddie Fritts and call the recent FCC action deregulating TV programming "a welcome and logical first step down the road of broadcast deregulation." In late June, of course, the FCC lifted minimums for news and local programming, did away with limits on commercial time, and eliminated elaborate program logs. Paradise for the broadcaster?

But many industry observers consider the Commission's action "fraudulent and disgraceful" (to borrow the words of Henry Geller, former FCC general counsel). Not all of them are program syndicators fearful of losing PTAR slots or nonprofit groups afraid of losing public service time, as some have suggested. Those who voice concern are responsible members of the broadcasting community who fear that, after the initial flush of excitement over the new freedoms dies down, there may be trouble in paradise.

If U.S. broadcasters were like those in other countries, used to the responsibility of providing the populace with a varied diet of entertainment, news, public affairs, and the occasional commercial, such an action would be a signal of the government's confidence in its broadcasting organizations. But this is not the case here. Broadcasting has grown up with the singular purpose of making a profit, and the government has seen its role as insuring the public interest. It has been a healthy relationship, one born in the best traditions of American democracy.

Now, thanks to Mark Fowler, the government has suddenly stepped out of the picture, leaving the industry and the public to fend for themselves. As might be expected, the networks say they have no plans to increase commercial time, cut down on the amount of local programming time left open, or call for reduction of public service slots.

But does it all sound a little too much like paradise? Jean-Jacques Rousseau observed that man (like broadcasting) was born free, and everywhere he is in chains (government regulation). Rousseau advocated setting man free by providing him with the tools of reason. But does suddenly removing the chains of regulation from an industry that has never known anything else, and expecting it to restrain itself when it has never needed to do anything but resist government rulemaking towards the end of making a profit, reflect a sensible approach to human nature?

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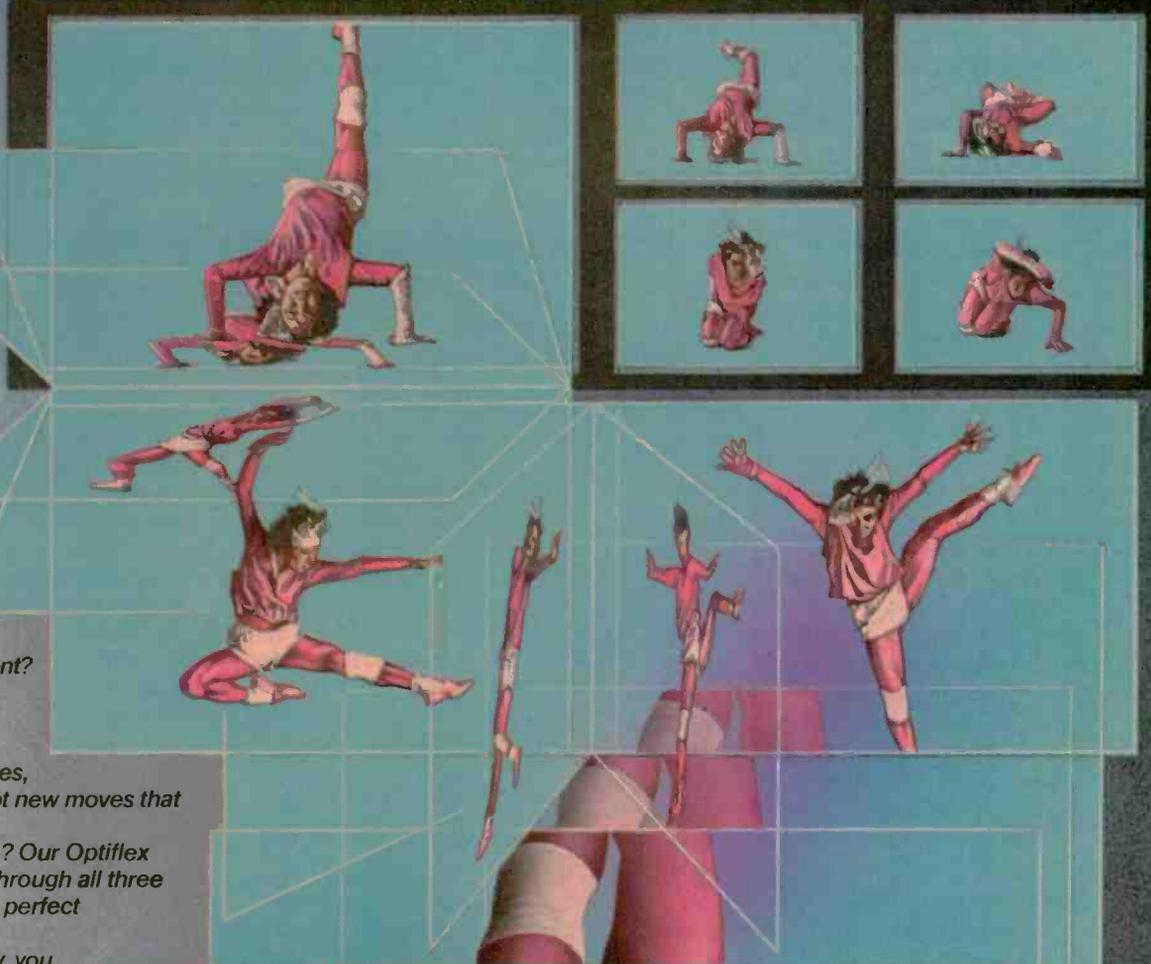
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## DBS Future Doubtful As CBS, WU Drop Plans

The recent defection of two of the major players in the fledgling direct-broadcast satellite industry has left many observers with serious doubts about the future of DBS in this country. Faced with an FCC-imposed deadline of July 17 to begin construction, both CBS and Western Union chose instead to withdraw from the DBS race.

The CBS move leaves Comsat subsidiary Satellite Television Corp., which filed the first proposal for direct-to-home service, without a business partner for its venture. The two companies joined forces last year and had been seeking a third partner. STC has already signed a contract with RCA for a series of high-powered DBS satellites, and had planned to initiate a lower-power DBS service this year over SBS-2. With CBS's withdrawal, however, STC's financial position is unclear, and some observers predict it may cancel its DBS plans entirely if no new partner is found.

Western Union, which had proposed its own four-bird DBS system, said in withdrawing that it would continue to monitor the DBS market, but indicated that it saw the outlook for programming as poor.



**Olympics Marathon Coverage . . .** To provide smooth, silent, and fume-less coverage of the Olympic men's and women's marathons, ABC is using this battery-driven vehicle along with two camera-equipped electric motorcycles. Ten Johnson Controls Globe batteries, each weighing 54 lbs., provide 80 AH power for the truck's camera and microwave equipment, which feeds to a helicopter-borne repeater. The same batteries also supply all power for the motorcycles. The truck is powered by 16 of another type of Johnson battery with an auxiliary gasoline engine; it carries a crew of ten along the 26 mile race course.

The defections of CBS and WU, and the questions now surrounding STC, leave few active DBS participants remaining from the first round of applicants. (Seven second-round applicants have indicated interest in DBS.) United States Satellite Broadcasting Co., the Hubbard Broadcasting subsidiary, is moving ahead with its DBS plans and

has signed a contract with RCA Astro-Electronics for two high-power DBS satellites, each with six 240 W channels and six backups. With equipment options, RCA could realize up to \$10 million from the deal. The first satellite is scheduled for launch in 1988. Its proposed advertiser-supported programming may give USSB the financial edge it needs to survive.

Another company, United Satellite Communications, has already begun a quasi-DBS service over Canadian satellite Anik-C, amid unconfirmed rumors that the company may be bought out, possibly by GTE. Two others, Dominion Video Satellite and DBS Corp., remain actively in the race. DBSC president and CEO Wilbur Pritchard said his company was "still very much in the game," despite some remaining financing snags. "In our opinion," he added, "we have met our requirement for 'due diligence'" since the company has signed a contract with Ford Aerospace for satellite construction.

Dominion's two eight-channel satellites are currently under construction by Hughes Aircraft. The FCC recently partially approved the company's requested CP modifications, allowing a switch from four two-channel satellites (one for each time zone) to two six-channel satellites, each serving two time zones. A modification of the CP requesting two additional channels per

## Dallas Camel Cowboys Go Live from Egypt

What do the Great Pyramid of Cheops, a pair of Dallas broadcast stations, and Dr. Pepper have in common? They were the principal players in an elaborate promotion scheme in which almost 1000 listeners competed for the chance to race camels across the Egyptian desert.

Sponsored by the Dallas/Ft. Worth Dr. Pepper Bottling Co., the camel race was the brainchild of KVIL radio personality Ron Chapman. A local TV station, KXTX, got into the act by producing a live simulcast of the race—straight from Cairo—through its production arm, Continental Productions.

The event attracted attention far beyond the Dallas market, however, with coverage by Visnews, the BBC, CBS, NBC, CNN, UPI, AP, and Egyptian television, among others.



Producer Mickey Grant, (center) prepares for the shoot as the Sphinx looks on. Visnews photographer is at left.



A small RV served as makeshift control room, complete with ISI switcher and Kentucky Fried Chicken from the Egyptian franchise.



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50 HOURS  
OF OPERATION**

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Our Saticon II warranty is measured from the date the tube is placed in service, with full adjustment for up to *six months*, regardless of actual service hours. The Saticon II in-service warranty covers, in effect, full-time operation for the entire six months—more than **4,000 hours of service**.

Plumbicon's warranty is based on hours of service with full adjustment for just 50 hours of service. If Plumbicon were used at a minimum of only one hour a day, this 50 hours service warranty would expire in **less than seven weeks**.

In what may be a more typical comparison, if Saticon II averaged 30 hours of service per week, after six months the service would total to 780 hours. Compare this with the Plumbicon warranty of only 50 hours of service. Saticon's full adjustment warranty period is still **15 times longer** in this "real world" example.

Saticon's pro-rated adjustment policy is better, too. Should a Saticon tube fail after the six month in-service period, we'll pro-rate the cost of its replacement for 12 months, regardless of service hours. With Plumbicon, pro-rated adjustment is limited to only 1,000 of total service.

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Saticon II not only gives you the best warranty in the business, it also gives you best performance in your cameras. The improved Saticon II photoconductor ensures high resolution, distortion-free color, very low lag, high sensitivity and depth of modulation. Pictures are clearer, sharper and crisper. Highlight memory (without red trail) is significantly reduced.

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**MOTOROLA AM STEREO. THE WINNING SYSTEM.**



side the van, saving the crew trouble and keeping them inside during inclement weather.

The unit, which operates on 12 V dc from the van's battery, consists of a sealed dc motor, spur gearing, and a heavy-duty acme screw enclosed in an aluminum/zinc housing. It is completely weather-sealed and has a four-inch stroke length, 250-pound load rating, and extension rate of about an inch a second. WGN ENG engineer Rick Craig says the actuator has worked well

in the year and a half since it was installed. The station owns a second actuator, which it plans to install on its other ENG microwave van.

## Another Film Giant Enters Video Market

Polaroid Corp., long famous for its self-developing films and still cameras, has crossed over into the video market with a new entry in the 8 mm consumer area.

The new product, a recorder/camera introduced at June's Consumer Electronics Show in Chicago, is the result of a joint marketing and development agreement with Toshiba Corp. According to Polaroid, other consumer video products will follow. The company also recently introduced a line of Beta and VHS videotapes.

The announcement follows by a few months the move into video of another film giant, Eastman Kodak. Kodak's new Eastman line of professional videotapes was on display at NAB; the company has also introduced an 8 mm recorder/camera.

In addition to the recorder/camera, the new Polaroid product line also includes a multifunction playback deck and a line of 90-minute 8 mm cassettes. The camera's imaging device is a single CCD, and a rechargeable battery is located in the camera handle. It is expected to be on the market by the end of this year.

## SNC Complex Opens to Corporate Users

Turner Broadcasting's buyout of Satellite NewsChannels, the only major competitor for its Cable News Network, left SNC's owner, Group W,



Control rooms backing up the center's large studios are wired for stereo.

with some very empty state of the art studios. Activity will be returning to those studios, however, as Group W opens them to corporate users and independent television producers in search of quality.

Built originally for SNC's 24-hour news operation, the video center has a pair of large studios with RCA TK-47B cameras, two control rooms with Ampex AVC-33 production switchers, ADM 32-channel audio boards, Bosch Compositor I graphics generators, a raft of graphics and efx gear, including a three-channel Quantel DPE-5000+, a single-channel Quantel 5000-SP, and the IMAGES electronic art system from Computer Graphics Labs.

As if that weren't enough, the center

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In this demanding industry so abundant with incompatible formats, Clear-Com presents TWO barrier-breakers: a 2-channel belt-pack that works on standard mic cable and a Clear-Com-to-RTS System Interface!

Our CP-300 Two-Channel Belt-Pack is not only a high-intelligibility Clear-Com Remote Station, but it also provides the same pin-to-pin connections as RTS-type intercoms with *better performance*.

Ergonomically, the tough, lightweight CP-300 has been designed for camera operators and production people. Dynamic or carbon headset-compatible, it features rocker switches that place Clear-Com's popular features at your fingertips. Three-pin XLR input and output connectors allow simple, quick set-up.

The CP-300 works with any Clear-Com or RTS System. You decide: do you want one channel or two? Finally, you can enjoy two channels of communication in an RTS-type OR Clear-Com-type\* intercom system.

**The choice is yours!**

\*two channels when used with Clear-Com TW-12 two-wire interface

# DON'T GET LOST IN THE FOREST, GET TOUGH . . .

## PCL-606 and PCL-606/C

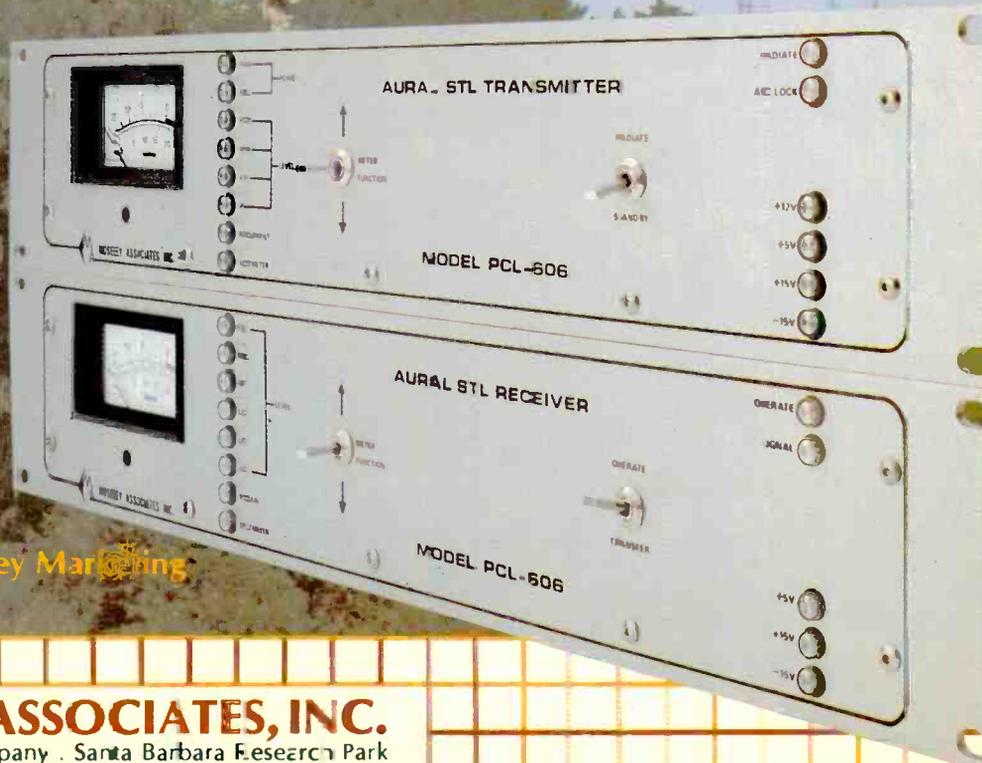
There's a jungle in the Angeles National Forest. Most of the broadcast transmitters for the greater Los Angeles area are at this single site on Mount Wilson. That means intense competition for both bandwidth and audience. The vast majority of Mount Wilson-based broadcasters choose Moseley because the PCL-606 and PCL-606/C Studio-Transmitter Links are tough, proven winners in both respects.

To keep the signal strong and distortion-free, the monaural PCL-606 and composite stereo PCL-606/C use PIN diode attenuators to maintain maximum signal level and dynamic range while preventing overload from out-of-band noise. The receiver is very selective, and the bandwidth is adjustable so that if selectivity is not critical, distortion can be further reduced.

To keep the signal bright and clear, careful IF modulation techniques are employed. Digital demodulation and a series of ultra-phase linear IF filters split the baseband frequency from the two subcarrier frequencies without noticeable noise or distortion. The subcarriers can be used for SCA or remote control data carriage.

The PCL-606 and PCL-606/C are constructed for years of service in rugged environments yet designed for easy maintenance. They feature built-in internal system performance metering for both transmitter and receiver. All service adjustments can be made through the top cover, and modular construction makes repair easy. Continuous broadcast is assured even in case of failure or abnormality shutdown because the receiver automatically switches to a redundant standby unit.

OUTSTANDING LINEARITY  
AND FREQUENCY STABILITY  
ULTRA LOW NOISE AND  
DISTORTION  
SELECTABLE IF BANDWIDTH  
EXCELLENT SELECTIVITY  
BUILT-IN DIAGNOSTIC  
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## NEWS

has a post-production facility with Sony BVE-5000 and Sony one-inch, 3/4-inch, and half-inch VTRs, Sony Betacam and BVP-330 field cameras with 3/4-inch and one-inch field recorders, and full satellite transmission and reception capability for any domestic communications satellite.

With SNC a thing of the past, the impressive Stamford, CT, facility has now reopened as the Group W Satellite Communications (GWSC) Corporate Video Center, standing ready to service

any high-end video need. Walter C. Nichol, GWSC VP and GM of operations and engineering, says, "We're prepared to handle all or part of any video project, including planning, studio production, field shooting, post-production, tape editing and duplication, and 24-hour satellite transmission and reception to and from most anywhere in the world." The company also plans to market the facility to independent video producers and other video users.

## "Super Motion" Slow-Mo Unveiled by ABC

Using a brand-new system developed by Sony Corp. under contract to the network, ABC has begun using a "Super Motion" system to provide spectacular slow-motion sequences during sports coverage. According to Verne Pointer, ABC's VP of engineering, and Mike Fisher, director of equipment planning for ABC's BO&E division, the system was first used for Kentucky Derby coverage earlier this summer, then went into full-scale use during coverage of Olympics trials and the Indianapolis 500. The unit is currently at work for ABC's Olympic Games coverage in Los Angeles.

Super Motion's technology is an outgrowth of the work done by Sony on its 1125-line HDTV system. According to Sony Broadcast president William Connolly, rather than using the 30 MHz HDTV bandwidth to record a wide-screen image, Super Motion uses the extra bandwidth to capture three times as many frames per second as ordinary NTSC equipment. Thus, by increasing the head writing speed and tape speed by a factor of three, the specially modified C format recorder lays down 180 fields per second rather than the NTSC standard 60. A specially modified BVP-300 camera, converted for the 180 Hz field rate, puts out an RGB signal. The VTR uses four-channel recording.

Motion blur and strobing, common with NTSC slow motion, are almost completely eliminated at all playback speeds from slow motion reverse to fast forward (the standard BVH Type C controls are used). Even stop motion reveals fine details never seen before in video—individual hairs in a horse's tail, for instance.

A unique feature of Super Motion, however, is that once the special camera and VTR recorded the 30 MHz signal, the tape can be played back on any C format VTR. The standard deck simply reads every third track, skipping over the additional two tracks sandwiched between the C format track spacing. The advantage of the higher recording density is lost, of course, and the tape must be played one-third faster to achieve normal speed. But the tape is completely compatible with existing BVH recorders, and the outputs of both the Super Motion VTR and the standard VTR are NTSC-compatible.

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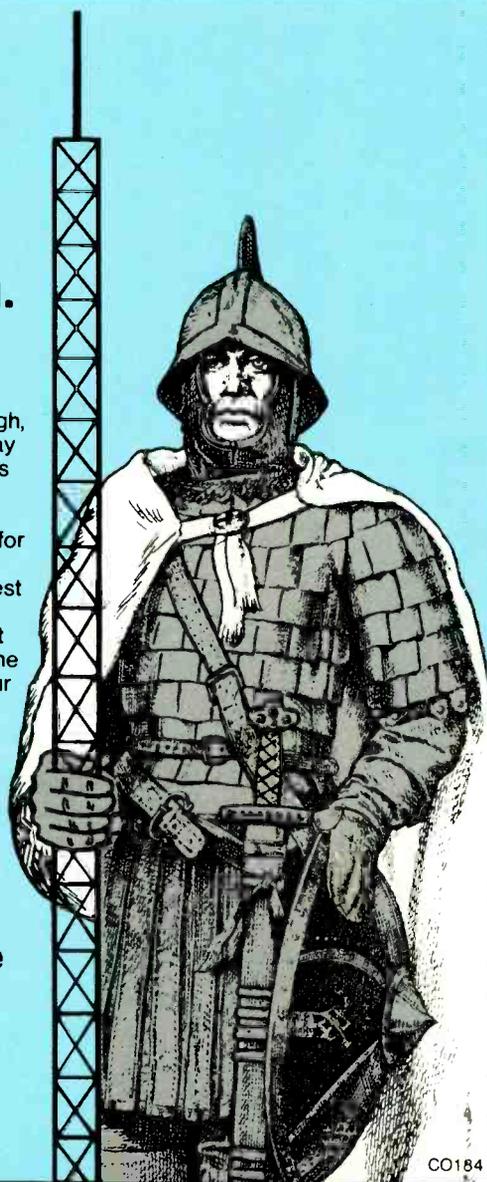
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Circle 111 on Reader Service Card



## Quartercam™ from Bosch. If you're going half-inch, you're only going half-way.

**Bosch Quartercam leapfrogs half-inch technology with a remarkable quarter-inch recorder-camera**

Here's your current choice in recorder-camera combinations: either of two incompatible half-inch formats, or the breakthrough Bosch KBF-1 Quartercam.

Quartercam is smaller than the half-inch systems. Lighter—just 16 pounds including lens and battery. More maneuverable.

And the 20-minute quarter-inch cassette is about *one-fourth* the size of a Beta-cam cassette. *One-fifth* the size of a VHS. So small you can stuff it in your pocket. A couple in each pocket!



Quality? Outstanding. Bosch's unique Lineplex™ format produces quality so good you have to see it to believe it. Far better than current three-quarter inch tape. And the audio is beautiful, too.

There's a lot more including field editor, studio VTR, and other system components. Quartercam is a full system.

Is there any point in going half-way with half-inch? Go all the way with Quartercam—the new video recording standard.

Call your local Bosch-Fernseh office. Or get in touch with us directly: Fernseh Inc., P.O. Box 318186, Salt Lake City, UT 84131 (801)972-8000.

# BOSCH

## NEWS BRIEFS

Arbitron's first study of **radio's black listenership** has found that 97 percent of blacks listen to radio each week, tuning in for an average of 30 hours per week. Fifty-six percent listen to both bands, as opposed to 49 percent of all listeners, while 17 percent of blacks listen exclusively to AM and 27 percent to FM....Three advertising associations have recommended that television stations **maintain their logs** to assure advertisers of "time of broadcast, duration of commercial, adequate

sponsor identification and competitive product separation."

Sears has begun marketing **multi-channel television sound** with a \$100 converter and built-in stereo and separate audio program television sets.... The European Broadcasting Union has recommended that its members adopt the **Betacam format** for ENG equipment....As expected, ABC has dropped its plans for **TeleFirst**, a broadcast delivery system for movies and other programs using scrambled signals at night.

The majority of **news directors** say their departments are paying their own way, according to an RTNDA survey. Radio news operations reported more increases in income than spending, while television stations said that both had increased....FCC commissioner **James Quello** faced no opposition at a Senate confirmation hearing over his reappointment. Quello, a Democratic appointee, said he supports the FCC's deregulatory stance....AM stations will now be able to use their **carrier signals** for any purpose, such as subscription services, as long as it does not interfere with the main channel or other stations' signals. The FCC noted, however, that stations will be limited to their licensed hours of operation and must determine whether the new service constitutes private or common carrier....Citing the "very subjective" reactions of listeners, the FCC has dropped its efforts to regulate commercial **loudness**. The Commission said it was able to physically define loudness using a meter and controller developed by the CBS Technology Center, but could not come up with any regulations based on what listeners perceive as being too loud.

The NAB and NRBA's request for reregulation of **call letter disputes** has been denied. The FCC found "no justification" for going back to the old procedure, which required notification of all broadcast stations within 35 miles....The NRBA has asked that radio stations be allowed to file annual instead of quarterly **issues and programs lists** with the FCC....Ascertainment requirements will no longer apply to **public broadcast stations**. The FCC will only require issues and programs lists for those stations.

The annual **Broadcasters' Clinic**, held by the University of Wisconsin, will be supplemented this year with a Broadcast Engineering Management seminar that will go over management skills needed by station engineers. The seminar takes place in Madison on September 24, followed by the clinic on September 25 to 27. Contact Don Borchert for registration at (608) 263-2157....The NRBA is enlisting charter members for its new **Radio Professional Chapter**, which will put out a monthly job listing and digest. Charter fees are \$25; regular dues will be \$35. For additional information on the chapter, call Jane Rulon at (202) 466-2030.

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\* *FAA APPROVED as meeting or exceeding the requirements of Advisory Circular AC 150/5345-43 and FAA/DoD Specifications L-856 plus FAA AC 70/74601*

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# It copies tape

# Fast!

## What else is there to say?

Well . . . to be perfectly clear we should say that the Telex 6120 Duplicator copies reel or cassette tapes fast. Then we should add that it does it automatically, easily, efficiently and economically. In fact, we **really** should say that the 6120 produces **high quality** tape duplicates — fast.

Yes, the Telex 6120 high speed duplicator has many time-saving, money-saving benefits, including many **automated** features such as end-of-tape stop and auto rewind on the reel master, with a choice of auto or manual rewind on the cassette master. These automated features can eliminate unnecessary down time between copy cycles. All key set-ups and adjustments are **efficiently** accomplished from the front of the system, with all operating, function controls and LED level indicators **conveniently** grouped together on the easy-to-read control module. These automation and convenience features allow even non-technical employees the ability to operate the 6120 **easily**.

You won't have to buy more system than you need because the 6120 allows practical "building block" growth. The modules simply plug together for easy **economical** additions to your system. Each cassette slave position on the 6120 is independent, so a jammed tape won't shut down the entire system creating costly downtime. An LED indicator warns you of an incomplete copy in case a cassette tape jams or ends before the master, thereby preventing expensive mistakes.

Make no mistake, the 6120 is fast. It has a speedy 16 to 1 speed ratio and copies both sides at once, so it will duplicate full one hour programs in less than two minutes. As you can see it's not just another high speed duplicator. To learn more about the 6120, call or write today for complete specifications and production tables. While you're at it, make an appointment to see our informative video tape presentation entitled "Beating Real Time."

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# Efficiency

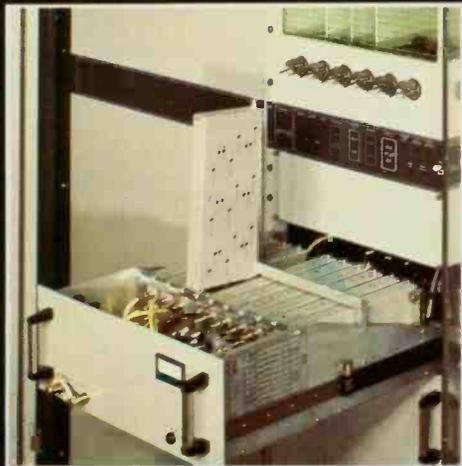


# Television Transmitters

Nearly 2000 transmitters in 70 countries worldwide. That is the solid fact of Pye TVT's success.

And if you look more closely at our range of UHF television transmitters you will understand the reasons why.

Naturally you can take for granted high reliability and performance. Really exceptional, however, is the low cost of ownership – resulting primarily from the use of Beam Control Klystron tubes. Initially developed by Philips, these tubes bring significant economies in the electrical power consumption of medium and high power transmitters. Yet they still retain the inherent advantages of the Klystron – high reliability, long life and freedom from catastrophic failure. On top of that, they need minimal maintenance and low spares holdings. Apart from the Klystron, they are completely solid state. They are also easy to instal and – for their output – the most compact available.



Pye TVT UHF transmitters cover peak sync powers from 10 to 110kW. All incorporate a highly sophisticated i.f. modulated drive system with solid state control logic for unattended operation and modern safety features. (You can, if desired, update the existing exciter of your current transmitter). All cover the whole UHF frequency range.

Pye TVT is constantly striving for state-of-the-art perfection. To stay even further ahead.

Reader enquiry no. 150

# PHILIPS

## A world of experience Monitors of quality & economy



High stability, quality, reliability – at a very reasonable price. These are the reasons for the international success of the Philips LDH6200 14" color monitors.

These rugged yet stylish monitors have a high specification and many operational features only found on more expensive units. And monitor to monitor matching is excellent.

Reader enquiry no. 152

## Radio Transmitters

The Type LDM 1200 series of FM radio transmitters (15W to 40kW) is outstanding for its sound quality, reliability and its low cost of ownership.

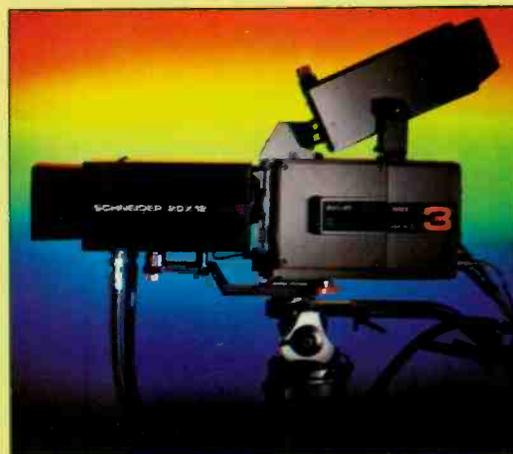
Common drive modules allow maximum systems capability and minimum spares holdings.

Designed to work unattended in a variety of operational configurations, the range meets or exceeds the world's most exacting broadcast standards.

Reader enquiry no. 153



## Now with RGB



The LDK14 family of color television cameras is world renowned as the go-anywhere camera system with high performance capability wherever it is used – for ENG, EFP or in the studio.

Now to extend its capability, Philips has introduced the LDK 14- RGB. This camera retains all the quality and virtue of its famous family while offering the extra facility of full bandwidth RGB outputs for chroma-key in addition to the normal CVBS video outputs.

Reader enquiry no. 154

For further information use the reader reply nos or send the coupon to:

## PHILIPS TELEVISION SYSTEMS, INC.

900 Corporate Drive, PO Box 618, Mahwah, New Jersey 07430, USA

Tel: 201-529-1550 Telex: 37-62558

Canada. Electro & Optical Systems Ltd., 31 Progress Court, Scarborough, Ontario, Canada M1G 3V5 Tel: (416) 439-9333 Telex: 065-25431

Please send me further information on

- |  |     |              |
|--|-----|--------------|
| <input type="checkbox"/> UHF Television transmitters   | 150 | Organisation |
| <input type="checkbox"/> LDM 1170 Transmitter exciters | 151 | Address      |
| <input type="checkbox"/> LDH 6200 Color monitors       | 152 |              |
| <input type="checkbox"/> FM Radio transmitters         | 153 |              |
| <input type="checkbox"/> LDK 14 Television cameras     | 154 |              |

Inquiry no. Name

# Sound Advice

ITC announces a revolutionary departure from the traditional triple deck cartridge machine. The Delta III's advanced modular design gives you three independently removable decks. This means that you can remove a deck for easy maintenance and still stay on the air.

That's great news for you and your listeners because the Delta III's superior sound will spoil everyone who hears it. You won't want to settle for less, and neither will they.

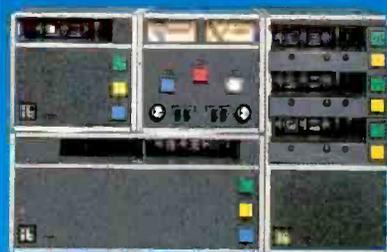
The Delta III is part of the Delta series, ITC's new generation of cartridge machines. Mechanically, electronically and physically superior to previous models, the Delta Series is fast becoming the new standard of the industry.

That's something you need to know. Because you wouldn't want to miss the revolution.



#### The Delta III offers:

- three independently removable decks
- rugged modular design
- crystal-referenced servo motor
- toroidal power transformer
- non-magnetic stainless steel shaft
- now more affordable!



## Don't Miss The Delta Revolution

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# THE SOURCE

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## 1984 BUYER'S GUIDE

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### HOW TO USE IT:

#### **INSTANT SOURCE LOCATOR p. 30**

To find suppliers of the product or service you want, first turn to the **Instant Source Locator Index** and then the **Instant Source Locator** itself—a listing of over 200 product types arranged in seven major categories: Audio; Video, Imaging; Lighting, Power, Support, Set Design, Etc.; RF, Transmitting/Receiving Equipment, Antennas, Towers; Test & Measurement, Logging, Timing; Components, Hardware; and Services. Within each main product category (they're arranged logically), you'll find manufacturers listed alphabetically. The check (✓) indicates that the listing is verified—that the product or service is currently available. The numbers after the manufacturer's name refer to the specific types of product offered.

#### **LISTING OF MANUFACTURERS p. 73**

Once you've located the names of the manufacturers in the ISL, you can learn more details from the **Alphabetical Listing**

**of Manufacturers.** Address and phone number are followed by a complete listing of the manufacturer's product line, plus, in some cases, the manufacturer's field offices. These listings are also verified.

#### **BROADCAST EQUIPMENT REPS p. 165**

Reps throughout the country are listed in the **Broadcast Equipment Reps section**, arranged alphabetically in five geographical zones.

#### **READER SERVICE CARD p. 155**

To get even more information about the products and services which are advertised in **THE SOURCE**, use the **Reader Service Card** found on page 155. You can circle the Reader Service numbers for information on as many manufacturers as you like. And don't forget it—the card is good for an entire year!

# INSTANT SOURCE LOCATOR

## I RADIO/AUDIO pg. 32

- A. Consoles
- B. Cart player/recorders
- C. Audio cassette player/recorders
- D. Open-reel decks
- E. Digital audio recorders
- F. Tape duplicators
- G. Magnetic film dubbers
- H. Audio heads/head accessories
- I. Audio tape/tape accessories
- J. Audio editors/synchronizers
- K. Disc playing equipment
- L. Program automation
- M. Radio business/newsroom automation
- N. Audio processing, noise reduction
- O. Audio effects
- P. Audio monitors
- Q. Intercom systems
- R. Microphones
- S. Audio amplifiers
- T. Distribution/interface equipment
- U. Other radio/audio equipment

## II VIDEO/IMAGING pg. 40

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- B. Camera components
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- D. VTR heads/VTR accessories
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- H. Electronic art/graphics
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- J. Production switchers
- K. Special effects
- L. Master control switchers
- M. Video routing switchers
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- Q. Video sync and signal generators

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- S. Other video processing
- T. Video amplifiers
- U. Video monitors
- V. Other video equipment

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- B. Video T&M
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  - I. Engineering consultants
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- K. Earth station site selection
- L. Mobile vehicle construction
- M. Satellite time brokers
- N. Music libraries
- O. Syndicated radio programming
- P. Promotion & Advertising
- Q. Other services

# Series 800

*just imagine...SFX video power plus...*

- + Dual Chroma Keysers + Dual Luminance Keysers
- + Dual Matte Key Generators + Dual Key Borders
- + Super wide, SuperSoft borders
- + CAP, Computer Assisted Production
- + FlexiKey... Central Dynamics' new, powerful Digital Video Effects at a fraction of the cost... manipulates titles, logos and images with spin, flip, rotation, zoom, compression or any combination of these effects.

All this power is surprisingly affordable... the Series 80's modular, proven design assures fast

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**480.** *Compact versatility...*  
4 buses with the SFX Power+ system.

**680.** *Exceptional big studio performance...*  
6 buses with the SFX Power+ system and the new Series 80 Program Processor.

**1080.** *The ultimate switcher for the most sophisticated productions...*  
10 buses with 2 SFX Power+ systems and the new Series 80 Program Processor.

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# INSTANT SOURCE LOCATOR

 MEANS  
IT'S VERIFIED



## RADIO/AUDIO

### A. Consoles

#### TYPES:

- (1) Mic mixers (1 output)
- (2) Portable consoles
- (3) Mono studio consoles
- (4) Stereo studio consoles
- (5) Automated consoles
- (6) Audio-for-TV consoles
- (7) Video interface for consoles

#### SUPPLIERS:

ADM (2-7)✓; Allen & Heath (3,4,6)✓; Amek (2-7)✓; Ampro/Scully (3,4)✓; ANT (3,4,6)✓; Arrakis (1-4)✓; Atlantic Research (2-6); Audio + Design (2-4,6)✓; Audio Developments (2,4); Audio Kinetics (5)✓; Audio Metrics (4)✓; Audio Processing (2-5); Audisar (1); Auditronics (4,6)✓; Autogram (3-6)✓; Broadcast Audio (4,6)✓; Broadcast Electronics (3,4)✓; Carvin (1,2,4)✓; Cetec Bdcst. (2,3,6)✓; Coherent Comm. (1,2)✓; Comprehensive Video (1)✓; Comrex (2)✓; Connectronics (4)✓; Continental Electronics (4)✓; Digital Entertainment (1,2)✓; Dyma (2)✓; E.A.R. (1-7)✓; EELA (1-4,6); Elcom Bauer (1)✓; Farrtronics (2)✓; Finntek (3,4,6); Fostex (1,2,6)✓; Gotham (4,6)✓; Graham-Patten (6)✓; Gregg (3,4)✓; Hallikainen (3,6)✓; Harris (3-6)✓; Harrison (2,4-7)✓; Howe (2-4,6)✓; Image Devices (2); Industrial Research (1); Industrial Sciences (3)✓; Integrated Sound (4)✓; Interface Electronics (2)✓; JBL (1,2,4,6)✓; Landy (1,2,4); Logitek (2-4,6)✓; Long (1,3,4,6); LPB (1,3,4,6)✓; Matrix Systems (7); MBI (2-4,6)✓; McCurdy (1,3,4,6)✓; McMartin (1-4)✓; Micro-trak (1-4,6)✓; NEI (1-4)✓; Neve (2,6)✓; Nikko (3,4); Opamp (1-3)✓; Pacific Recorders (4)✓; Panasonic (1-6)✓; Quad Eight (3-6)✓; Quantum (3,4,6)✓; Radio Systems (4,6)✓; Ramko (1-4)✓; Richmond (1-4,6)✓; RTS (1,2)✓; Russco (6)✓; Schaefer (2-4,6); Sescom (1); Shure (1,2)✓; Solid State Logic (4-7)✓; Sony Audio (2-7)✓; Soundcraft (2,4-6)✓; Sound Workshop (4-7)✓; Spectra Sonics (1,3); Sphere (2-6); Straight Wire (1-3,5,6)✓; Studer (2-4,6)✓; Tangent (1,2,4)✓; Tascam (4)✓; Telfax (1,2)✓; TOA (2)✓; Trident (3-5)✓; Tweed (1-6)✓; Ultra Audio (1-4,6); UMC (4)✓; Valley People (1)✓; Ward-Beck (2-6)✓; Wheatstone (1-4,6)✓; Yamaha (1,2,4,6)✓

### B. Cart Player/Recorders

#### TYPES:

- (1) Single decks
- (2) Dual/triple decks
- (3) Multi decks

- (4) Time delay decks
- (5) Phase control matrixing

#### SUPPLIERS:

AKG (4)✓; Amilon (1-3)✓; Ampro/Scully (1,2)✓; Audi-Cord (1,2,4)✓; Bell; Broadcast Electronics (1-4)✓; Continental Electronic; Deltamod (5); E.A.R. (1-5)✓; Fidelipac (1,5)✓; IGM (3)✓; International Tapetronics (1,2)✓; Landy (1-4); MacKenzie (1-3); Pacific Recorders (1,5)✓; Ramko (1)✓; Sono-Mag (3)✓; Telectro (1.3); Telex (1-4)✓; Ultra Audio (1,3,5); UMC (1,2)✓

### C. Audio Cassette Player/Recorders

#### SUPPLIERS:

Amilon✓; Audiometrics✓; E.A.R.✓; Eumig✓; Image Devices; Koss; Landy; Mitsubishi✓; Nikko; Odetics; Pentagon; Sansui✓; Scribe; Sharp✓; Studer✓; Superscope; Tandberg✓; Tascam✓; Tiffen✓; Uher

### D. Open-Reel Decks

#### TYPES:

- (1) Portable ATRs
- (2) 2-1/4-track studio ATRs
- (3) Multitrack ATRs
- (4) Time delay decks

#### SUPPLIERS:

Ampro/Scully (2,3)✓; Cavox (1,2)✓; Digital Entertainment (1,3)✓; E.A.R. (1-4)✓; Fostex (2-4)✓; Gotham (2,3)✓; Landy (1-3); Nagra (1)✓; Otari (1-3)✓; Soundcraft (2,3)✓; Stephens (1-3); Studer (1-3)✓; Tascam (1-3)✓; Telex (2)✓; Uher (1); United Research (2); Zellan (1-3)

### E. Digital Audio Recorders

#### SUPPLIERS:

Auditronics✓; Digital Entertainment✓; E.A.R.✓; IGM✓; Odetics; Sansui✓; Sony Audio✓; Studer✓

### F. Tape Duplicators

#### SUPPLIERS:

Accurate Sound ✓; Cetec Gauss✓; E.A.R.✓; Garner✓; Odetics; Otari✓; RKO✓; Sharp✓; Telectro; Telex✓

### G. Magnetic Film Dubbers

#### SUPPLIERS:

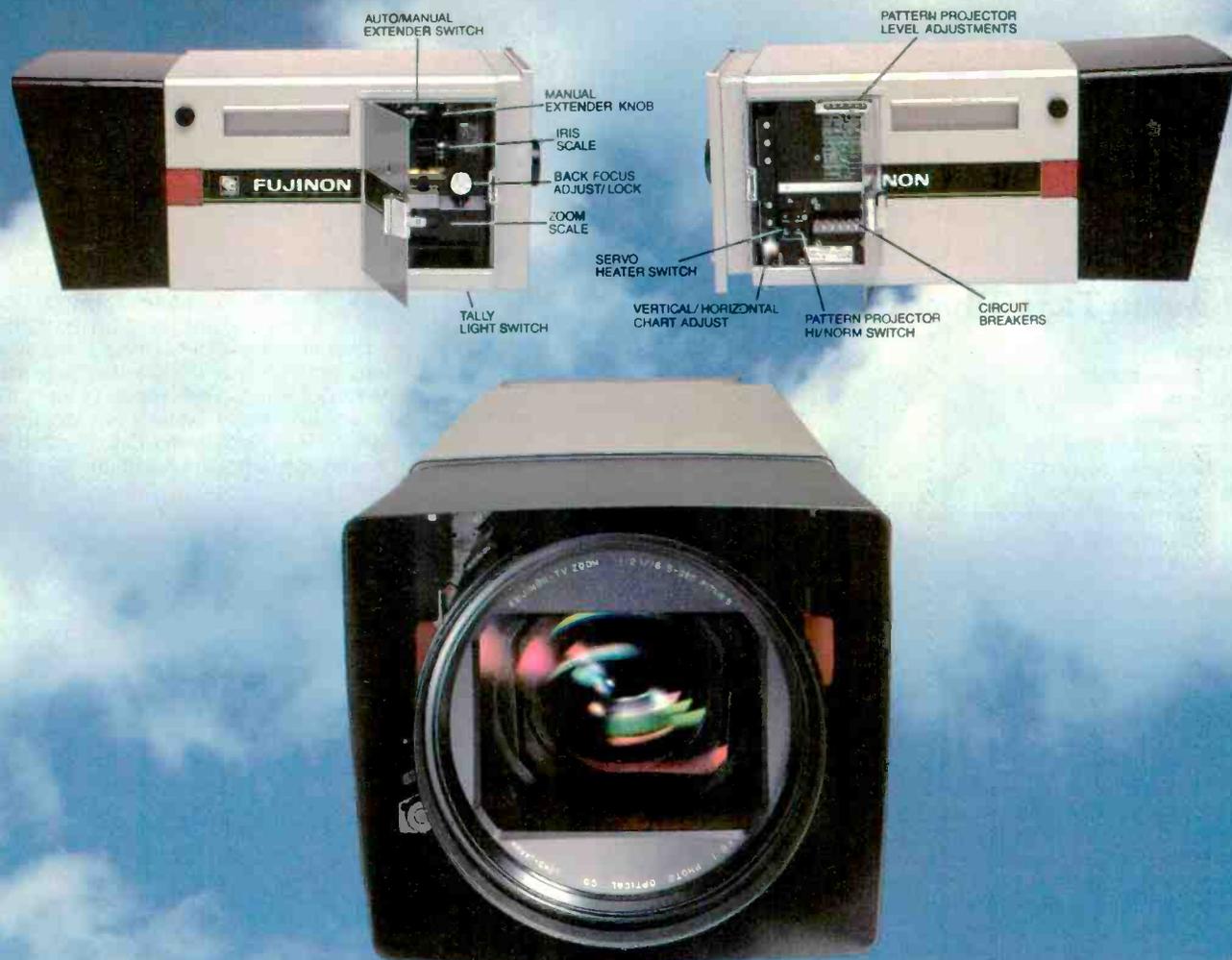
Magna-Tech✓; Multi-Track✓; Quad Eight✓; Wide Range✓

### H. Audio Heads/Head Accessories

#### TYPES:

- (1) Replacement heads

# FUJINON'S revolutionary 2-door zoom lens.



## It works the way you do.

FUJINON's new 17X studio zoom will permanently change the way you use and feel about a lens. More than refining the studio zoom, FUJINON has revolutionized it to give you greater control, flexibility and efficiency than ever before.

Downtime for adjustments and repair is drastically reduced. And the need to remove a shroud is virtually elimi-

nated. For instant access to all important adjustments, just open one of the two doors.

The new 17X zoom incorporates more "FUJINON firsts" than any lens in our history. For example, you can pre-set limits on the zoom range to match the lens' outstanding ramping characteristics to the lighting levels of every production. (If necessary,

you can still override the limit from the pan bar.) To change the slow/fast zoom speed, you do it on the new pan bar zoom control instead of somewhere inside the lens. You also have the option of adjusting servo focus and zoom control tension—to get the exact "feel" you want.

With the new 17X studio zoom, every major component is modular to

make user servicing a practical reality.

FUJINON's new 17X zoom is the first generation studio lens of the future. And it's here, now.

For more information on the P17X16.5ESM studio zoom lens and other fine FUJINON products, contact the FUJINON office nearest you.

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(914) 472-9800  
Telex 6818115

FUJINON INC.  
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Suite 350  
Carrollton, TX 75006  
(214) 385-8902

FUJI OPTICAL SYSTEMS, INC.  
118 Savarona Way  
Carson, CA 90746  
(213) 532-2861  
4855 Atherton Avenue  
San Jose, CA 95130  
(408) 866-5466

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FUJINON



- (2) Rebuilt heads
- (3) Head cleaners, degaussers
- (4) Alignment, tension gauges

**SUPPLIERS:**

R.B. Annis (3)✓; Apis (2,3); Allsop (3)✓; Audi-Cord (1)✓; Fidelipac (4)✓; Garner (3)✓; International Electro-Magnetics (1,2)✓; JRF (1,2)✓; Lauderdale (4); Marathon (3,4)✓; Microtran (3); Minneapolis (1); Nagra (1)✓; Nortronics (1,3,4)✓; Odetics (1); Pentagon (4); Quad Eight (1)✓; Re:DB (1,2)✓; Saki (1)✓; Sprague (1-4)✓; Taber (1-3)✓; Tascam (3)✓; Tentel (4)✓; Texwipe (3); Ultra Audio (1,4); UMC (1,3,4)✓; United Research (1); VIF (3,4)✓; Wide Range (3)✓

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## I. Audio Tape/Tape Accessories

**TYPES:**

- (1) Open-reel tape
- (2) Carts
- (3) Cassettes
- (4) Sprocketed mag film
- (5) Test tapes, leaders
- (6) Empty reels, carts
- (7) Tape loaders, timers, rewinders
- (8) Tape cleaners, evaluators
- (9) Tape erasers, degaussers

**SUPPLIERS:**

Agfa (1,3)✓; Allsop (8)✓; R.B. Annis (9)✓; Aristocart (2,5,6)✓; Audico (7,8); BASF (1,3,5)✓; Broadcast Cartridge Svce. (2,6)✓; Broadcast Electronics (2,5,7,9)✓; Broadcast Supply (2); Capitol Magnetic (2)✓; Christie (9)✓; Comprehensive Video (9)✓; E.A.R. (1-3,5-9)✓; Fidelipac (1-9)✓; Fuji (3)✓; Garner (9)✓; International Tapetronics (2)✓; King (7); Landy (1-3); Lauderdale (8,9); Marathon (2,6)✓; Maxell (1,3)✓; Microtran (9); Nagra (5)✓; Neumade (2,4,6,7); Nortronics (9)✓; Odetics (3,9); PD (3)✓; Peak (7)✓; Pentagon (7); Plastic Reel (6)✓; Procart (2); Quad Eight (5)✓; RKO (3)✓; Smith-Victor (3); Sprague (3,8,9)✓; Straight Wire (2)✓; Taber (9)✓; TDK (3,5,8)✓; Telex (5)✓; Ultra Audio (9); VIF (5)✓; Wide Range (4,9)✓

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## J. Audio Editors/Synchronizers

**TYPES:**

- (1) Splicing blocks, tape
- (2) Electronic audio editors
- (3) SMPTE time code synchronizers
- (4) Editors for digital audio

**SUPPLIERS:**

Adams-Smith (2)✓; Amek (3)✓; Audico (1)✓; Audio Kinetics (3)✓; Audisar (2); BTX (2,3)✓; Digital Entertainment (4)✓; E.A.R. (1-3)✓; EECO (3)✓; Fidelipac (1)✓; Giese (3)✓; Lauderdale (1); Marathon (1)✓; Otari (3)✓; Sony Audio (3,4)✓; Sound Technology (5); Stephens (1,3); Ultra Audio (1); Wide Range (3)✓; Xedit (1)

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## K. Disc Playing Equipment

**TYPES:**

- (1) CD/DAD players
- (2) Turntables
- (3) Pickup arms
- (4) Phono cartridges
- (5) Complete consoles
- (6) Record cleaning, care

**SUPPLIERS:**

AKG (4)✓; Allsop (6)✓; Astatic (4); Audio Engineering (6); Audio-Technica (3,4,6)✓; Broadcast Electronics (2-4)✓; Cetec

Bdcst. (2,3)✓; E.A.R. (1-6)✓; Fidelipac (4)✓; Gotham (2-4)✓; Henry (2)✓; Integrated Sound (2,5)✓; Koss (6); Landy (3,4); Lauderdale (6); LPB (2,3)✓; McCurdy (2)✓; McMartin (5)✓; Micro-trak (2,3,5)✓; Keith Monks (6); Nikko (2); Russco (2,3)✓; Sharp (1-6)✓; Shure (4)✓; Stanton (4,6)✓; Studer (1)✓

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## L. Program Automation

**TYPES:**

- (1) Relay sequencers
- (2) Time insertion sequencers
- (3) Computer controllers
- (4) Automatic satellite switchers
- (5) Complete program automation systems
- (6) Automatic time/weather announcers

**SUPPLIERS:**

Amek (1)✓; Andrew (4)✓; ANT (5)✓; Automated Bdcst. Controls (5); Broadcast Electronics (3-5)✓; Cado (3); CAT (3,4)✓; Cavox (1,2,5,6)✓; Century 21 (3); Cetec Bdcst.(2,3,5,6)✓; Channelmatic (4)✓; Chrono-Log (2)✓; Columbine (3); Computer Concepts (5); Control Technology (1-6); Gardiner (4)✓; Gotham (3,5)✓; Harris (4,5)✓; IGM (3-5)✓; Interface Data (2,3,5); Matrix Systems (4); Microprobe (3-5)✓; Monroe (4)✓; RAD (4,5); Schaefer (3-6); Solutec (5); Sono-Mag (5)✓; Texscan (2,5,6)✓; Ultra Audio (5); VIF (1)✓

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## M. Radio Business/Newsroom Automation

**TYPES:**

- (1) Business automation software
- (2) Business automation hardware
- (3) Radio newsroom computers

**SUPPLIERS:**

Anacomp (1); ANT (3)✓; Applelog (1,2); Automated Bdcst. Controls (2); Automated Business Concepts (1,2); BASYS (3)✓; Cetec Bdcst. (1,2)✓; Clarcomputer (2); Colorgraphics (3)✓; Columbine (1,2); Computer Concepts (2,3); Custom Business (1,2); Data Communications (1,3)✓; Ficon (1)✓; Generic Computer; Gotham (3)✓; Green (1,2)✓; Harris (1,2)✓; Interface Data (2,3); Jefferson Data (1-3)✓; Kaman (1-3)✓; Libra (1); Magnicom (3); The Management (1)✓; Nordic (1)✓; Phoenix (1,2); Quanta (3)✓; Radiocom (3); Radio Computing (1); Register (1,2); Southwestern (1); Summit (1)✓; Telesource (3); Terminal (3)✓

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## N. Audio Processing, Noise Reduction

**TYPES:**

- (1) ALC, AGC amps
- (2) AM compressor/limiters
- (3) FM compressor/limiters
- (4) Parametric equalizers
- (5) Graphic equalizers
- (6) Audio/video sync delay
- (7) Audio noise reduction

**SUPPLIERS:**

Advancing Technology (1-3)✓; Altec Lansing (5); ANT (7)✓; Aphex (1-3)✓; Ashly (3,4,7); ATI (1-4)✓; Atlantic Research (2-5); Audio + Design (1-5,7)✓; Audio Processing (4,5); Audio Tech. (7)✓; Audisar (5); Auditorics (4)✓; Bogen (2,3,5)✓; Broadcast Audio (5)✓; Broadcast Electronics (2,3)✓; Broadcast Tech.; Carvin (5)✓; Cetec Ivie (5); Circuit Research (1-3)✓; Comrex (1)✓; Crown (5)✓; Datatronix (2-5)✓; dbx (1-4,7)✓; Delta Electronics (1,2); Dolby (7)✓; Dorrough (2,3)✓; E.A.R. (1-7)✓; Elcom Bauer (1-3)✓; Electro-Voice (5)✓; Eventide (2)✓; Fostex (4,5,7)✓; Frequency Devices (7); Gotham (3,7)✓; Gregg (1-3)✓; Harris (1-3)✓; Harris Sound (6); Inovonics (1-3,7)✓; Integrated Sound (5)✓; International Electro-Magnetics (5); JBL (1-3,4,6)✓; Kahn



## Get it out of your system.

Television is an electronic medium. Yet TV graphics still involve messy paints, glue, air brushes, razors, and other paraphernalia.

MCI/Quantel's Paint Box can put your TV graphics into the electronic medium.

So you can get all the messy paraphernalia out of your system. Digitally.

The Paint Box lets you do a lot more than you can do with traditional art materials. A lot faster. And with typical Quantel picture quality.

It gives you over 16 million colors. If that's not enough, you can mix your own, just like you'd do with paints.

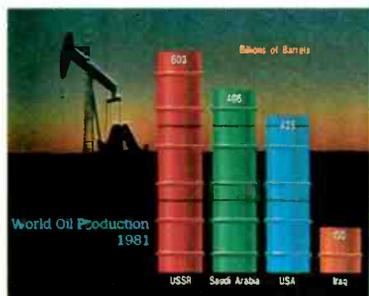
It's incredibly versatile. You can produce the look of oils, watercolors, chalk, pencil. You can make stencils. Air brush. Cut and paste. Even animate.

You can grab TV frames off the air, resize them, retouch them, mix them with graphics.

You can set type from a large variety of the highest quality fonts.

And you can interface the Paint Box to Quantel's DLS 6000 Library System for a totally digital still-picture system. It's awesome.

Call your local MCI/Quantel office. They'll be glad to show you a demonstration tape. Or get in touch with us directly at 415/856-6226. Micro Consultants, Inc., P.O. Box 50810, Palo Alto, California 94303.



Graphics like this are easy on the Paint Box.



**MCI/QUANTEL**  
The digital video people.

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# THE NEW TEKTRONIX 1750: HEADS OFF PROBLEMS YOU DIDN'T KNOW YOU HAD...UNTIL IT WAS TOO LATE!

**Our new 1750 signal monitor gives you a unique, dynamic display of SCH phase relationships.**

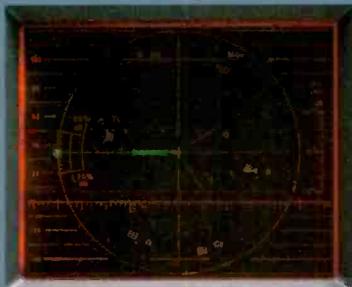
You can see at a glance if a video signal is properly SCH phased... or just as easily, compare two signals for color frame matching.

**Hit-or-miss SCH phasing may have been tolerated in the past—but now it's costing you time and money every day.**

The Tektronix 1750 can help you regain control. By maintaining consistent SCH phase... or by seeing potential problems *before* a glitch occurs, you'll avoid the frustration of multiple passes and enjoy getting it right the first time. Saving time saves you money and makes the best use of your valuable resources.

SCH phase, of course, isn't the only parameter you need to keep on track, and SCH display is only part of the 1750's comprehensive signal monitoring capabilities. At the push of a button it also displays vector mode... or waveform mode, enhanced by digital line selection through the vertical interval... or R-Y/sweep mode for easy interpretation of differential phase distortions.

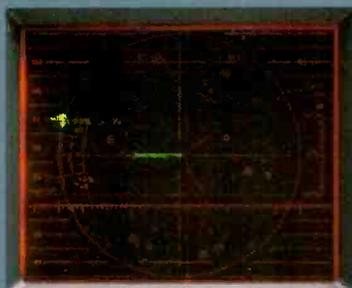
Whether used for monitoring video in production and editing



Correct SCH phase relationship is clearly displayed on the 1750 when dot on the calibration circle is aligned with the vector on the  $-x$  axis.



Dot placement on the  $+x$  axis indicates an error in the color frame matching of two signals.



This 17-degree offset, indicating a 17-degree SCH timing error, would be impossible to perceive on an ordinary waveform monitor display.

environments, or for making fast and accurate measurements during equipment maintenance, the 1750 Series is a new benchmark for comprehensive performance in both NTSC (1750) and PAL (1751) standards.

A compact 5.25 inch package, mechanically interchangeable with many other "half-rack" packages, allows

easy installation in new or existing facilities.

**If you see the advantages of comprehensive signal monitoring, you'll like what you see in the 1750.**

For more information on this or other Tek television products, or for the number of your nearest Tek sales office, call our toll-free information service today: (800) 547-1512. In Oregon, (800) 452-1877.

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Phone 705/737-2700

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(2) Klark-Teknik (5); Landy (2,3); Lear Siegler (2,3,5); Lexicon (6); LPB (2,3); Marti (1-3); McCurdy (2,4); McMartin (1-3); Micmix (7); Modular Audio (2,5); Modulation Sciences (3); Moseley (2,3); MXR (3,5); NEI (4,5); Nikko (4,5); Orban (2-5); Processing Plus (1,2); Protech (1); Quad Eight (2-5); Ramko (2,7); Richmond (1,5); Sansui (5); Sescum (1); Solid State Logic (6); Spectra Sonics (2,3,5); Straight Wire (7); Symetrix (1,2,4,7); Tascam (5); Thomson-CSF (1-3); Toshiba (6); TTE (7); Tweed (2-4,7); Valley People (1-4,7); Wheatstone (2-5); White (5); Yamaha (5)

## O. Audio Effects

### TYPES:

- (1) Digital efx, reverb
- (2) Digital delay
- (3) Time compression/expansion
- (4) Analog efx, reverb
- (5) Music synthesizers

### SUPPLIERS:

AKG (1,2,4); Aphex (4); Audio + Design (4); Cetec Ivie (1,2); Connectronics (4); dbx (1); E.A.R. (1-4); Eventide (1-3); Farrtronics (2); Fostex (1); Gotham (1); Granite (2); Harris Sound (1-4); Industrial Research (1); Integrated Sound (3); Klark-Teknik (1,4); Koss (2); Lexicon (1-3); Marshall Electronic (1-4); Micmix (4); Moog (5); MXR (1,2,4); NEI (4); Nikko (2); Orban (1); Ken Schaffer (1-3); Ursa Major (1,2); VJ (1); Yamaha (1,2,5)

## P. Audio Monitors

### TYPES:

- (1) Speakers
- (2) Headphones

### SUPPLIERS:

Acoustic Research (1); AKG (2); Altec Lansing (1); Audisar (1); Aurenheimer (1); Auratone (1); Beyer (2); BGW (1); Bogen (1); Broadcast Audio (1); Carvin (1); Cetec Gauss (1); David Clark (2); E.A.R. (1,2); Electro-Voice (1); Fostex (1); Gotham (1); Integrated Sound (1); JBL (1,3); Koss (1,2); Landy (1,2); Logitek (1); McKay (1); Mikrolab (1); Micro-trak (1); Panasonic (1); QSC (1); RAD (1); R-Columbia (2); Sennheiser (2); Setcom (2); Sharp (1); Spectra Sonics (1); Stanton (2); Studer (1); Superex (2); Tandberg (1,2); Telectro (1); Telex (2); Vidair (2); Westlake (1); World Video (1); Yamaha (1,2)

## Q. Intercom Systems

### TYPES:

- (1) Hardwired
- (2) RF

### SUPPLIERS:

ANT (1,2); Bogen (1); Broadcast Tech. (1,2); Cetec Vega (2); David Clark; Clear-Com (1); Comprehensive Video (1); Comrex (2); Com-Tek (2); E.A.R. (1,2); Farrtronics (1); Fisher Berkeley (1); HM (1,2); Landy (1); Lear Siegler (1); Long (1,2); McCurdy (1); McMartin (2); Mobile-Cam (1); Nady (2); Protech (1); RAD (2); R-Columbia (1,2); ROH (1); RTS (1); Schaffer (2); Setcom (1); Swintek (2); Telex (1,2); Theatre Techniques (1); TVI (1); Vidair (2); Video Aids (1); Ward-Beck (1)

## R. Microphones

### TYPES:

- (1) Dynamic
- (2) Electret/condenser

- (3) Ribbon
- (4) PZM
- (5) RF
- (6) Lavalier
- (7) Shotgun
- (8) Modular, capsule systems
- (9) Stereo mics
- (10) Mic stands, booms, dollies

### SUPPLIERS:

Accurate Sound (10); AKG (1,2,6-8,10); Altec Lansing (1,2,6); Astatic (1,2,6,10); Atlas Sound (10); Audio + Design (2,8,9); Beyer (1-3,6-8,10); Bogen (1,2,6,10); Bruel & Kjaer (2); Cetec Vega (5); Cinema Products (10); Coherent Comm. (2,5,6); Comprehensive Video (1,2,6,7,10); Comrex (5); Com-Tek (5); Countryman (2,4-6,9); Crown (2,4,6); Datronix (1); E.A.R. (1-10); Electro-Voice (1,2,6,7); Alan Gordon (5); Gotham (2,7,9,10); Heitz (10); HM (5); Image Devices (2); Integrated Sound (1,2,7); Lauderdale (10); Leader Bdcst. (1-3,5-9); Marti (1,5); Micron (5,6,10); Keith Monks (10); Nady (5,6); Odetics (1,2,10); Panasonic (2); R-Columbia (1,2,6); Rosenblum (5); Ken Schaffer (5); Sennheiser (1,2,5-8,10); Shure (1,2,6,8,10); Sony Audio (2,6,7,10); Superscope (2); Swintek (5); Tascam (1,2); Television Equipment (1,2); Telex (1,2,6); Ultimate (10); Vidair (1,2)



## S. Audio Amplifiers

### TYPES:

- (1) Preamps
- (2) Line amps
- (3) Monitor/power amps
- (4) Amp power supplies

### SUPPLIERS:

Altec Lansing (1-3); Amek (1); ANT (1-4); Aphex (1,2); ATI (1-3); Audio + Design (1,3); Audio Metrics (1); Audionics (1,3); Audio Tech. (2); Audisar (1-4); Auditronics (1,2); AVL (3); Bell (1,3); BGW (3); Bogen (1-3); Bonneville Media (2); Broadcast Audio (1-4); Broadcast Electronics (2); Broadcast Supply West (1); Broadcast Tech. (1-4); Bryston (1,3); Carvin (2,3); Cetec Ivie (1,3); Circuit Devel. (3); Conex (3); Connectronics (1,4); Crown (1,3); Datalek (1-3); Datatronix (1-4); E.A.R. (1-4); Eumig (1-4); Frequency Devices (4); Gregg (1); Heath (1,3); Hedco (2); Henry (2); Hewlett-Packard (1,2); Hitachi (4); Howe (1,3); Integrated Sound (3); International Nuclear (1-4); ITI (1-4); JV (4); Kahn (2); Landy (1-3); Lauderdale (1); Lear Siegler (1-3); Logitek (1-4); Marti (2,3); McCurdy (2-4); McMartin (1-3); Mikrolab (3); Micro-trak (1-3); Modular Audio (1-4); Multidyne (1,2); MXR (1); NEI (3); Nikko (1,3); Omicron (3); Opamp (1-4); Peak (1); Protech (1-3); Quad Eight (1,2); Radio Systems (1); Ramko (1-3); Richmond (1-4); ROH (1,2); RTS (1-3); Russco (1,2); Sescum (1-4); Sharp (1-3); Shure (1-3); Soundcraft (3); Spectra Sonics (1-4); Stanton (1); Straight Wire (1); Studer (3); Symetrix (3); Taber (3); Tandberg (1,3); Tascam (1,4); Telemet (3); Television Equipment (2,3); Telex (1); TM (2,4); Tweed (1,2); Valley People (1); VIF (3); Ward-Beck (4); World Video (3); Yamaha (3)

## T. Distribution/Interface Equipment

### TYPES:

- (1) Audio DAs

# We designed the Studer A800 for video post-production, and it quickly found its way into the world's best...recording studios.

## Interesting.



Over the past couple of years, a remarkable number of "first-line" recording studios have bought Studer A800 multi-tracks. And, currently, the A800 is winning over a new group of admirers—video producers. Little wonder. After all, the A800 was originally designed with video requirements in mind. It is fast enough to keep up with the VTR's, and it has sophisticated microprocessor controls for unparalleled production flexibility. As for the sound quality, well, that's what convinced the people at the recording studios!

If you're planning to update your audio, take note of these particulars:

- **Editing System Compatibility**—Operates with Audio Kinetics, Adam Smith, BTX, CDL, CMX, Electro-Optical, EECO, and Studer SMPTE-based systems.
- **Superior Tape Handling**—Accelerates quickly to 400 ips fast wind, slows, stops, and changes modes with uncanny smoothness.
- **Microprocessor Control**—The microprocessor governs all transport functions as well as audio, bias and erase switching.
- **Edit Rehearse**—Used with SMPTE-based controllers, the A800 lets you simulate electronic edits before making the "hot" edit.
- **Separate Time Code Channel**—The time code track is routed through special electronics, not the regular audio channel. SMPTE code-reading in fast wind is standard.
- **Remote Unit**—Options include 20-address autolocator, channel remotes, vari-speed remote, and SMPTE synchronizer.
- **All Formats**—8, 16, and 24-track standard; 4-track 1/2" on special order.
- **Legendary Craftsmanship**—Lift the top plate off an A800 and the competition disappears. Nothing else performs like a Studer because nothing else is built like a Studer.

Treat your video to the ultimate audio. Call or write today for more information.

## STUDER REVOX

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Offices: Los Angeles (213) 780-4234 / New York (212) 255-4462  
Dallas (214) 760-8647 Canada: Studer Revox Canada, Ltd.



- (2) Audio routing switchers
- (3) Audio patch panels, jackfields
- (4) Telco interface equipment

**SUPPLIERS:**

ADC (3,4)✓; ADM (1)✓; Amek (1)✓; Amtel (1)✓; ANT (2)✓; Arrakis (2)✓; ATI (1,2)✓; Atlantic Research (3); Audio Acc. (3); Audio + Design (1)✓; Audio Metrics (1)✓; Audisar (1); Auditorics (1,3)✓; AVL (1)✓; Bell (1); Blonder-Tongue (1); Bogen (4)✓; Bonneville Media (1); Broadcast Audio (1)✓; Broadcast Electronics (1,3,4)✓; Broadcast Systems (3)✓; Broadcast Tech. (1,2,4); BSM (1,2)✓; Channelmatic (1)✓; Comad (3); Commerce Airborne (1); Comrex (4)✓; Datatek (1)✓; Datatronix (1-4)✓; Di-Tech (1,2)✓; Dyma (1)✓; Dynair (1,2)✓; E.A.R. (1-4)✓; ESE (4)✓; Farrtronics (3)✓; Gentner (3,4); Graham-Patten (1)✓; Grass Valley (2)✓; Gregg (4)✓; Hedco (1,2)✓; Image Video (2,3)✓; International Nuclear (1); JV (1,3)✓; Landy (1,3); Lauderdale (1); Logitek (1)✓; LPB (1)✓; Marcom (4); Marti (1)✓; Matrix Systems (2); McCurdy (1,3,4)✓; Micro-trak (1)✓; Mobile-Cam (1)✓; Modular Audio (1,2); Multidyne (1)✓; Neve (1)✓; Old Dominion (4); Omicron (1,2)✓; Pacific Recorders (1)✓; Piher (1)✓; Protech (1)✓; RAD (2,3); Radio Systems (1,3)✓; Ramko (1,2)✓; Richmond (1,2)✓; ROH (1); RTS (1,4)✓; Russco (1,4)✓; Scientific Systems (1)✓; Sescom (3); Shintron (1,2)✓; Sigma (1)✓; Spectra Sonics (1); Straight Wire (1)✓; Studer (4)✓; Symetrix (3)✓; Telemet (1); Television Equipment (1)✓; Trompeter (3)✓; Tweed (1,2)✓; Utah Scientific (1)✓; Valley People (4)✓; Vamco (1); Video Aids (1); Vital (1)✓; Ward-Beck (1-3)✓; Wilk (1,2)✓

## U. Other Radio/Audio Equipment

**TYPES:**

- (1) Rotary attenuators
- (2) Slide attenuators
- (3) VU meters
- (4) PPM meters
- (5) LED displays
- (6) Video monitor displays
- (7) Soundproofing materials
- (8) EBS two-tone systems
- (9) Other radio/audio equipment

**SUPPLIERS:**

Advancing Technology (4)✓; Alpha Audio (7)✓; Amek (4)✓; Aphex (9); ATI (3-5)✓; Atlantic Research (2); Audio + Design (4)✓; Audionics (9); Audio Processing (3,4); Audio Tech. (3-5)✓; Auditorics (6)✓; Audisar (3,5); Auditorics (4)✓; Bald Mountain (8)✓; Broadcast Audio (1-5)✓; Broadcast Supply (9); Broadcast Tech. (3-5,9 & mix-minus program interrupt); Bryston (5)✓; Comrex (9)✓; Conex (9); Datatronix (2,9)✓; dbx (9)✓; Dorrough (5)✓; Dyma (9)✓; Emergency Alert (8)✓; ESE (5)✓; Eventide (mono/stereo matrix)✓ EXR (audio processing exciter, projector); Fidelipac (9)✓; Gorman (8)✓; Gotham (4-6)✓; Graham-Patten (4)✓; Green (9)✓; Gregg (9)✓; Heath (5); Howe (9)✓; IGM (9)✓; Inovonics (4,6,9)✓; International Nuclear (8); Johnson (8); JV (9)✓; Kay Elemetrics (1,2)✓; Leader Instruments (9)✓; Logitek (5)✓; Marcom (9); McCurdy (4); McMartin (1,2,8)✓; Mikrolab (3)✓; Modular Audio (3-5); MXR (9)✓; Nalpak (9)✓; Nikko (9); Orban (9)✓; Penny & Giles (1,2)✓; Philips (9)✓; RAD (9); Radio Systems (4)✓; Ramko (3-5)✓; R-Columbia(9)✓; Real World (3-6,9); ROH (1,9); Sansui (9)✓; Schaefer (9); Selco (3,4,9)✓; Sescom (1,2); Shallco (1,2); Shure (9)✓; Skotel (9)✓; Sound Workshop (5)✓; Spantel (9)✓; Spectra Sonics (2,3); Sprague (9)✓; Stanton (9)✓; Straight Wire (5)✓; Tech Labs (1,2); Telemet (3); TFT (8)✓; TM (3); Valley People (3,5)✓; VIF (9)✓; Ward-Beck (3,4)✓; Wheatstone (9)✓

## VIDEO/IMAGING

### A. Cameras

**TYPES:**

- (1) Studio (30mm tubes)
- (2) Field (25mm tubes)
- (3) ENG (18mm tubes)
- (4) Lightweight (13mm tubes)
- (5) Single-tube color cameras
- (6) CCD/MOS color cameras
- (7) Recorder/cameras
- (8) HDTV cameras
- (9) Monochrome cameras
- (10) Cine cameras

**SUPPLIERS:**

Ampex (3)✓; Arriflex (10)✓; Cinema Products (10)✓; EEV (9)✓; Eumig (10)✓; Frezzolini (10)✓; Harris (2,3)✓; Hitachi (1-10)✓; Ikegami (1-3,5,7-9)✓; Javelin (6,9); JVC (2-5)✓; Panasonic (1-3,5-7,9)✓; Philips (1-3,7,9)✓; RCA Broadcast (1,3,6,7)✓; Sharp (3,5,9)✓; Sony (2-6,7,8)✓; Teledyne Camera (6,9,10); Toshiba (1-3)✓; Westinghouse (5,9); Zellan (10)

## B. Camera Components

**TYPES:**

- (1) Lenses
- (2) Periscope lenses
- (3) Filters
- (4) Pickup tubes
- (5) Standalone CCUs

**SUPPLIERS:**

AmpereX (4)✓; Angenieux (1)✓; Anton/Bauer (5)✓; Arriflex (1)✓; Belden (3)✓; Calvert (4)✓; Canon (1)✓; Century Precision (1,2)✓; Cinema Products (1)✓; Cinemills (3)✓; Comprehensive Video (1)✓; EEV (4)✓; Elcom Bauer (1)✓; Film/Video Equipment (1)✓; Fujinon (1)✓; Hitachi (4)✓; Ikegami (5)✓; Javelin (1); NEC (6,7)✓; Photo & Video (1); RCA New Products (4)✓; Richardson (4); Warren Smith (1)✓; Sony (1,4)✓; Tamron (1)✓; Thomson-CSF (2,3,7)✓; Thomson-CSF Components (4)✓; Zie-Mark (1,3)✓; Zellan (1)

## C. VTRs, VCRs

**TYPES:**

- (1) One-inch B
- (2) One-inch C
- (3) ¾-inch U
- (4) Betacam
- (5) M-format
- (6) Beta
- (7) VHS
- (8) Quarter-inch
- (9) MERPS multicassette deck

**SUPPLIERS:**

Alpha Video (3)✓; Ampex (2,5)✓; Asaca (9)✓; Bosch (1,8)✓; Broadcast Systems (9)✓; Channelmatic (9)✓; Frezzolini (7)✓; Hitachi (1,2,7,8)✓; Hubbard (9)✓; JVC (3,7)✓; Lake (9)✓; Media Concepts (7,9); Merlin (1-3,5,7,9)✓; Panasonic (3,5,7)✓; RCA Broadcast (2,5)✓; Sharp (7)✓; Sony (2-4,6)✓; Thomson-CSF (4)✓

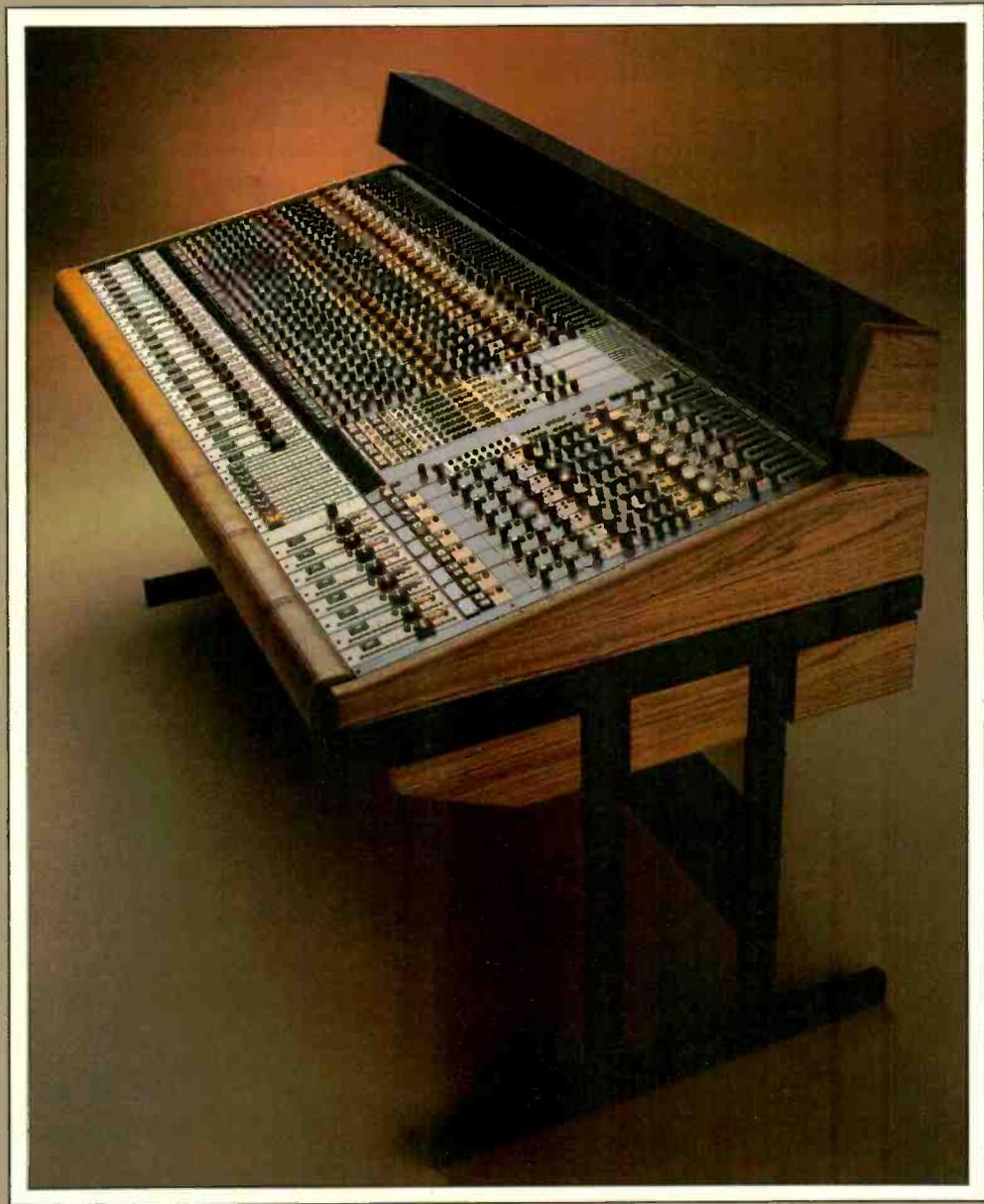
## D. VTR Heads/VTR Accessories

**TYPES:**

- (1) Replacement heads
- (2) Rebuilt heads
- (3) Head cleaners, degaussers
- (4) Alignment, tension gauges
- (5) VTR refurbishing, rebuilding

**SUPPLIERS:**

A.F. Assoc. (5)✓; Allsop (3)✓; Ampex (1)✓; R.B. Annis (3)✓; CMC (1,2,5); International Electro-Magnetics (1)✓; JRF (2)✓; KB (1,3)✓; Lauderdale (3); Leader Instruments (4)✓; Merlin (1,4,5)✓; Minneapolis (1,5); Nortronics (3)✓; Re:DB (1,2)✓; Saki (1)✓; Sprague (1-3,5)✓; Taber (1,2)✓; Texwipe (3)



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**TV-3**  
STEREO TELEVISION CONSOLE

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Eight stereo groups, a versatile separate multitrack-interface section, VCA input grouping, and automation make TV-3 the perfect console for all audio production, post-production, and master control applications.

**If your sound goes with pictures, we have what you need.**



## E. Videotape, Film/Tape Accessories

### TYPES:

- (1) Two-inch tape
- (2) One-inch tape
- (3) 3/4-inch cassettes
- (4) Half-inch cassettes
- (5) Film stock
- (6) Empty reels, carts, cases
- (7) Tape loaders, timers, rewinders
- (8) Tape cleaners, evaluators
- (9) Tape erasers, degaussers

### SUPPLIERS:

Agfa (3,4)✓; Allsop (8)✓; Ampex (1-4)✓; R.B. Annis (9)✓; Asaca (8)✓; Audico (7,8); William Bal (6)✓; BASF (3)✓; Calico (videocassette reloading & refurbishing); Christie (9)✓; CMC (9); Comprehensive Video (3,4,8,9)✓; E.A.R. (2-4,6,9)✓; Eastman Kodak (2-5)✓; Elcon (8); Fuji (1-4,8)✓; Garner (9)✓; JVC (4)✓; King (7,8); Lauderdale (8,9); 3M Magnetic (1-8)✓; Maxell (4)✓; N.O.V.A (8)✓; Odetics (3); Otari (7)✓; Panasonic (3)✓; PD (4)✓; Plastic Reel (6)✓; Recortec (7,8)✓; Re-Play (1)✓; Research Technology (6-9)✓; Smith-Victor (4); Sonar (9)✓; Sony (2-4)✓; Spin Physics (1,5)✓; Sprague (8)✓; Superex (9); Taber (9)✓; Taylor (4,6); TDK (4,8)✓; Television Equipment (8)✓; Video Magnetics (3,4)

## F. Still/Slow Motion Recorders

### TYPES:

- (1) Digital still store
- (2) Magnetic disc recorder
- (3) Optical disc recorder
- (4) VTR slo-mo systems
- (5) Video animation controllers

### SUPPLIERS:

Abekas (1)✓; ADDA (1)✓; Ampex (1,4,5)✓; Colorado Video (1)✓; Eigen (3,5)✓; Elicon (5)✓; For-A (1,4)✓; Alan Gordon (5)✓; Harris Video (1)✓; Interand (1)✓; Lyon Lamb (5)✓; MCI/Quantel (1,5)✓; Merlin (1,4)✓; MPB (5); NTL (1); OKtel (1,2)✓; Panasonic (3)✓; Picture Element (1)✓; Precision Echo (2,5)✓; Sony (4)✓; Videomedia (5)✓; Wooley (5)✓

## G. Telecine/Film Equipment

### TYPES:

- (1) Solid state telecine systems
- (2) Telecine cameras
- (3) 16/35mm telecine projector
- (4) 35mm slide projector
- (5) Optical multiplexer
- (6) Telecine color corrector

### SUPPLIERS:

A.F. Assoc. (1)✓; Applied Digital (6)✓; Bosch (1,6)✓; Buhl (5)✓; Corporate Communications (6,7)✓; Dubner (6)✓; Eastman Kodak (3)✓; Fairchild (1); For-A (6)✓; Gordon (3)✓; Hubbard (2)✓; Ikegami (2)✓; Kalart (5)✓; Knox (6)✓; Laird (3-5)✓; L-W (3)✓; Multi-Track (1,3)✓; Nytone (2,5,6)✓; Philips (2,6)✓; Rank (1,6,7)✓; RCA Broadcast (1-6)✓; Research Technology (1)✓; Sauppe (4)✓; Steenbeck (1)✓; Telex (3,4)✓; Thomson-CSF (4,6)✓; Zei-Mark (3-5,7)✓

## H. Electronic Art/Graphics

### TYPES:

- (1) Titrer, subtitler
- (2) Character generator/graphics system

- (3) Digital art/paint system
- (4) 3D modeling and manipulation
- (5) "Draw on screen" systems
- (6) Bit pad digitizers
- (7) Camera/VTR digitizers
- (8) High-res screen cameras
- (9) Teletext/closed captioning terminals

### SUPPLIERS:

Ampex (3)✓; Apis (3)✓; Aurora (2,3)✓; Beston (1-3)✓; Bosch (2-4,6)✓; Chyron (2,3,6)✓; Colorgraphics (2,3,5,7)✓; Computer Graphics Labs (3,4)✓; Computer Image (4)✓; Dubner (2,3,4,6)✓; Dunn (3)✓; EEG (9)✓; Elicon (4,6)✓; Environmental Satellite (2,3)✓; Evertz (1,2)✓; For-A (1,2,5)✓; Harris (1,3,9)✓; Interand (2,3,5)✓; Kavouras (2)✓; Knox (1,2)✓; Laird (1,2)✓; Lyon Lamb (7)✓; Logica (9)✓; 3M Broadcasting (1-3,7)✓; MCI/Quantel (2-4)✓; McMichael (clock & logo generators) (2); MPB (2); Multidyne (2)✓; Mycro-tek (2)✓; Piher (2)✓; Quanta (1,2)✓; Shintron (1,2)✓; Sigma (1-3,5)✓; Sony (3,9)✓; Symtec (1-3,6,7); Texscan (1,2)✓; Thalner (2); Thomson-CSF (1-4,6)✓; Vectrix (2)✓; Via Video (2,3,5-8)✓; Video Associates (2); Video Aids (2); Video Data (9); Wilk (1,2)✓; Xiphias (3,7)✓

## I. Weather Systems

### TYPES:

- (1) Satellite displays
- (2) Weather radar displays
- (3) Weather symbol inserters
- (4) Weather-based art/paint systems
- (5) Weather graphics displays

### SUPPLIERS:

Accu-Weather (5)✓; Advanced Designs (2)✓; Alden (1,2,5)✓; Arvin/Diamond (1)✓; Aurora (4)✓; Beston (4)✓; Chyron (3)✓; Colorgraphics (1,2,4,5)✓; Enterprise Electronics (2)✓; Environmental Satellite (1-4)✓; Gorman (5)✓; Interand (4)✓; Kavouras (1,2,4)✓; MCI/Quantel (4)✓; Rscan (1)✓; Technology Service (2)✓; Texas (4)✓; Texscan (2)✓; Thomson-CSF Broadcast (4,5)✓; Vectrix (5)✓; WSI (1,2,5)✓



## J. Production Switchers

### TYPES:

- (1) Portable units
- (2) Compact, studio/mobile units
- (3) Large, automated systems
- (4) Post-production switchers

### SUPPLIERS:

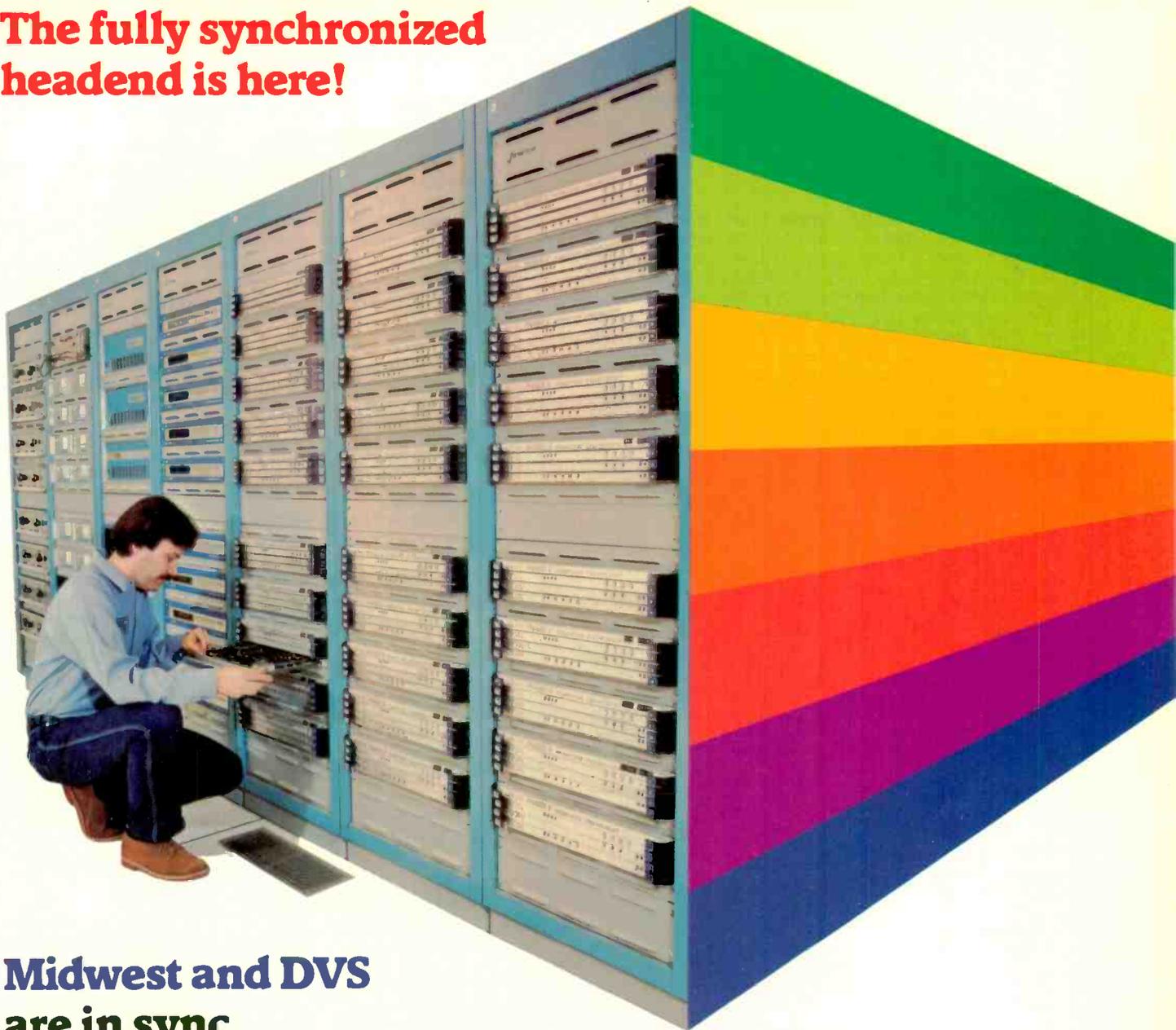
Ampex (2,4)✓; Asaca (1,2)✓; Beaveronics (2-4)✓; Bosch (3)✓; Central Dynamics (1-4)✓; Comprehensive Video (1)✓; Crosspoint Latch (2-4)✓; Echolab (2)✓; Glentronix (4); Grass Valley (1-4)✓; Industrial Sciences (1-4)✓; International Nuclear (1-4); Kaitronics (2)✓; Matrix Systems (1-4); Omicron (2)✓; Panasonic (1,2)✓; Piher (2)✓; RAD (1-3); Ross Video (1-4)✓; Shintron (1-4)✓; Toshiba (1-4)✓; Tweed (2-4)✓; Viscount (2); Vital (2,3)✓

## K. Special Effects

### TYPES:

- (1) Digital efx generators
- (2) Compressor/positioners
- (3) Standalone analog efx
- (4) Colorizers
- (5) RGB chromakeyers
- (6) Encoded chromakeyers

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headend is here!**



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Atlanta, GA  
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Miami, FL  
305-592-5355  
Tampa, FL  
813-885-9308  
Clarksburg, WV  
304-624-5459



- (7) Title keyers
- (8) Downstream keyers
- (9) Non-additive keyers

**SUPPLIERS:**

Abekas (1)✓; ADDA (2)✓; Ampex (1)✓; Asaca (3,8)✓; Beaveronics (3,5,7,8)✓; Broadcast Video (5-8)✓; Central Dynamics (1-9)✓; Chroma Digital (1,2)✓; Colorado Video (4)✓; Computer Image (3)✓; Convergence (1)✓; Digital Services (1)✓; Echolab (3-8)✓; For-A (4,7)✓; Graham-Patten (7-9)✓; Grass Valley (1,2,7,8)✓; Harris Video (1,2)✓; Image Video (8)✓; Industrial Sciences (3,5,6,8)✓; Interand (1)✓; International Nuclear (3-6,8); JVC (3)✓; Knox (4,7,8)✓; Microtime (1)✓; MCI/Quantel (1)✓; Multidyne (8)✓; NEC (1,2,5)✓; Precision Echo (2)✓; Rosco (6); Shintron (5-8)✓; Telemet (5,6); Thomson-CSF (1,6)✓; Toshiba (1)✓; Ultimatte (5)✓; Viscount (1); Vital (1,3,5-7)✓

## L. Master Control Switchers

**TYPES:**

- (1) Manual
- (2) Automated
- (3) Business automation interfaced

**SUPPLIERS:**

Ampex (1)✓; Bosch (2)✓; Central Dynamics (1-3)✓; Comad (1,2); Data Communications (3)✓; Dynair (1-3)✓; Grass Valley (1-3)✓; Image Video (1,2)✓; Industrial Sciences (1,2)✓; International Nuclear (1,2); Matrix Systems (1-3); Panasonic (1)✓; RAD (1-3); Tweed (1,2)✓; Utah Scientific (1,2)✓; Videomedia (2)✓; Viscount (1); Vital (1-3)✓

## M. Video Routing Switchers

**TYPES:**

- (1) Parallel interface
- (2) Serial interface

**SUPPLIERS:**

ABP Systems (1)✓; Bosch (1)✓; BSM (1,2)✓; Central Dynamics (1,2)✓; Channelmatic (1)✓; Comad (1,2); Datatek (2)✓; Di-Tech(1,2)✓; Dynair (2)✓; Grass Valley (1,2)✓; Hedco (1,2)✓; Image Video (1,2)✓; Industrial Sciences (1,2)✓; International Nuclear (1,2); Kaitronics (1,2)✓; 3M Broadcasting (1,2)✓; Matrix Systems (2); Piher (1,2)✓; RAD (1,2); Shintron (1,2)✓; Telemet (1,2); United Media (1,2)✓; Utah Scientific (2)✓; Vamco (1,2); Videotek (1,2)✓; Vital (2)✓; Wilk (1,2)✓

## N. Machine Control/Technical Automation

**TYPES:**

- (1) Parallel interface
- (2) Serial interface
- (3) Vertical interval systems

**SUPPLIERS:**

Adams-Smith (1-3)✓; Alamar (1,2)✓; Auburn (1)✓; AVL (1,2)✓; Bosch (1)✓; Central Dynamics (1-3)✓; Channelmatic (1,3)✓; Comad (1-3); Control Video (1-3)✓; Cybernetic (3); Datatek (2)✓; Dynair (1,2)✓; Engineering Lab (1-3); Evertz (3)✓; Grass Valley (1)✓; Image Video (1,2)✓; Interactive (1,2)✓; Kaitronics (1)✓; Kavco (1,2)✓; 3M Broadcasting (1-3)✓; Matco (2)✓; Merlin (1-3)✓; RAD (1,2); TEK; Utah Scientific (2)✓; Vamco (1,2); Videomedia (1-3)✓

## O. TV Business/Newsroom Automation

**TYPES:**

- (1) Business automation software
- (2) Business automation hardware
- (3) TV newsroom computers

**SUPPLIERS:**

Anacomp (1); BASYS (3)✓; Beston (3)✓; Colorgraphics (3)✓; Columbine (1,2); Data Communications (1,3)✓; Elicon (3)✓; Jefferson Data (1-3)✓; Kaman (1-3)✓; Magnicom (3); Management (1)✓; Quanta (3)✓; Summit (1)✓; Telesource (3); Terminal (3)✓; Videomedia (3)✓; Videotex (1,2)

## P. Video Post-Production

**TYPES:**

- (1) Time code synchronizers
- (2) Two-machine editor/controllers
- (3) A/B-roll editors
- (4) Multisource editors
- (5) SMPTE time code generator/readers
- (6) VITC reader/generators

**SUPPLIERS:**

Adams-Smith (1,5)✓; Ampex (4)✓; Amtel (5,6)✓; Applied Digital (1)✓; Audio + Design (5)✓; Audio Kinetics (1)✓; Automated Studio Tech. (4); Bosch (2)✓; BTX (1,2,5)✓; Cipher Digital (5,6)✓; CMX (2-4)✓; Coherent Comm. (5)✓; Control Video (1-6)✓; Convergence (2-5)✓; Datum (5,6)✓; Dickinson (1); EECO (1-6)✓; EEG (5)✓; ESE (5)✓; Evertz (5,6)✓; For-A (5)✓; Giese (1,2,5,6)✓; Glentronix (2-4,5); Gray Engineering (5,6)✓; Grumman (5); Interactive (2-4)✓; Jatex (2,3,5); JVC (2,5)✓; Leader Broadcast (1); Lyon Lamb (1)✓; Leitch (6)✓; Magna-tech (1,5)✓; Montage (4)✓; Multidyne (1,5)✓; Multi-Track (1,2,5)✓; NTL (5); Omicron (3)✓; Otari (5,6)✓; Paltex (2-4)✓; Panasonic (2-5)✓; Shintron (1,5,6)✓; Skotel (5,6)✓; Sony (1-6)✓; Studer (1)✓; Telcom (5)✓; United Media (2,4,5)✓; Videomedia (2-5)✓; Vital (1,5)✓

## Q. Video Sync and Signal Generators (Also see Test and Measurement section)

**TYPES:**

- (1) Sync
- (2) Black burst
- (3) Color bars
- (4) SID
- (5) Safe title area
- (6) Video slate board/countdown

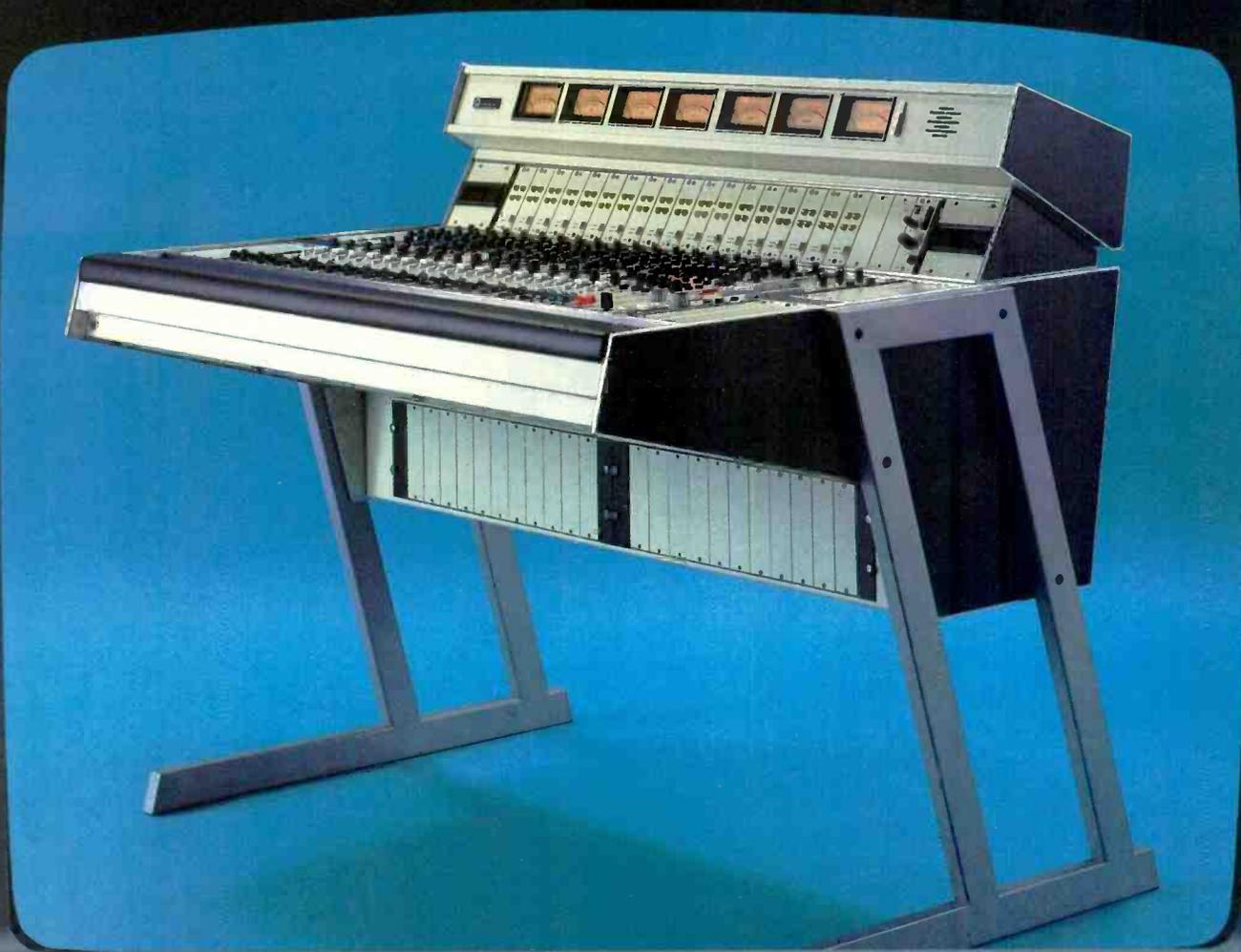
**SUPPLIERS:**

Amtel (5,6)✓; Amtron (1)✓; Anton/Bauer (2)✓; Asaca (1-3)✓; Automation Techniques (2,3); AVL (1,2,6)✓; Bosch (1-3)✓; Broadcast Video (5)✓; Colorado Video (1)✓; Crosspoint Latch (1-3)✓; Datatek (2)✓; Elector (5)✓; For-A (1-3)✓; Fortel (1)✓; Grass Valley (1)✓; Gray Engineering (5)✓; Industrial Sciences (1-3)✓; International Nuclear (2); Javelin (4); Lang (4); Leader Instruments (1-3)✓; Leitch (1-3,5)✓; Lenco (1-3); 3M Broadcasting (1-3)✓; Multidyne (1-4,6)✓; Omicron (1,2)✓; Panasonic (1)✓; Philips (1-3)✓; Philips T&M (1,3)✓; Piher (1)✓; QSI (2,6)✓; Sigma (1-3)✓; Tektronix (1)✓; Telemet (1,3); Thalner (6); Video Aids (1-3); Videotek (1)✓; Visual Information (1)✓; Wilk (1-4)✓

## R. Digital Video Processing

**TYPES:**

- (1) TBCs
- (2) Field synchronizers
- (3) Frame synchronizers
- (4) Field/framestores
- (5) TBC/framestores
- (6) Noise reducers
- (7) Image enhancers
- (8) Color correctors (also see Telecine category)



## High Definition Audio

*For the complete picture*

The new 300 Series Audio Production Console has been specifically designed to complement the latest audio and video technology. It's the only console in its class, offering mono or stereo inputs each available with or without equalization, output submastering, audio-follow-video capability, a comprehensive user-programmable logic system, and a wide range of accessories for custom tailoring to your specific requirements. Available now. Call us collect for further information.



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## The one small console

Introducing the new AMX operations console. Think of it as two consoles in one compact package — a sophisticated on-air control center that additionally gives your station all the capabilities and necessary features to easily accomplish the most complicated stereo production.

There's hardly a task it can't handle. Take, for example, its ability to help you juggle a talkshow with four separate telephone mixes, equalize and/or process all the inputs, send and mix effects, record

a stereo feed for later broadcast, plus the capability to work with two studios — and a remote, all at the same time. And that's just for starters!

The New versatile AMX operations board: about the only thing it won't do is become obsolete.

Other goodies include a stereo cue system with automatic console head-phone monitor switching, a multi-way intercommunication system including producer and external



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## designed to do two big jobs.

feeds, a built-in multi-frequency test oscillator, multi-function metering, voice slating system, and oh yes, three main stereo mix buses with distribution amplifiers on each main output.

The mainframes start at 14 and go to 34 inputs — and larger. Each is fully prewired for all future inputs, outputs, patch points and logic. There are regulated, independent supplies for the audio, logic and mic phantom power. No matter the size you choose, the

AMX is also compatible with our BMX and ABX series consoles. Naturally, the specifications are impressive, and it's built in the uncompromising way you've come to expect from us.

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The Choice for More #1 Stations.



- (9) Video multiprocessors
- (10) Standards converters
- (11) Video/audio sync delay
- (12) A/D & D/A converters

**SUPPLIERS:**

Abekas (4)✓; ADDA (1,3-5)✓; A.F. Assoc. (10)✓; Ampex (1)✓; Analog Devices (12); Andersen (1,3,5,7,8,11); Apert Herzog (3-5,12)✓; Applied Digital (8)✓; Bosch (8)✓; Broadcast Video (5,8)✓; Chroma Digital (1,3,5)✓; Colorado Video (5)✓; Computer Labs (12); Corporate Communications (8)✓; Digital Video Systems (1-3,12)✓; Digivision (10)✓; Eigen (4,6)✓; Elector (2)✓; Faroudja (6-8)✓; For-A (1,5,7,8)✓; Fortel (5-7)✓; Global Video (10); Grass Valley (11)✓; Grumman (3); Harris Video (1-6)✓; Hotronic (1-6)✓; Industrial Research (11); KB (7)✓; MCI/Quantel (1-3,5,10)✓; McMichael (10); Merlin (1-8,10,11)✓; Microtime (1,3,5-7)✓; NEC (1-3,11)✓; Oki (10)✓; Paltex (1,2,4,9)✓; Philips (6)✓; Scientific-Atlanta (3)✓; Shintron (3)✓; Siegel (7,8)✓; Sony (1,9)✓; Superex (7,9); Tektronix (3)✓; Thomson-CSF (7,8)✓; Toshiba (3)✓; Video Aids (7); Video International (10); Windsor (10)

## S. Other Video Processing

**TYPES:**

- (1) NTSC encoders
- (2) Decoders
- (3) Comb filter decoders
- (4) Video delay lines
- (5) Video filters
- (6) Dropout compensators
- (7) Video/cable equalizers

**SUPPLIERS:**

Allen Avionics (4,5,7); Andersen (4); Asaca (1)✓; Bosch (1)✓; Broadcast Video (1,3-5)✓; Chroma Digital (6)✓; Coastcom (5); Corporate Communications (3)✓; Digital Video Systems (3,6)✓; Dynair (7)✓; EECO (1,2)✓; Fairchild (4); Faroudja (1-3)✓; For-A (1,2,6)✓; International Nuclear (7); Leitch (4,7)✓; Lenco (1,2)✓; M/A-Com DCC (1)✓; Merlin (1,2,6)✓; Multidyne (7)✓; Philips (3)✓; Shintron (1,2,7)✓; Siegel (3)✓; Superex (5); Tektronix (3)✓; Telease (1,2)✓; Telemet (3); Television Equipment (4,5,7)✓; Tiffen (5)✓



## T. Video Amplifiers

**TYPES:**

- (1) Proc amps
- (2) Video DAs
- (3) Pulse amps
- (4) Subcarrier amps

**SUPPLIERS:**

Amtel (2)✓; Apert-Herzog (2)✓; Automation Techniques (1); AVL (2,3)✓; BSM (2-4)✓; Central Dynamics (1-4)✓; Channelmatic (2,3)✓; Comprehensive Video (2)✓; Datatek (2,3)✓; Di-Tech (2,3)✓; Dynair (2-4)✓; ESE (2)✓; For-A (2)✓; Graham-Patten (2-4)✓; Grass Valley (1-4)✓; Hedco (2-4)✓; Industrial Sciences (1-4)✓; International Nuclear (1-4); Javelin (2); Knox (1)✓; Lang (2); Leitch (1-4)✓; Lenco (1-3)✓; 3M Broadcasting (1,2)✓; Merlin (2,3)✓; Mobile-Cam (2)✓; Multidyne (2-4)✓; Omicron (2)✓; Opamp (2,3)✓; Panasonic (2,3)✓; Piher (3)✓; QSI (2)✓; Shintron (2-4)✓; Siegel (1)✓; Sigma (1-4)✓; Telemet (2,3); Television Equipment (2,3)✓

Utah Scientific (2)✓; Vamco (2); Video Aids (2,3); Videotek (2)✓; Vital (2,3)✓; Wilk (2,4)✓

## U. Video Monitors

**TYPES:**

- (1) Monochrome
- (2) NTSC
- (3) RGB
- (4) High resolution
- (5) Wide aspect ratio
- (6) Battery-powered portable
- (7) Video projectors
- (8) Monitor calibrators

**SUPPLIERS:**

Amtron (1-3)✓; Asaca (2,3,6,8)✓; Bosch (2,3)✓; Conrac (1-3)✓; Elector (1-7)✓; Electrohome (1-4,7)✓; General Electric Lighting (7)✓; Heath (7); Hitachi (1-4)✓; Ikegami (1-6)✓; Image Magnification (7); Javelin (1,2); JVC (2,3)✓; Kalart (7)✓; Lectrotech (2); Lenco (1-3)✓; Listec (1-4,7)✓; McMichael (2); Merlin (2-4)✓; Panasonic (1-4,6,7)✓; Philips (2,3)✓; Sharp (2)✓; Sony (2-7)✓; Tektronix (2-4)✓; Television Equipment (8)✓; Videotek (2,3,6)✓; World Video (2,3)

## V. Other Video Equipment

**SUPPLIERS:**

Cinema Products (video lens matte boxes, lens zoom controls)✓; Cipher Digital (high-res character displays)✓; Colorgraphics (lightning detection & display)✓; Comprehensive Video✓; Dunn (color video film recorder)✓; Euro Equipment (motion control for animation stand); Forox (animation cameras & stands); Alan Gordon (director's viewfinder)✓; Grumman (VITS remote-control monitors, custom routing switchers); Image Devices (underwater cameras & lights); Image Resource Corp. (color film recorder); Interand (Discon video graphic teleconferencing systems)✓; Javelin (video microscopes); Lenco (video delay amps)✓; Lipsner-Smith (ultrasonic film cleaners & high-speed film rewinders)✓; Neumade (film cleaning machines); Penny & Giles (joysticks)✓; RAD (programmable video switching); Research Technology (ultrasonic film cleaners, splicers)✓; Sea-Cam (underwater ENG/EFP camera housings); Warren Smith (animatics stands, servo slide & title positioners)✓; Solutec (adaptive cochannel system); Steenbeck (flatbed film editors, flatbed table for video sound editing)✓; Techtran (portable VCR packages); Tektronix (photometer)✓; Telemet (staircase & multiburst generators); Tentel (head tip protrusion gauge, spindle height gauges)✓; Thomson-CSF (Vidplex multiplexer encoder/decoder, contrast corrector)✓; Torpey (video message generator)✓; Vectrix (color graphics frame buffers)✓; Video Data (Microsystem II message display system, Vital Communication data communications systems); Wooley (Polarmation polarized graphics effects system)✓

## LIGHTING; POWER; SUPPORT; SCENERY and SET DESIGN; RACKS; CABINETS and CONSOLES

### A. Lighting

**TYPES:**

- (1) Lamps
- (2) HMI, CSI fixtures
- (3) Quartz fixtures
- (4) Cyc lighting
- (5) Diffusion, efx material
- (6) Lighting stands, rigging
- (7) Lighting control boards
- (8) Dimmer packs

# THE SYNCHRONIZER THAT WILL FINALLY SYNCHRONIZE THE INDUSTRY.

With a total system capability far beyond the grasp of most synchronizers and a price that's thousands less, the new Sony "Sync Master" synchronizer easily offers you the greatest price and performance in the industry.

It also offers you a much greater range of features than the vast majority of synchronizers. Including an edit list capability of up to 200 edit points.

And it's the only synchronizer developed by both a professional audio/professional video manufacturer.

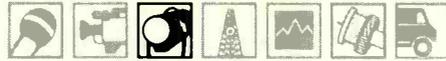
But the real reason for buying it is that it is upwardly compatible to the proposed SMPTE "Recommended



Practices for Digitally Controlled Equipment." Which means the interfacing problems between video, audio and film equipment will be problems of the past. This Sony "Sync Master" synchronizer has a built-in distributed intelligence network that makes it able to talk to an entire universe of diverse machines developed by diverse manufacturers.

So before you invest in a synchronizer that just solves today's problems, perhaps you should first examine the one that will also solve tomorrow's.

**SONY**  
Professional Audio.



### SUPPLIERS:

Anton/Bauer (3)✓; Arriflex (2,3)✓; A&S (2,8); Avab (2,7,8); Bardwell & McAlister (2-8)✓; Belden (5)✓; Bruel & Kjaer (2,4-7)✓; B-W Lightng (2-4,6-8)✓; Cinema Products (3)✓; Cinemijls (1,2)✓; Cine 60 (3)✓; Colortran (1,3-8)✓; Comprehensive Video (1,3,5,6,8)✓; Cool Light (1,3)✓; Desisti (1-8)✓; Electro Controls (7,8)✓; Electronics Diversified (7,8)✓; Fantasee Lighting (1-8); General Electric Lighting (1,3)✓; Great American(1-3,7)✓; Grosh (6); GTE Lighting (1)✓; Ideal (8); KB (3)✓; Kleinknecht (7); Kliegl (1,3,4,6-8)✓; Lee (1-8)✓; Lighting Methods (7,8)✓; Lowel-Light (3,6)✓; L.T.M. (2-4,6); Matthews (5,6)✓; Mole (1-8)✓; Olesen (1-3,5-8); Osram (1,2); Packaged Lighting (1,3-8)✓; Perrott (1)✓; Phoebus (2,3)✓; Rosco (5); Smith-Victor (1,3,5,6); Strand (4,7,8)✓; Teatronics (7,8); Theatre Service (4,6,7); Theatre Techniques (7); Theatrical Services (6)✓; TVI (3,4,7,8); VDO-PAK (3)

## B. Power Supplies

### TYPES:

- (1) Nicad batteries, chargers
- (2) Silver-zinc batteries, chargers
- (3) Lead-acid batteries, chargers
- (4) Power generators
- (5) AC power dividers
- (6) HMI ballasts
- (7) Ac/dc converters, inverters

### SUPPLIERS:

Alexander (1)✓; Alpha Tech. (3,7)✓; Anton/Bauer (1,2,7)✓; Bardwell & McAlister (1,6)✓; John Chiles (1,3)✓; Christie (1)✓; Cinema Products (1)✓; Cine 60 (1)✓; Colortran (1)✓; Comprehensive Video (1,7)✓; Desisti (6)✓; Fantasee Lighting (6); Film/Video Equipment (1,3)✓; Frezzolini (1)✓; G & M (1,5,7); Great American (6,7)✓; Hipotronics (voltage regulators)✓; Ikegami (1,2)✓; Image Devices (4); KB (1,3)✓; Lee (4,5,7)✓; Mole (4-7)✓; Motorola (1)✓; Nalpak (1)✓; North Wind (3,4,7); Onan (4)✓; PEP (1)✓; Perrott (1-3)✓; Portable Energy (1,3)✓; Strand (6)✓

## C. Camera/Microwave Support

### TYPES:

- (1) Tripods, heads
- (2) Pedestals
- (3) ENG braces
- (4) Dollies
- (5) Cranes, jibs
- (6) Camera stabilizing systems
- (7) Helicopter rigs
- (8) Remote pan/tilt systems

### SUPPLIERS:

Arriflex (1,5,6)✓; Bardwell & McAlister (1)✓; Bell Helicopter (7)✓; Birns & Sawyer (1); Broadcast Microwave (7,8)✓; Bush & Millimaki (1); Cinema Products (1,6,8)✓; Cine 60 (3)✓; Comprehensive Video (1,4)✓; Davis & Sanford (1,2,4)✓; Desisti (1,4,5)✓; Elicon (1,2,8)✓; ENG Helicopter (6,7); Enstrom Helicopter (7)✓; Alan Gordon (1)✓; Heitz (1,4)✓; Hughes Helicopters (7)✓; Image Devices (5); Innovative Television (1-4)✓; Javelin (8); KB (1,4)✓; Lee (4,5)✓; Listec (1-5,8)✓; Matthews (4,5,8)✓; MBB (7); Miller Professional (1,4); Nalpak (1,4)✓; O'Connor (1,2,4)✓; Quick-Set (1,2,4)✓; Rosco (2); Sachtler (1)✓; Smith-Victor (1)

## D. Teleprompters

### TYPES:

- (1) Monitor based
- (2) Scroll entry
- (3) Keyboard entry
- (4) ENG/EFP portable

### SUPPLIERS:

Beston (3)✓; CAT (1,3)✓; Cinema Products (2,4)✓; Compu-Prompt (1,3)✓; Listec (1-4)✓; Nalpak (2)✓; Q-TV (1-4); Telescript (1-3)✓

## E. Transportation Cases

### TYPES:

- (1) Foam insert
- (2) Padded nylon
- (3) Rack configuration
- (4) Editing/production consoles

### SUPPLIERS:

ABP Systems (1-4)✓; Anvil (1,3)✓; A&S (1,3,4); William Bal (1)✓; B-W Lighting; Calzone (1-4)✓; Cases Inc. (1,3)✓; Comprehensive Video (2,3)✓; Desisti (1)✓; Excalibur Industries (1,3,4)✓; Fiberbilt (1,3)✓; Innovative TV (1)✓; Kangaroo (2)✓; KB (2)✓; Media Concepts (1); Mobile-Cam (2)✓; Nalpak (1,3)✓; Parsons (1,3)✓; Porta-Brace (2,4)✓; Star Case (1-3); Telescript (1)✓; Thermodyne (1,3)✓; Viking (1,3,4)✓

## F. Set Design

### TYPES:

- (1) Modular news, studio sets
- (2) Scenery construction
- (3) Scenery rigging
- (4) Props, materials
- (5) Set design service

### SUPPLIERS:

Albrecht (3); Arben (1,2,4,5)✓; B-W Lighting (3); Fantasee Lighting (5); Fiorentino (5)✓; Gagnon (3); Graphic Express(1-5)✓; Great American (1)✓; Grosh (1-3); Janson (2-4); Osmond (2,3,5); Real World (5); Rosco (5); Stage (1,2,5,7,8)✓; Theatre Service (3,4); TVI (2-4)

## G. Studio Furniture

### SUPPLIERS:

ABP Systems✓; Arrakis✓; Broadcast Audio✓; B-W Lighting; Center Video; Delcom✓; Graphic Express✓; Grinnan; Microtrak✓; Radio Systems✓; Real World; Ruslang✓; Stantron✓; Ultimate✓

## H. Cabinets

### SUPPLIERS:

ABP Systems✓; Alpha Video✓; Amco✓; Comprehensive Video✓; Delcom✓; Emcor; Enclosure Corp.; Excalibur Industries✓; GKM; Graphic Express✓; Grasis; Grinnan; Mobile-Cam✓; Optima✓; PFB✓; Real World; Research Technology✓; Scientific-Atlanta✓; Soundolier✓; Stantron✓; Storeel✓; Wallach✓; Winsted✓

## I. Studio Consoles

### SUPPLIERS:

ABP Systems✓; Allied Broadcast; Alpha Video✓; Centro✓; Comprehensive Video✓; Delcom✓; Enclosure Corp.; Excalibur Industries✓; GKM; Graphic Express✓; Mark✓; PFB✓; Real World; Ruslang✓; Scientific-Atlanta✓; Stantron✓; Winsted✓

## J. Equipment Racks

### SUPPLIERS:

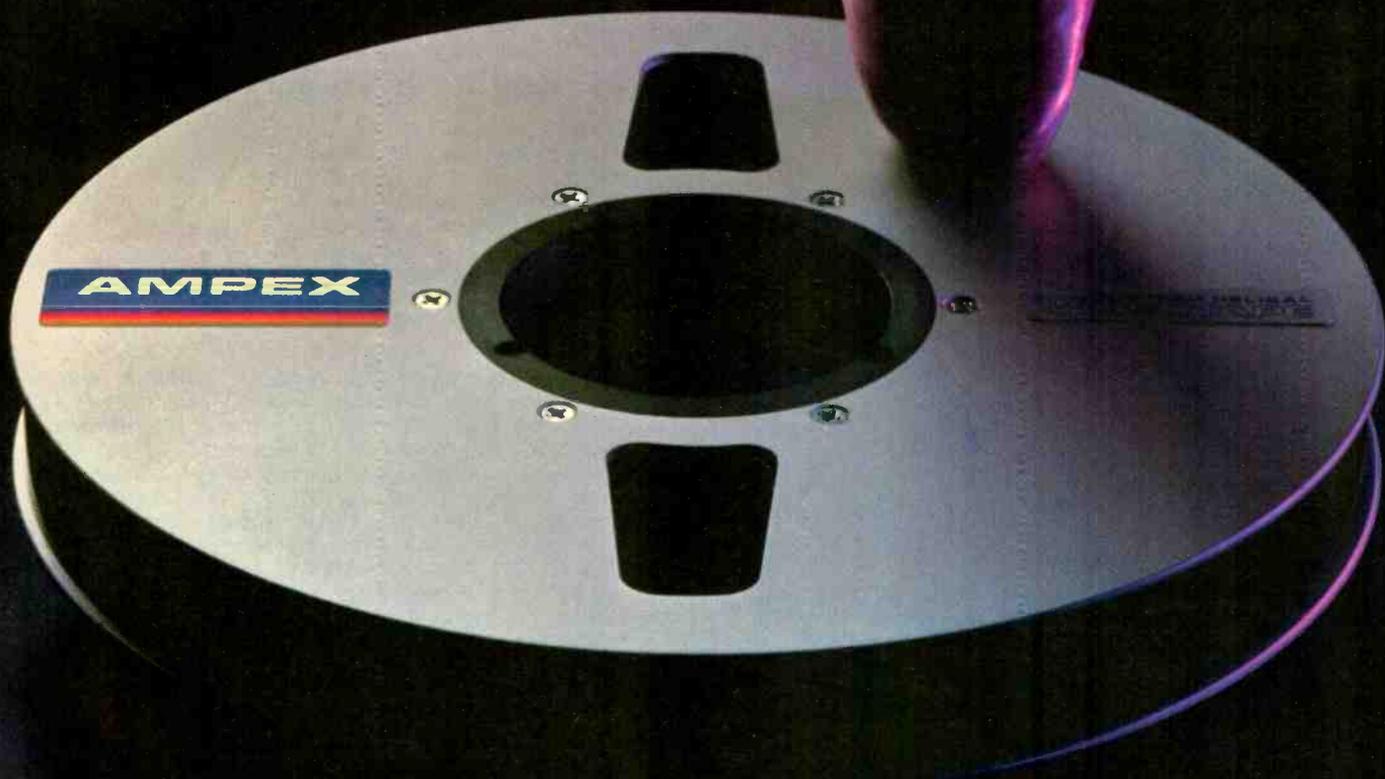
ABP Systems✓; Allied Broadcast; Alpha Video✓; Amco✓; B-W Lighting; Calzone✓; Cases Inc ✓; Centro✓; Comprehensive Video✓; Delcom✓; Emcor; Enclosure Corp.;

# BALANCE

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Excalibur Industries; GKM; Grasis; Grumman; Laird; Mark; Mobile-Cam; Omnimount; Optima; Packaged Lighting; PFB; Plastic Reel; Real World; Research Technology; Ruslang; Scientific-Atlanta; Soundolier; Stantron; Star Case; Viking; Wallach; Winsted

## K. Cart/Tape Storage

### SUPPLIERS:

Aristocart; Arrakis; Broadcast Cartridge Svce; Broadcast Supply; Calzone; Comprehensive Video; Excalibur Industries; Fidelipac; Micro-trak; Neumade; Research Technology; Ruslang; Wallach; Winsted

## TRANSMITTING/RECEIVING EQUIPMENT; SATELLITE SYSTEMS; ANTENNAS and TOWERS

## A. Transmitters

### TYPES:

- (1) AM
- (2) FM
- (3) VHF
- (4) UHF
- (5) LPTV
- (6) MDS
- (7) Translators

### SUPPLIERS:

Acrodyne (3-5); Bayly (2); Broadcast Electronics (2); Comark (3-5,7); Continental Electronic (1,2,5); CSI (1,2); Elcom Bauer (1,2); EMCEE (3-6); Harris (1-5); Information Transmission (4,6); Larcen (2-5,7); Loral (2); Marti (3,4); McMartin (1-4); Nautical (1); NEC (2-4); Philips (2-4); QEI (2); Radio Systems (1); RCA Broadcast (3,4); Rhode & Schwarz (1-4,7); Scala (7); Schaffer (2); Sitco (3-5); Swintek (2-4); Television Technology (3-5,7); Tepco (7); Townsend (3-7); Wilkinson (1,2)

 MEANS  
IT'S VERIFIED

## B. Exciters, Generators, Modulators

### TYPES:

- (1) AM exciters
- (2) AM stereo exciters
- (3) FM exciters
- (4) TV exciters
- (5) Stereo generators
- (6) Diplexers
- (7) Multiplexers
- (8) Modulators

### SUPPLIERS:

Bayly (3); Blonder-Tongue (8); Broadcast Electronics (2,3,5); Catel (5,8); Circuit Research (5); Coastcom (6); Comark (4,6-8); Continental Electronic (1-3,5-8); CSI (5); CSP (6); Dorough (5); Elcom Bauer (1,3); Elector (8); Harris (1-5); Information Transmission (4,8); Javelin (8); Kahn (2,5); Larcen (4); M/A-Com DCC (8); Magnavox (2); McMartin (1,3,5,8); Micro Communications (6,7); Micro Controls (3); Microdyne (8); Microwave Filter (6,7); Modulation Associates (6-8); Modulation

Sciences (5); Moseley (5); Motorola (2); Mu-Del (6); Nautical (1,2,5,8); NEC (3,5,7); Orban (5); Philips (3-7); Power Pak (3,5); QEI (3,5); RAD (7); RCA Broadcast (4,6); Re Instruments (5,7); Rohde & Schwarz (1-5,8); Scientific-Atlanta (4,8); Shively (6,7); Singer (3,5); Tau-Tron (7); Telease (8); Telemet (8); TFT (2,8); Townsend (4); UHF (8); Wegener (5); Wilkinson (1,3,5)

## C. RF Power Components

### TYPES:

- (1) RF amplifiers
- (2) RF tubes
- (3) RF attenuators
- (4) RF converters
- (5) RF filters
- (6) RF loads
- (7) RF switches

### SUPPLIERS:

Andersen (5); Barker & Williamson (5-7); Bird (3,5-7); Blonder-Tongue (15,6); Broadcast Electronics (1); Broadcast Microwave ((1)5); Calvert (1,2); Catel (1,4); Ceco (2); Coaxial Dynamics (3,5,6); Comark (1-7); Comprehensive Video (4,7); Continental Electronic (1,5-7); CSP (5-7); Delta Electronics (7); Dielectric (5-7); Dynatech (7); Econco (2); EEV (2,7); Electro Impulse (3,6); Freeland (2); International Microwave (1); ITT (7); Kay Elemetrics (3,7); Larcen (5); LNR (4); Magnecraft (7); Matrix Systems (3,7); McMartin (1,5); Micro Communications (5-7); Microwave Filter (5); Microwave Techniques (3,5-7); Mu-Del (1,3-5); Nautical (1); Philips (1,2); Power Pak (1); QEI (1); RAD (1,3,7); RCA Broadcast (1,2,5,7); RCA New Products (1,2); Richardson (1,2); Rohde & Schwarz (1,3,5); Shively (5-7); SWR (7); Telonic (3,5); Tepco (1,5); Texscan (3); Townsend (1,2,6,7); UHF (5); Varian/Eimac (2); Varian Microwave (1); Varian, Microwave Tube (2); Video Aids (1); Wavetek (3,5); Wide Band (1,5,7); Wilkinson (1)

## D. Fiberoptic Systems

### SUPPLIERS:

ADC; Anton/Bauer; Artel; BIW; Catel; GTE Communications; M/A-Com MVS; Quante; RCA New Products; Re Instruments; Siecor; Tau-Tron; Times; Valtec; Vamp; Western Telecommunications

## E. Satellite Systems

### TYPES:

- (1) Transmit/receive earth stations
- (2) Receive-only earth stations
- (3) Transportable earth stations
- (4) Upconverters, downconverters
- (5) LNAs
- (6) Encryption systems
- (7) MAC systems
- (8) Satellite network controllers

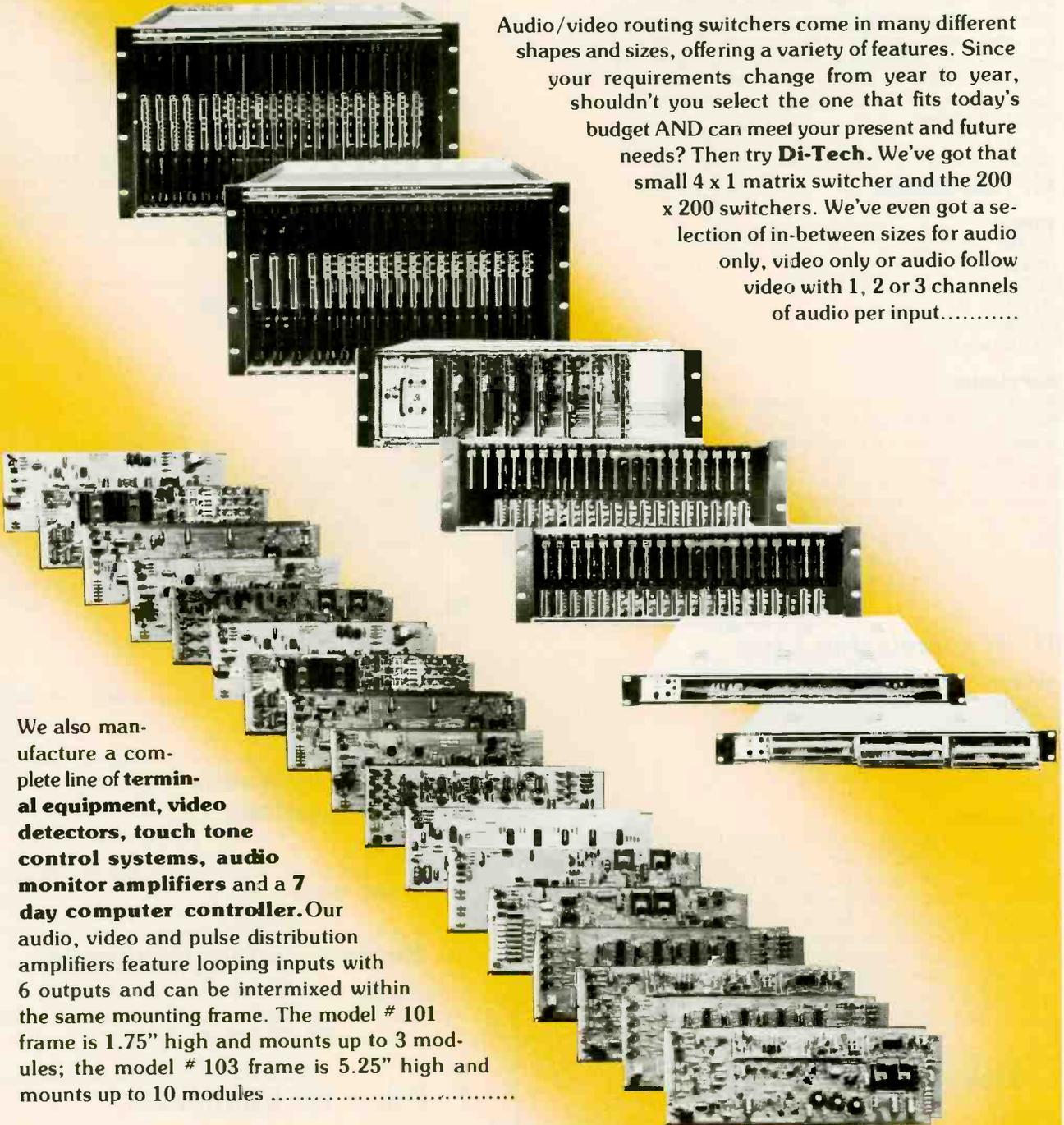
### SUPPLIERS:

Alcoa-NEC (2); Alden (2,3); American Uplinks (3); Andrew (1-3,8); Anixter-Mark (1-3); Antenna Tech. (2,5); ATT (1,2); Automation Techniques (2); Avantek (2,5); Broadcast Microwave (2); California Microwave (1-3,6); CAT (8); Coastcom (1); Comark (1); Comtech (1-3); Comtech Data (4,5); Dalsat (3); Dexcel (2,4,5); Digital Video Systems (6); Gabriel (2); Gardiner (2,5); Harris Corp. Satellite Communications (1-8); Intervideo (1-3); LNR (1); M/A-Com DCC (1,2); M/A-Com MVS (2); Microdyne (1); Microprobe (8); Modulation Associates (1,2,4,8); Moore (2,3); Oki (2); Pinzone (1-6,8); Prodelin (2); RF Technology (5); Rscan (2); Satcom (1,2); Schaffer (2,3); Scientific-Atlanta (1-3,5-8); Standard Communication (2,4,5); Telease (6); TFT (8); Townsend (1,2); Wegener (1,2,4,6,8); Winegard (2)

## F. Microwave Systems

# Imagine The Features That Will Answer Your Present And Future Needs ... Then Call **Di-Tech**

Audio/video routing switchers come in many different shapes and sizes, offering a variety of features. Since your requirements change from year to year, shouldn't you select the one that fits today's budget AND can meet your present and future needs? Then try **Di-Tech**. We've got that small 4 x 1 matrix switcher and the 200 x 200 switchers. We've even got a selection of in-between sizes for audio only, video only or audio follow video with 1, 2 or 3 channels of audio per input.....



We also manufacture a complete line of **terminal equipment, video detectors, touch tone control systems, audio monitor amplifiers** and a **7 day computer controller**. Our audio, video and pulse distribution amplifiers feature looping inputs with 6 outputs and can be intermixed within the same mounting frame. The model # 101 frame is 1.75" high and mounts up to 3 modules; the model # 103 frame is 5.25" high and mounts up to 10 modules .....

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# di-tech

our **NEW**, bigger location:  
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**DEER PARK, N.Y. 11729**  
**TEL. # (516) 667-6300**

**TYPES:**

- (1) Intercity
- (2) Portable ENG
- (3) Airborne
- (4) Central receivers
- (5) SMATV systems

**SUPPLIERS:**

Andrew (1)✓; Anixter-Mark (1,2); Blonder-Tongue (5); Broadcast Microwave (1-4)✓; Cablewave (1)✓; Comark (1)✓; Commerce Airborne (3); Gardiner (4)✓; GTE Communications (1); Harris Microwave (1,2,4)✓; Hughes Microwave (1,5)✓; Ikegami (2)✓; International Microwave (1,2,4)✓; Lang (2); Loral (1-4); M/A-Com MVS (1-4)✓; Marti (1-4)✓; NEC (2)✓; Nurad (1-4)✓; RF Technology (1-4)✓; Telonic; TFT (1,4)✓; Townsend (1-5)✓

## G. Antennas

**TYPES:**

- (1) AM
- (2) FM
- (3) TV HP
- (4) TV CP
- (5) Communications
- (6) Antenna tuning units

**SUPPLIERS:**

Alford (2,3); Andrew (3-5)✓; Anixter-Mark (5); Antennas for Comm. (5)✓; Barker & Williamson (5); Bogner (2-5)✓; Broadcast Electronics (2)✓; Celwave (2)✓; Cetec (2-4)✓; Comark (2-4,6)✓; Continental Electronic (1,2,6)✓; CSI (6)✓; Dielectric (2)✓; Elcom Bauer (6)✓; Grumman (6); Harris (1-4)✓; Johnson (2); Leblanc & Dick (1-6); Marti (5)✓; McKay (1,5); Micro Communications(2-5)✓; Nurad (4)✓; Old Dominion (6); RCA Broadcast (2-4)✓; Satcom (5)✓; Scala (2,3,5); Shively (2-4,6); SWR (2-4); Telex (5)✓; Tennaplex (2-6)✓; Townsend (3,4)✓

## H. Transmission Line

**TYPES:**

- (1) Rigid
- (2) Foam dielectric
- (3) Coaxial
- (4) Power dividers
- (5) RF connectors

**SUPPLIERS:**

ADC (5)✓; Alpha Wire (2,3); Anixter-Mark (2); AVA (5); Broadcast Systems (2,3)✓; Cablewave (2,5)✓; Calvert✓; Celwave (1-5)✓; Comark (3-5)✓; CSP (4); Daburn (2,3); Dielectric (1,3,4)✓; Leblanc & Dick (1,3-5); Marti (2,4,5)✓; Matrix Systems (3,4); Micro Communications (1,3-5)✓; Microwave Filter(3)✓; Microwave Techniques (1,3-5)✓; Motorola (1-3)✓; Pinzone (1-5)✓; RCA Broadcast (1,5)✓; RCA D&SPD (5)✓; Scala (4); Scientific-Atlanta (3,4)✓; Shively (1,3-5); SWR (1); Times (3,5); Townsend (1-5)✓; Trompeter (3,5)✓; Wide Band (4)✓

## I. Towers

**TYPES:**

- (1) Tower masts
- (2) Tower rigging, hardware
- (3) Tower lighting

**SUPPLIERS:**

Allied Tower (1-3); Andrew (1-3)✓; Atlas Tower (1-3); Comark (1-3)✓; Copper Weld (2)✓; EG & G (3)✓; Flash Technology (3)✓; Grasis (1,3); Hughey & Phillips (3); Kline (1-3); Leblanc & Dick (1-3); Magnum (1-3); Microflex (1-3)✓; Moore (1);

Northwind (1); N-Pro (hydraulic ENG vehicle masts)✓; NUDD (1-3); Osborne (1)✓; Philadelphia (2); Rohn (1-3); Stainless (1)✓; Swager (1-3); Telex (1)✓; Tri-ex (1-3)✓; Utility Tower (1-3); Will-Burt (1,3)✓; World Tower (1)✓

## J. Transmitter Remote Control Systems

**SUPPLIERS:**

CAT✓; Coastcom; Comark✓; Continental Electronic✓; Delta Electronics; Hallikainen✓; Harris✓; M/A-Com MVS✓; Marti✓; Microdyne✓; Monroe✓; Moseley✓; Potomac✓; QEI✓; Soll; Telfax✓; TFT✓

## K. STLs, TSLs

**SUPPLIERS:**

Andrew ✓; Artel✓; Avantek; Bayly✓; Broadcast Microwave✓; Cablewave✓; GTE Communications; Harris✓; Hughes Microwave✓; International Microwave✓; Loral; M/A-Com MVS✓; Marti✓; Micro Controls✓; Modulation Sciences✓; Moseley✓; Nurad✓; Telemet; TFT✓; Townsend✓

## L. SCA Equipment

**TYPES:**

- (1) AM/FM
- (2) TV
- (3) Terminals

**SUPPLIERS:**

Broadcast Electronics (1,2)✓; Circuit Research (1)✓; Continental Electronic (1,2)✓; CSI✓; Emergency Alert (4)✓; Harris (1)✓; Johnson (1,3); Marti (1,3)✓; Micro Controls(1)✓; Modulation Sciences (1,3)✓; Moseley (1,2)✓; Philips(1,3)✓; TFT (1-3)✓; Townsend (3)✓; Wegener (1)✓; Wilkinson (1)✓

## M. Slow-Scan Transmitters/Receivers

**SUPPLIERS:**

American Laser✓; Colorado Video; Interand✓; NEC✓; Schaffer

## N. Two-Way Radio Communications

**SUPPLIERS:**

Bayly✓; Circuit Devel.; Comsearch✓; Marti✓; Motorola✓; R-Columbia✓; Wavetek

## O. Remote Pickup Equipment

**SUPPLIERS:**

Flash Technology; M/A-Com MVS✓; Marti✓; Moseley✓; Motorola✓; Nurad✓; Old Dominion

## P. Other RF Equipment

**SUPPLIERS:**

American Laser✓; Broadcast Systems (prewired input & monitoring system)✓; Coastcom (program subcarrier systems); Com-Tek (Receive-a-Cue RF cuing system)✓; CSP (AM sampling systems); Delta Electronics (DA, ATS equipment); Elector✓; Electro Impulse (baluns)✓; EMCEE (ITFS transmitter)✓; Flash Technology (photoelectric controls); GTE Communications (CATV transmission equipment); Harris Satellite Communications (satellite audio, video, and data

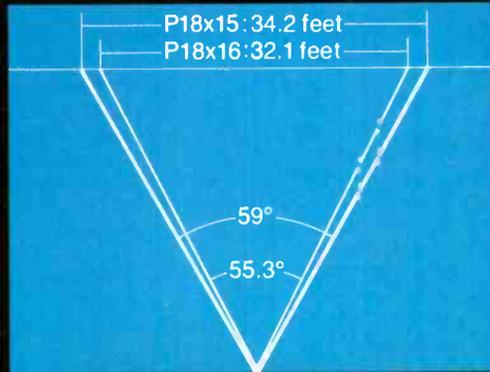
# New Standards

## The Widest Angle, The Highest Performance

Canon engineers have done it again, advancing the optical state-of-the-art so far forward that new standards must be considered.

The Canon P18 x 15 BIE offers the widest angle of any broadcast television zoom lens: 59° plus incredible edge-to-edge sharpness, fidelity and sensitivity throughout its 18X range.

Every one of these superb lenses will be supplied with both 1.5X and 2X built-in extenders and a pattern projector. Options include manual, semi-servo or full servo operation.



The Canon P18 x 15 is the most versatile studio lens ever made, setting new standards for years to come.

### P18 x 15 BIE F2.1 for 30mm Cameras\* KEY SPECIFICATIONS

- Focal length: 15-270mm
- Max. Relative Aperture: 1:2.1 (15-218mm)
- Aperture: 1:2.7 at 270mm
- Angular Field of View: 59° x 45.8° at 15mm
- 3.6° x 2.7° at 270mm
- Minimum Object Distance: 0.6 meter (2 feet)

\* Also available: PV18 x 11 BIE F1.6 for 25mm Cameras



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Circle 126 on Reader Service Card



exciters and receivers, TV channel modulators)✓; Johnson (SCA dual subchannel manual & remote switching); Kahn (low frequency extenders)✓; Kaitronics (satellite switchers, cable & teleconferencing switchers)✓; Kay Industries (rotary phase converters for radio & TV transmitters)✓; LNR (LNRs & frequency converters); Micro Controls (switching units, power amps, FM repeaters)✓; Microwave Filter (interference suppression filters)✓; Modulation Associates (video subcarrier equipment)✓; Potomac (modulation & power controllers)✓; Radio Systems (low-power AM coupler)✓; RCA Broadcast (filter plexers, notch diplexers, Magic Tee, vestigial sideband filters, harmonic filters, CB multiplexed antennas)✓; Richardson (RF power transistors & semiconductors); Shively (directional couplers, AM/FM iso couplers, reflectometer display units); Singer (SCA generators)✓; Sitco (CATV & MATV antennas); Sphere (satellite mixers); Superior (power line conditioners)✓; Telease (scrambling/descrambling systems for pay-TV, DBS, CATV)✓; Wavetek (microwave signal generators & sweep generators); Wavetek Rockland (frequency synthesizers); Wide Band (RF detectors, sweep amplifiers, comparators)✓; Winegard (MATV equipment)

## TEST & MEASUREMENT, LOGGING, TIMING

### A. Audio T&M

#### TYPES:

- (1) Audio test signal generators
- (2) Harmonic distortion meters
- (3) IM meters
- (4) Spectrum analyzers
- (5) Real time analyzers
- (6) Wow & flutter meters
- (7) Other audio T&M equipment

#### SUPPLIERS:

Advancing Technology (7)✓; Amber (1-3)✓; Anritsu (7)✓; Asaca (1,2)✓; Audisar (4,7); Bald Mountain (1)✓; Barker & Williamson (2); Cetec Ivie (1,4); Comprehensive Video (1,6)✓; Crown (4,5)✓; Fidelipac (6,7)✓; Finntek (1); Frequency Devices (1); Heath (2); Inovonics (5,7)✓; Interplex (1)✓; Kay Elemetrics (1,4,5)✓; Klark-Teknik (4)✓; Leader Instruments (1,2,6)✓; Modular Audio (1); NEI (5)✓; Neutrik (1,2); Polarad (4); Potomac (1-3,6)✓; Re Instruments (2-4,6); Rohde & Schwarz (4)✓; Schaffer (4); Sencor (1); Sound Technology (1-3,6,7); Spectra Sonics (1); Tektronix (1,2,4,7)✓; Texscan (4)✓; Ward-Beck (1)✓; Wavetek Rockland (4); Xedit (6)

### B. Video T&M

#### TYPES:

- (1) Video test signal generators
- (2) Waveform monitors
- (3) Vectorscopes
- (4) Combination waveform/vectorscopes
- (5) Blanking width meters, displays
- (6) Burst phase meters
- (7) Diff. gain/phase meters
- (8) Video noise meters
- (9) Automatic VITS analyzers
- (10) Other video T&M equipment

#### SUPPLIERS:

A.F. Assoc. (5)✓; Amtel (3)✓; Amtron (1)✓; Anritsu (1,2,7-10)✓; Anton/Bauer (10)✓; Asaca (1,8,9)✓; AVL (1)✓; Broadcast Video (2-5)✓; Colorado Video (2)✓; Comprehensive Video (1-3)✓; Data Precision (2); Elector (1)✓; Finntek (1); Fiorentino (TV monitor calibrator)✓; For-A (1)✓; Glentronix (10); Grass Valley (sch meters, Isophaser timing system)✓; Grumman (10); Heath (3); Hedco (10)✓;

Hewlett-Packard (7)✓; Hitachi (2-4,10)✓; Leader Instruments (1-3)✓; Lechrotech (3); Leitch (1,10)✓; Lenco (8,10)✓; Marconi (5)✓; Minolta (10)✓; Multidyne (1)✓; Nalpak (10)✓; NTI (1); Philips Test & Measuring (2,3,9)✓; Pinzone (2)✓; Porta-Pattern (10)✓; Rohde & Schwarz (1,2,7-10)✓; Sencor (1); Sony (1)✓; Tektronix (1-4)✓; Telemet (1); Video Aids (6); Videotek (2,3)✓; Visual Information (1)✓; Wavetek (1)

### C. RF T&M

#### TYPES:

- (1) Demodulators
- (2) Modulation monitors
- (3) Antenna monitors
- (4) Field intensity meters
- (5) Sideband analyzers
- (6) RF power meters, wattmeters
- (7) RF calorimeters
- (8) Frequency monitors, controllers
- (9) RF test signal generators
- (10) Impedance bridges
- (11) Phase meters
- (12) Other RF T&M equipment

#### SUPPLIERS:

Alcoa-NEC (1)✓; R.B. Annis (4)✓; Anritsu (4,6,9,10,12)✓; Barker & Williamson (6); Belar (1,2,8)✓; Bird (6,7,12)✓; Boonton (2,6,9,10); CAT✓; Circuit Devel. (6); Coaxial Dynamics (6-8)✓; Comark (1-12)✓; Control Concepts (12); Delta Electronics (3,9,10); Digimax (8); Elector (1)✓; Electro Impulse (6,7)✓; Fluke (9)✓; Glentronix (5); Heath (8); Hewlett-Packard (2,5,8,9,10,11)✓; Hipotronics (6)✓; Interplex (9)✓; Kay Elemetrics (9)✓; Lectrotech (8); McMartin (2,4)✓; Modulation Sciences (1)✓; Keith Monks (10,11); Philips T&M (1)✓; Polarad (4,9,12); Potomac (1,3,4,9,11)✓; QEI (2)✓; QSI (1)✓; Re Instruments (2,9); Rohde & Schwarz (1,2,4-6,8-11)✓; Scientific-Atlanta (1)✓; Sencor (10); Sennheiser (10)✓; Systron (8,9); Tektronix (1)✓; Telemet (1); Telonic (10); Texscan (9,10)✓; TFT (1,2)✓; Wavetek Rockland (5); Wide Band (10,12)✓



### D. General T&M

#### TYPES:

- (1) Oscilloscopes
- (2) Delayed sweep scopes
- (3) Voltmeters
- (4) Multimeters
- (5) dB meters
- (6) Logic analyzers
- (7) Other general T&M equipment

#### SUPPLIERS:

Anritsu (6,7)✓; Audio Tech. (5)✓; Bald Mountain (5)✓; Boonton (3); Bruel & Kjaer (3,5)✓; Coaxial Dynamics (digital frequency meters)✓; Comark (1,2)✓; Comprehensive Video (1,3,4)✓; Data Precision (3,4); Fluke (3-5)✓; Heath (1,3,5); Hewlett-Packard (1,3-6)✓; Hitachi (1,2,4,6)✓; International Instruments (3,5); ITT (3)✓; Leader Instruments (1-4)✓; Lectrotech (1); Marshall Claude (1,3,4,6); Philips T&M (1,6)✓; Porta-Pattern (7)✓; Rohde & Schwarz (1-6)✓; Scott Instrument (5)✓; Sencor (1,4,5); Tektronix (1,4,6)✓; Texscan (1,3)✓; TM (5); Valley People (5)✓; Wavetek (1)

### E. Logging, Monitoring

#### TYPES:

- (1) Tape-based loggers



# Optimod / op'tə-mod /

**Op-ti-mod** *n* [ $\triangleright$ Early Orbanian; deriv. of *optimum modulation*]

1. A broadcast audio processor built by Orban Associates to the highest standards of quality and reliability, incorporating patented circuitry to achieve a cleaner, brighter, louder airsound.

2. OPTIMOD-AM, Model 9100A; a high fidelity stereo or mono processor which achieves extraordinarily natural audio quality along with high loudness, remarkable source-to-source consistency, and FM-like brightness.

3. OPTIMOD-FM, Model 8100A/1 compressor/limiter/stereo generator; the industry's dominant choice for optimum FM processing, with or without the optional Studio Chassis and Six-Band Limiter Accessory Chassis.

4. OPTIMOD-TV, Model 8182A; a stereo processor that brings TV audio processing into the '80's by combining Orban's artifact-free multiband gated compressor with our clean "Hilbert Clipper" peak limiter and the commercial-taming CBS Loudness Controller.

5. OPTIMOD; a registered trademark.

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# One **SPIKE** Can Cost DOWNTIME!

Overvoltage transients can bring the biggest installation down in a microsecond, or damage it cumulatively.

Surge-Master Heavy Duty Power Line Protectors give complete protection against all transients.

All audio and video transmission equipment is vulnerable to transients on AC power lines caused by heavy motors starting up (even elevators or testing your auxiliary power system), power company load adjustments—and of course, lightning. Even if your equipment operates from batteries charged by a UPS, you're not safe. If lightning knocked out your UPS, how long could you keep going?

The MCG Surge-Master offers two stage protection. The first reacts in nanoseconds to absorb lesser transients and the leading edges of major ones. The second stage absorbs the big ones, and has three modules on each line. So, in the unlikely event that one module should be knocked out, there are still two protecting you. And a system of indicator lights tells you not only when a fault has occurred, but exactly where it is. Modular construction (and the fact that Surge-Master is connected in parallel) makes replacement of damaged modules quick and easy. Initial installation requires minimal power interruption.

Available with capabilities from 100 to 3000 amps; for 120, 240 and 480 VAC; and for single, 3-phase, wye and delta power systems. MCG also manufactures smaller units for protecting individual pieces of equipment. To learn more, contact Department 3107 at 516/586-5133 or at the address below.

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Circle 128 on Reader Service Card



- (2) Log printers
- (3) Chart recorders
- (4) Automatic TV monitors
- (5) Automatic radio monitors
- (6) Status/alarm indicators

#### SUPPLIERS:

Accurate Sound (1)✓; Bruel & Kjaer (3)✓; CAT (2,6)✓; CSI (6)✓; Delta Electronics (6); Dictaphone (1); Di-Tech (6)✓; Magnasync (1)✓; Nagra (1)✓; QSI (1)✓; Rohde & Schwarz (2-4,6)✓; Stancil (1)✓; Telex (1)✓; TFT (2,6)✓; Video Aids (6)

## F. Clocks, Timing

#### TYPES:

- (1) Digital clocks
- (2) Timers
- (3) Complete clock/timing systems

#### SUPPLIERS:

Amtel (1-3)✓; Audio Metrics (2)✓; Beaveronics (3)✓; Broadcast Aids (1,2)✓; Broadcast Audio (1)✓; Channelmatic (1-3)✓; Chrono-Log (1-3)✓; EEV (1)✓; ESE (1-3)✓; Evertz (1-3)✓; For-A (1-3)✓; Glentronix (3); Kinometrics (1,3)✓; Lauderdale (1,2); Leitch (1,3)✓; Logitek (2)✓; McCurdy (1,3)✓; Microprobe (3)✓; Odetics (1,3); Radio Systems (1,2)✓; Torpey (1-3)✓

## G. Other T&M, Logging, Timing Equipment

#### SUPPLIERS:

Bowen Bdcst. (computerized maintenance system); Bush & Millimaki (tricolor video collimator); Delta Electronics (meter jacks & plugs); Hallikainen (transmitter logging systems)✓; Marconi (insertion signal analyzer)✓; Potomac (data acquisition & logging system)✓

## COMPONENTS, HARDWARE

### A. Wire, Cable, Connectors

#### TYPES:

- (1) Audio cable
- (2) Video cable
- (3) Lighting/ac cable
- (4) Cable connectors
- (5) Jackfields, patch panels

#### SUPPLIERS:

ADC (4,5)✓; Alpha Wire (1-5)✓; AMP (4)✓; Audio Accessories (5); Belden (1,2)✓; BIW (1-4)✓; Brand-Rex (1-3)✓; Calvert (1,2)✓; Canare (1,2); Chester Cable (1,2)✓; Comprehensive Video (1,2,4)✓; Connect-Air (1-4); Connectronics (1,2,4,5)✓; Daburn (1,2); Desisti (3)✓; Fantasee Lighting (3); Glentronix (5); Ideal (1,3,4), KB (2,4)✓; Landy (2,4,5); Lemo (4,5); Matrix Systems (5); Mobile-Cam (2)✓; Mole (3,4)✓; Nalpak (1-3)✓; Neutrik (1,4); Olesen (3,4); Potomac (5)✓; RAD (5); Shure (1)✓; Sigma (2,4)✓; Spectra Sonics (1); Switchcraft (4,5); Theatre Techniques (5); Tri-ex (3)✓; Trompeter (2,4)✓; TVI (3,5); Union Connector (3-5)✓; Whirlwind (1,5); Wireworks (1,2,4,5)

### B. Tools

#### SUPPLIERS:

Comprehensive Video✓; Ideal; Jensen; Marshall Claude;

**BOSCH****FGS 4000**

# UPDATE

V I D E O G R A P H I C S Y S T E M

## The FGS-4000 Produces Unsurpassed Video Image Quality

**I**s it presumptuous for us to suggest that the pencil is passé? The brush a bygone? To the traditional graphics designer, perhaps yes. To the video graphics designer, not really. But regardless of tradition, the designer with the most adequate tools can best implement his imagination. And those tools come from Bosch.

*“It gives unlimited capability to design, generate, modify and manipulate two- and three-dimensional objects in three-dimensional space.”*

Our reason for developing the FGS-4000 was really very simple. We wanted to give the graphics artist more freedom. To give him wings for flights of fancy. To give him a better way to unleash his energy. More than a character generator or electronic paint set, the FGS-4000 is a tool for handling objects in a very real and natural way.

This is not a one-button special effects box. The FGS-4000 is one of many electronic tools that has helped Bosch set or raise industry production standards. But while our products are based on the computer, they are built for the designer. In fact, they do not reach the market

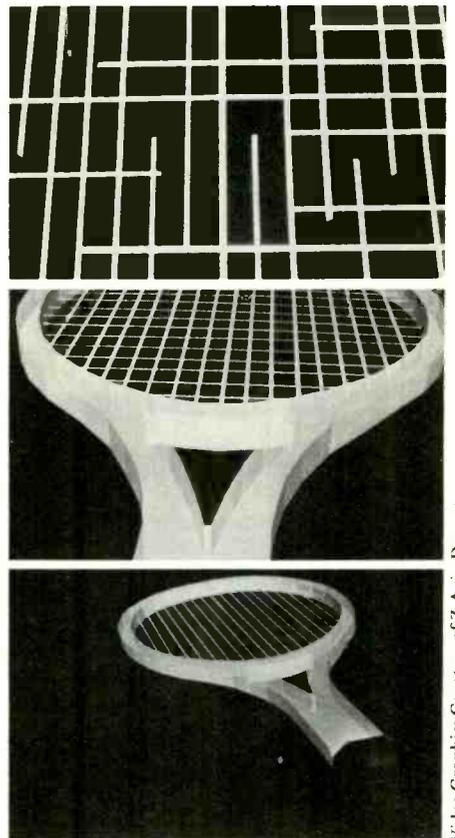
until they are tested and proven by artists for artists.

Since this is a software-based system, the FGS-4000 comes with a future. As new software applications are developed over time, they will find a home in Bosch hardware. To the graphic designer in the video environment, that means the system will grow with *you* as well as with the industry. It means the system provides an unlimited capability to design, generate, modify and manipulate two- and three-dimensional objects in three-dimensional space.

The FGS-4000's image quality is exceptional. It is characterized by apparent resolution in 10 nanoseconds. There are no stair steps, breaking or tearing of edges when scaling, positioning or rotating objects. Images are completely recreated and anti-aliased at each frame, and appear virtually perfect at beginning and ending frames, and at every one in between. In fact, images produced by the FGS-4000 are indistinguishable from camera-entered graphics.

Bosch will help you get your hands on the FGS-4000 picture. We will train you in our new, fully-equipped facility. We will teach you both fundamental and advanced operating skills to help you free the visual images still locked in your imagination. You will work on a video graphics system so limitless that wonders become realities at your command.

How do you get your hands on the FGS-4000? Call (801) 972-8000. Or write to Video Equipment Division, Robert Bosch Corporation, P. O. Box 31816, Salt Lake City, Utah 84131.



Video Graphics Courtesy of Z-Axis, Denver

Image entry on the FGS-4000 is easy. You can generate and manipulate images, establish animation sequences, play them back in real time, and produce special effects such as transparency, light source and perspective.

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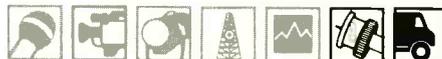
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## C. Vacuum Tubes

### SUPPLIERS:

Comark; Econco; EEV; Motorola; RCA D&SPD; Thomson-CSF Components; Thor; Westinghouse

## D. Solid State Components

### SUPPLIERS:

Apert-Herzog; Motorola; RCA D&SPD; Thor

## E. Rectifiers

### SUPPLIERS:

Dahl; Delta Electronics; EEV; Motorola; Thor; Wilkinson

## F. Capacitors

### SUPPLIERS:

ITT; Motorola; Surcom

## G. Transformers

### SUPPLIERS:

R.B. Annis; Audisar; Dahl; LEA; Long; Microtran; Mole; Motorola; Neutrik; Opamp; Racal; Sescom; Superior; Topaz; Vamp

## H. Surge Protectors

### SUPPLIERS:

Comark; Dahl; EEV; LEA; MCG; Motorola; RCA D&SPD; Stainless; Superior; Thor; Topaz; Wilkinson

 **MEANS  
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## I. Hum Bucking Coils

### SUPPLIERS:

ADC; Allen Avionics; Broadcast Video; Vamp

## J. Other Components, Hardware

### SUPPLIERS:

Bally Case; Comprehensive Video; EEV; LEA; Microwave Techniques; Mobile-Cam; Modular Audio; Mole; Oak; Tennaplex; Tiffen; Topaz

## SERVICES

### A. Video Production Facilities (Stage/Studio Rental)

### SUPPLIERS:

A&G; Burbank Studios; Carleton; Channel One; Chicago

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## B. Mobile Production Facilities Rental

### SUPPLIERS:

A&G; All Mobile; A/T Scharff; AVT; Bay Area Mobiletape; Best Audio; Carleton; CCR; Center City; Channel One; Chaton; Chicago Video; Chronicle; Clarion; Clearwater; Communications Altatec; Compact Video; Creative Technology; Crowe Prods.; Devlin Prod.; Dickinson; Digital Video Prod.; Editel/Chicago; Editel/L.A.; Editel/N.Y.; E-N-G; ESPN; Eureka Teleproductions; Excalibur Video; Fax Prod.; First Communications; GBH Prod.; General Television; Global Associates; Golden West; Hawaii Prod.; Image Resources; Jefferson Pilot; Kartes; KQED; KTVY; Lodes/Peterson; Louisville Prod.; LRP; Matrix; Mobile Video Prod.; Mobile Video Services; Modern; Multivision; National Video Center; Nautilus; NET; Niles; Northeast; Northwest Communications; One Pass; Opryland; Polycom; Producers Color; Professional Video; Reeves; Rimity; Roscor; Scene Three; Skaggs; Starfax; Sullivan; Sundance; Sunrise; Tele-Image; Telemation; Television Associates; Third Coast; TPC; Tritronics; Turner; UAB; Unitel; Varitel; VCA; Versatile; Vidcom; Videocom; Video One; Videosmith; Video West; WGN; Wickerworks; Windsor; WKYT; Wold; WPHL; YES

## C. Video Post-Production Facilities

### SUPPLIERS:

A&G; Allied Video; Audio-Video; Broadway Video; Carleton; CCR; Center City; Center Video; CSI; Channel One; Chicago Video; Chronicle; Cinetronics; Color Film; Columbia Video; Communications Altatec; Compact Video; Creative Technology; Devlin Prod.; Dickinson; Digital Video Prod.; DuArt; Editel/Chicago; Editel/L.A.; Editel/N.Y.; ESPN; Eureka Teleproductions; Excalibur Video; Fax Prod.; First Communications; GBH Prod.; General Television; Global Video; Golden West; Hawaii Prod.; HBO Prod.; Image Resources; Image Transform; Intercontinental; International Prod.; Jamieson; Jefferson Pilot; Jones; J.S.L.; Kartes; KQED; KTVY; KVIE; Line One; Lodes/Peterson; Louisville Prod.; LRP; Magnasync; Matrix; Metrotape; Mobile Video Prod.; Mobile Video Services; Modern; MPCs; Multivision; National Video Center; National Video Industries; Nautilus; NET; Nexus; Niles; Northeast; Northwest Communications; One Pass; Opryland; Osmond; Pacific Coast; Palmer; Polycom; Post Group; Prime Time; Producers Color; Production Center; Professional Video; Pyramid; Quicksan; RCA Americom;



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## D. Recording Studios

### SUPPLIERS:

American Image; A/T Scharff; Audio-Video; Carleton; Chaton; Columbia Video; Continental Recordings; Dickinson; Eureka Teleproductions; General Television; Hawaii Prod.; JAM Prod.; Jamieson; JBS; KTVY; McManus; National Video Center; Omnibus; Osmond; Palmer; Peters; Shintron; Sonar; Unitel; Westec; Westlake; Windsor



## E. Audio Post-Production Facilities

### SUPPLIERS:

Audio-Video; Best Audio; Carleton; CCR; Chaton; Continental Recordings; Corelli; Dickinson; General Television; Hawaii Prod.; Jamieson; JBS; KVIE; Matrix; McCurdy; McManus; Multivision; One Pass; Osmond; Peters; Scene Three; Sullivan; Vamp; VCA; Video Post; Westec; Westlake; Windsor

## F. Equipment Rental Services

### SUPPLIERS:

A&G; All Mobile; A/T Scharff; Audiotechniques; Audio-Video; AVC; Barbizon; Barrett; Best Audio; Black's; Camera Mart; Carleton; Center Video; Columbia Video; Communications Altatec; Compu-Prompt; Dickinson; Digital Entertainment; Duncan; ENG Helicopter; First Communications; Fitzco; General Television; Glentronix; Gray Communications; Image Devices; Image Magnification; Interand; Jamieson; Keylite; KVIE; Laumic; Leader Broadcast; Leasametric; Microwave Filters; Matthew Miller; Mitsubishi; MPCS; Multivision; Nautilus; Netcom; New England; Old Dominion; One Pass; Osmond; Palmer; Professional Products; Radio Systems; Rees; Roscor; Rosenberg; Satelleas; Schaffer; Solid Electronics; Sonar; Sprague; Telemation; Television Associates; Theatre Vision; Tritronics; TVI; Vidcom; Westec; Westlake; Windsor; WKYT

## G. Facilities Design and Engineering Services

### SUPPLIERS:

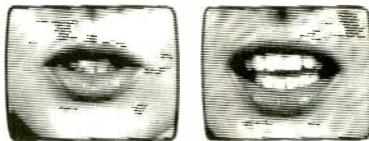
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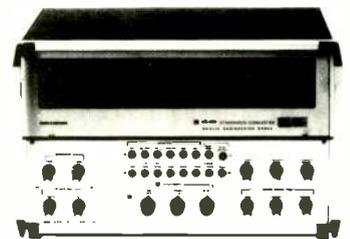
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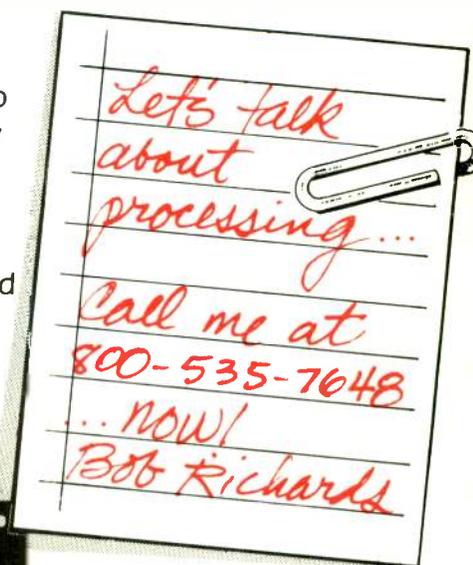
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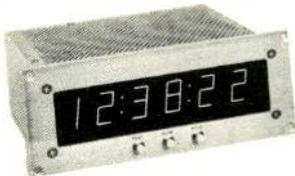
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## H. Set/Studio Design Services

### SUPPLIERS:

A&G; Broadcast Systems✓; Carleton✓; CAT✓; Center Video; Centro✓; Columbia Video; Delcom✓; Desisti✓; Fiorentino✓; First Communications✓; General Television; Jamieson✓; Graphics Express✓; McCurdy✓; Milam; MPCs✓; Osmond; Real World; Ross American✓; Tele-Measurements; Television Engineering✓; TVI; Uni-Set; Windsor

## I. Engineering Consultants

### SUPPLIERS:

A.F. Assoc.✓; American Uplinks; AT&T✓; Black's✓; Broadcast Aids✓; Broadcast Systems✓; Broadway Video✓; Richard Burden; CBX✓; Centro✓; Commerce Airborne; Compucon✓; Comsearch✓; Control Technology; Dalsat; Delcom✓; Dickinson; Drake-Chenault; Dyma✓; East Coast Video; Fiorentino✓; Fitzco; General Television; Grinnan; Hubbard✓; Jamieson✓; Kavco✓; LEA✓; Marcom; Matrix Systems; McManus; Micro Communications✓; Microwave Filters✓; Matthew Miller✓; MPCs✓; Netcom✓; Old Dominion; RAD; Radiotechniques; RAM✓; Real World; Rees✓; Roscor✓; Rosner; Soll; Spectrum; Tele-Measurements; Television Engineering✓; United Media✓; Vamco; VCA✓; Video Post✓; Westec; Windsor

## J. Financial Consultants

### SUPPLIERS:

ABP Systems✓; A.F. Assoc.✓; Broadcast Systems✓; Jamieson✓; United Media✓

## K. Earth Station/Microwave Site Selection, Frequency Coordination

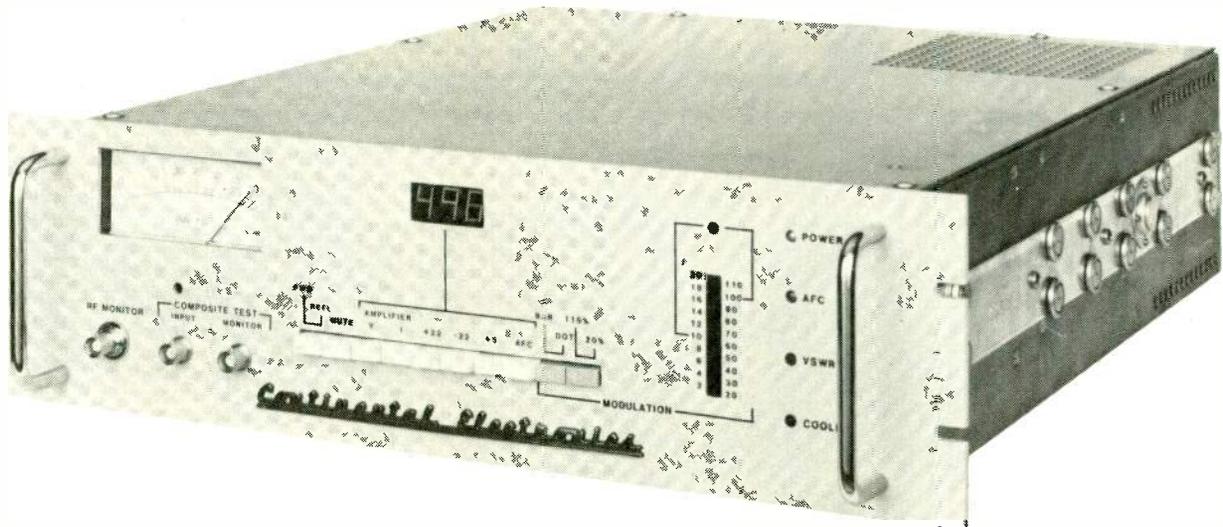
### SUPPLIERS:

California Microwave; Compucon✓; Comsearch✓; Dyma✓; Ellis Tower; General Television; Jamieson✓; Microwave Filters✓; New England; Radiotechniques; Satellease; Schaffer; Videostar

## L. Mobile Vehicle Construction

### SUPPLIERS:

ABP Systems✓; American Uplinks; ANT✓; Audio-Video; Broadcast Systems✓; CBX✓; Centro✓; Delcom✓; Dyma✓; General Television; Gerstenslager✓; Gray Communications✓; Grinnan; Grumman; Harris✓; Hubbard✓; Intervideo✓; Jamieson✓; Kavco✓; Lerro✓; Midwest✓; Mobile-Cam✓; MZB✓; Netcom✓; N-Z; Peirce-Phelps✓; Philips✓; RCA Broadcast✓; Real World; Roscor✓; Rosner; Shook✓; Tele-Measurements; Television Engineering✓; Wolf✓



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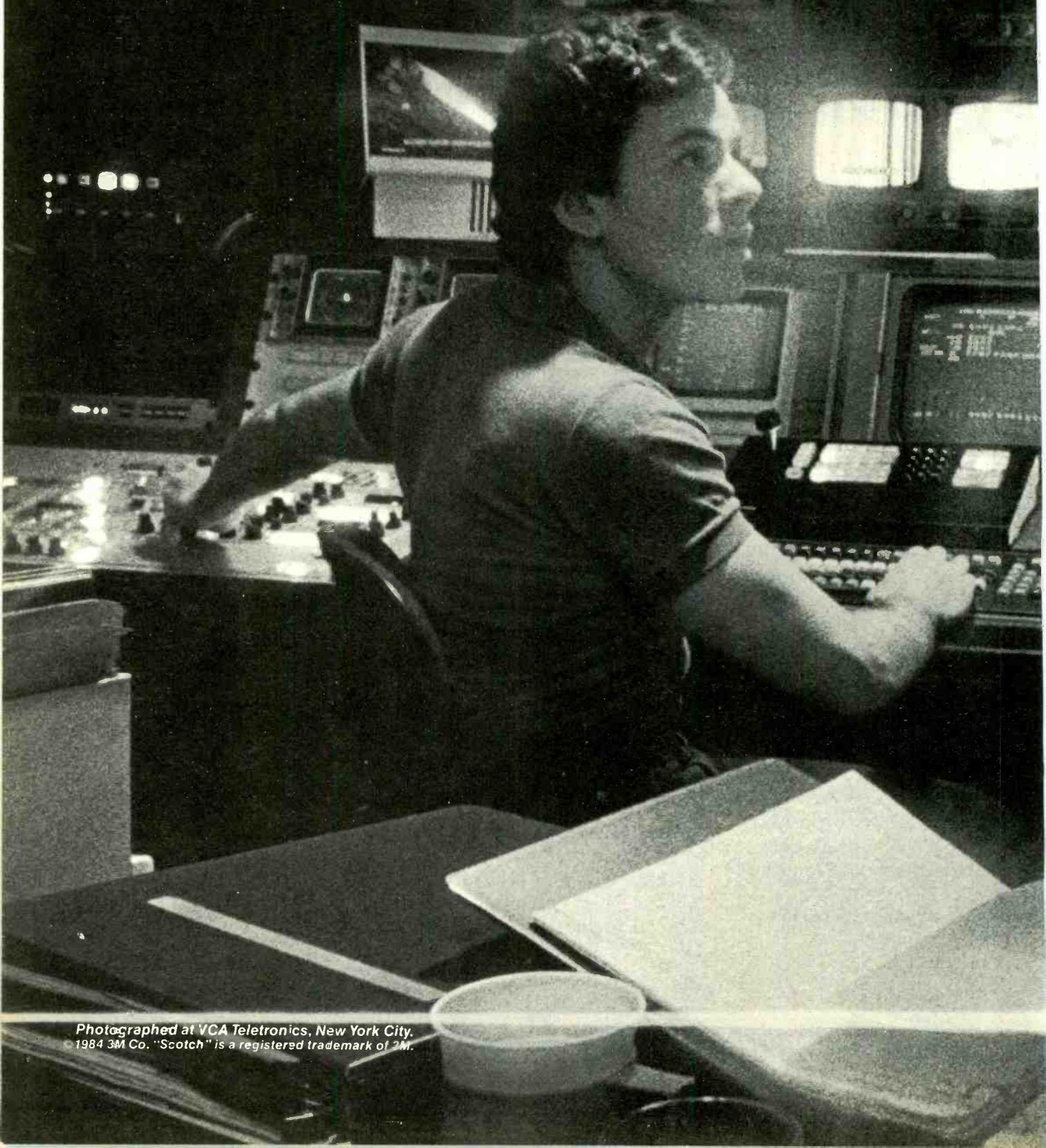
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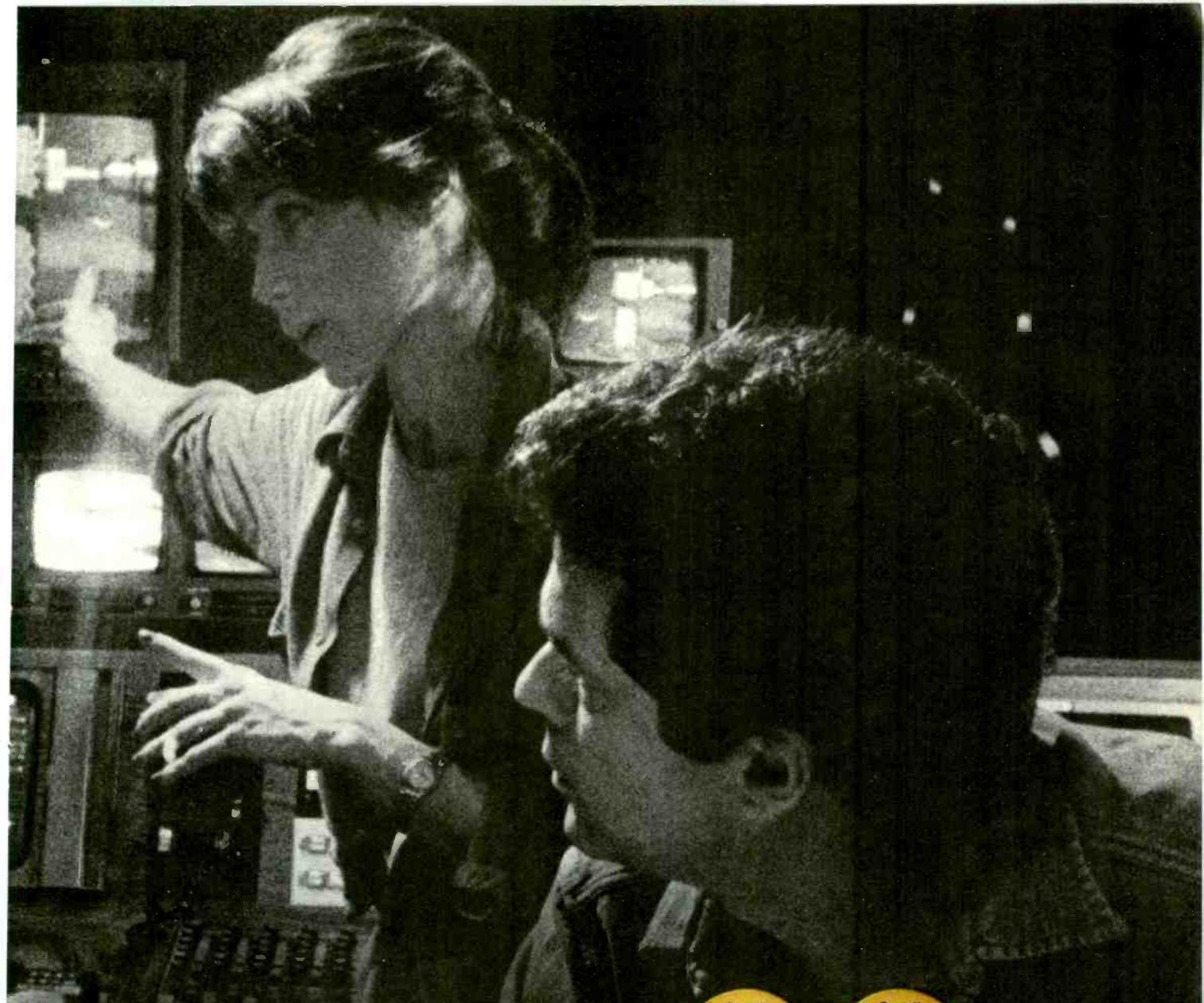


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## M. Satellite Time Brokers/Services

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## N. Music Libraries

### SUPPLIERS:

American Image; Toby Arnold; Associated Prod. Music; Chaton; Comprehensive Video; Conner Prod.; Continental Electronics; De Wolfe; First Communications; Hawaii Prod.; JAM Prod.; Kalamusic; Media General; Music Director; Network; Omnimusic; Palmer; Soper; Tanner; Valentino; Windsor

## O. Syndicated Radio Programming/Production

### SUPPLIERS:

American Image; Toby Arnold; Bonneville Bdcst.; BPI; BMI; Cavox; Century 21; Computer Bdcst.; Concept Productions; Drake-Chenault; JBS; Kalamusic; Music Director; Radio Arts; Radio Syndication; Real Radio; Satellite Music; Tanner;

✓ MEANS  
IT'S VERIFIED

## P. Promotion & Advertising

### SUPPLIERS:

Celestial Mechanix; Isis; Peters

## Q. Other Services

### SUPPLIERS:

Broadcast Info. Bureau; Bush & Millimaki (camera & lens repair); Dataworld (database of FCC engineering info.); Graphic Express (news graphics slide service, lighting design); Image Transform (film labs); Jones (home video publishing); LPB (highway & travellers information broadcast systems); McManus (broadcast equipment repair); Mead (library of wire service stories, newspapers, magazines); Media General (radio program & commercial production services, station IDs); Microflect (tower installation); Microwave Mobile (terrestrial microwave facilities for point-to-point video transmission); Mobile Video Services (local microwave common carrier); Omnimusic (original music scores); Perrott (power supply repair); Pyramid (satellite & microwave transmission services, uplinks, downlinks, telco transmit & receive); Search & Compare (pro video buyer's guide on floppy disk); Spectrum (RFI measurements); System Associates (used broadcast equipment broker); UPI (wire services, radio news networks, photo services)



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**It speaks  
for itself.**”

The Orban 622B Parametric Equalizer has achieved near-legendary status in the broadcast industry for good reason. It is the most flexible, musically-useful equalizer on the market today. And, it offers the broadcaster unlimited versatility in production room sweetening as well as the capability to be used on the program line to tailor the sound of the station.

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# TV test equipment from the inventors of the Plumbicon® tube.

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Digital still stores. Digital efx generators. Framestores.

See ad on pgs. 94-95

Field Offices:

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NY Art Shifrin, 73-42 192 St., Fresh Meadows 11366 ..... 212 465-0800

## ABP SYSTEMS INC. ✓

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Transportation cases: foam insert, padded nylon, rack configuration. Editing/production consoles. Studio furniture; cabinets; studio consoles; equipment racks. Custom machine work. Facilities design and engineering services; mobile vehicle construction; financial consultants. Telecine control systems. Parallel interface video routing switchers.

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Audio tape duplicators. Mic booms, dollies. Tape-based loggers.

## ACCU-WEATHER INC. ✓

619 W. College Ave., State College, PA 16801

814 237-0309

Weather forecasting services; weather graphics displays.

## ACOUSTIC RESEARCH

10 American Dr., Norwood, MA 02062

617 769-4200

Monitor speakers.

## ACRODYNE INDUSTRIES ✓

516 Township Line Rd., Blue Bell, PA 19422  
800 523-2596

UHF, VHF & LPTV transmitters & translators.

## ADAMS-SMITH ✓

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617 562-3801

Audio/video time code synchronizers; SMPTE time code generator/readers. Machine control/technical automation: parallel



interface, serial interface, vertical interval.

Electronic audio editors.

See ad on pgs. 148-149

## ADC MAGNETIC CONTROLS ✓

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612 835-6800

Audio patch panels, jackfields; telco interface equipment. Fiberoptic systems. RF connectors. Radiall, QCP, Ultrapatch lines of cable connectors. Hum bucking coils.

## ADDA CORP. ✓

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408 379-1500

Digital still stores. Compressor/positioners. TBCs, frame synchronizers, framestores, TBC/framestores.

## ADM TECHNOLOGY ✓

1626 E. Big Beaver Rd., Troy, MI 48084  
313 524-2100

Audio consoles; portable, mono & stereo studio, audio for TV; console automation; video interface for consoles. Audio DAs.

See ad on pg. Cover 2

Field Offices:

CA Ron Webb, 1850 Union St. #459, San Francisco 94123 ..... 415 931-3082

FL Tom Harmon, 3411 N.W. 33 Ln., Gainesville 32605 ..... 904 372-8266

MI Rick Fisher, 1611 Playsted, Union Lake 48085 ..... 313 524-2100

TX Gordon Peters, Box 912, Arlington 76010 ..... 817 467-2990

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924 W. 17 St., Bloomington, IN 47401  
812 333-1922

Doprad weather radar displays.

## ADVANCE INDUSTRIES

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712 252-4101

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## ADVANCING TECHNOLOGY ✓

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206 854-1004

ALC/AGC amps, AM compressor/limiters, FM compressor/limiters. PPM meters. Audio line monitor with VU and audio amp.

## A.F. ASSOCIATES ✓

100 Stonehurst Ct., Northvale, NJ 07647  
201 767-1000

Facilities design and engineering services; engineering consultants; mobile vehicle construction. Marconi solid state telecines. AVS standards converters. VTR refurbishing, rebuilding. Blanking width meters, displays. See ad on pg. 90

Field Office:

CA 2465 E. Bayshore #301, Palo Alto 94303 ..... 415 321-4823

## AGFA-GEVAERT ✓

275 North St., Teterboro, NJ 07608  
201 288-4100

Open-reel & bulk cassette audio tape. 3/4-inch & half-inch videocassettes; bulk/duplicator videocassettes.

## A & G VIDEO

c/o Manhattan Bridge Studios, 156 Tillary St., Brooklyn, NY 11201

212 875-9384

Video production & post-production facilities; mobile production facilities rental; equipment rental services; set/studio design services.

## AKG ACOUSTICS ✓

77 Selleck St., Stamford, CT 06902  
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Time delay audio cart player/recorders. Phono cartridges. Digital delay & reverb, analog special efx & reverb. Headphones. Mics: dynamic, electret/condenser, shotgun, lavalier, modular & capsule; mic stands, booms & dollies.

## ALAMAR ELECTRONICS ✓

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408 866-4615

Parallel & serial interface machine control/technical automation.

## PETER ALBRECHT CORP.

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Motorized rigging & controls for TV studio lighting & scenery systems.

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312 640-8466  
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**ALDEN ELECTRONICS** ✓  
Washington St., Westboro, MA 01581  
617 366-8851  
Weather systems: satellite displays, radar displays, graphics displays. Satellite weather data receivers.

**ALEXANDER MFG. CO.** ✓  
1511 S. Garfield Pl., Mason City, IA 50401  
515 423-8955  
Nicad batteries, chargers.  
See ad on pg. 139

**ALFORD MFG. CO.**  
32 Sixth Rd., Woburn, MA 01801  
617 935-8610  
Antennas: FM, TV HP.

**ALLEN AVIONICS**  
224 E. Second St., Box 350, Mineola, NY 11501  
516 248-8080  
Video delay lines, filters, video/cable equalizers. Hum bucking coils.  
See ad on pg. 169

**ALLEN & HEATH BRENELL** ✓  
5 Connair Rd., Orange, CT 06477  
203 795-3594  
Consoles: mono & stereo studio, audio for TV.

**ALLIED BROADCAST EQUIPMENT**  
Box 1487, Richmond, IN 47374  
317 962-8596  
A-Line Studio Atmosphere control console furnishings, audio cart racks, equipment racks. Architectural Series on-air warning lights; Strobe Series on-air and telephone warning lights.  
Field Offices:  
GA Mark Drummond, Shannon Towers #314, 4405 Mall Blvd., Union City 30291 ..... 404 964-1464  
IL Tom Harle, 5097 N. Elston Ave. #303, Chicago 60630 ..... 312 794-0224  
TX Pat Hurley, Chaddick Ctr. #309, 1201 E. 15, Plano 75074 ..... 214 423-8667  
WA Cal Vandergrift, 112 S. 344 St. #312, Federal Way 98003 ... 206 941-5453

**ALLIED FILM & VIDEO** ✓  
7375 Woodward Ave., Detroit, MI 48202  
313 871-2222  
Film-to-tape transfers; videotape duplication services; video post-production facilities; film developing.  
Field Offices:  
CA Allied—Diner, 350 Goldengate, San Francisco 94102 ..... 415 777-1700  
IL Allied/Chicago, 1322 W. Belmont, Chicago 60657 ..... 312 348-0373  
TX Allied—WBS, 7128 Envoy Ct., Dallas 75247 ..... 214 631-5670

**ALLIED TOWER CO.**  
12450 Old Galveston Rd., Webster, TX 77598  
713 486-7691  
Tower masts, rigging, hardware, lighting.

**ALL MOBILE VIDEO** ✓  
630 Ninth Ave., New York, NY 10036  
212 757-8919  
Mobile production & post-production facilities rental; equipment rental services.

**ALLSOP** ✓  
Box 23, Bellingham, WA 98227  
206 734-9090  
Allsop 3 audio and video head cleaners, degaussers; tape cleaners, evaluators; record cleaning, care products.

**ALPHA AUDIO** ✓  
2049 W. Broad St., Richmond, VA 23220  
804 358-3852  
Sonex soundproofing material.  
See ad on pg. 101

**ALPHA TECHNOLOGIES** ✓  
1305 Fraser St. #D-5, Bellingham, WA 98226  
206 647-2360  
CATV standby power supply systems.  
Field Offices:  
AZ 7305 E. Evans Rd., Scottsdale 85260 ..... 602 948-4484  
CAN 7033 Antrim Ave., Burnaby, BC V5J 4M5 ..... 604 430-1476

**ALPHA VIDEO & ELECTRONICS** ✓  
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412 923-2070  
Custom cabinets, studio consoles, equipment racks. Alphasized modified Sony 3/4-inch VCRs.

**ALPHA WIRE CORP.**  
711 Lidgerwood Ave., Elizabeth, NJ 07207  
201 925-8000  
Transmission line: foam dielectric, coaxial. Cable: audio, video, lighting/ac; cable connectors; jackfields, patch panels. Heat shrinkable & non-heatshrink insulation; custom cable designs.

**ALTATEC COMMUNICATIONS**  
See COMMUNICATIONS  
**ALTATEC**

**ALTEC LANSING**  
Box 3113, Anaheim, CA 92803  
714 632-7717  
Graphic equalizers. Monitor speakers. Mics: dynamic, electret condenser, lavalier. Preamps, line amps, monitor/power amps.

**AMBER ELECTRO DESIGN** ✓  
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514 735-4105  
Audio test signal generators, harmonic distortion meters, IM meters.

**AMCO ENGINEERING CO.** ✓  
3801 N. Rose St., Schiller Pk, IL 60176  
312 671-6670  
Cabinets; equipment racks.

**AMEK CONSOLE (USA)** ✓  
10815 Burbank Blvd., N. Hollywood, CA 91601  
818 508-9788  
Audio consoles: portable, mono & stereo studio, audio for TV; Optimix, Massenburg

console automation; video interface for consoles. Soft Touch SMPTE time code synchronizers. Relay automation sequencers. Audio preamps. Audio DAs. PPM meters.

**AMERICAN DATA CORP.**  
See CENTRAL DYNAMICS

**AMERICAN IMAGE PRODUCTIONS**  
1107 18 Ave. S., Nashville, TN 37202  
800 251-2058  
Recording studios; music libraries; syndicated radio programming; broadcast consulting.

**AMERICAN LASER SYSTEMS** ✓  
106 Fowler Rd., Goleta, CA 93117  
805 967-0423  
Slow-scan transmitters/receivers. Optical infrared (free-space) video transmission system.

**AMERICAN UPLINKS**  
Box 699, Idaho Springs, CO 80452  
800 525-9999/in CO 303 674-8657  
Transportable satellite uplink; facilities design and engineering services; engineering consultants; mobile vehicle construction; satellite time brokers.

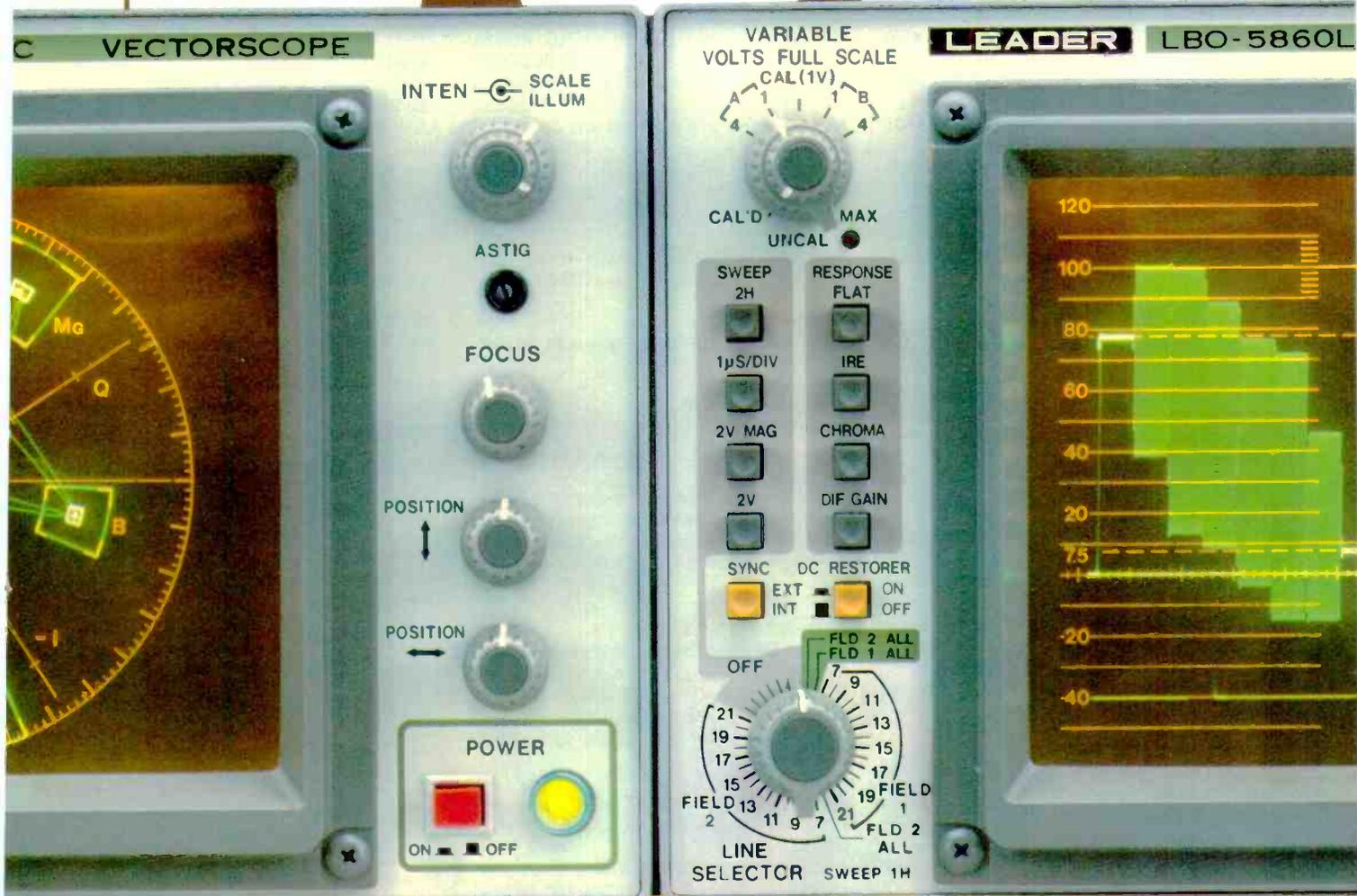
**AMILON CORP.** ✓  
49-12 30 Ave., Woodside, NY 11377  
212 274-1794  
Endless loop cart decks.

**AMP SPECIAL INDUSTRIES** ✓  
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215 647-1000  
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**AMPEREX ELECTRONIC CORP.** ✓  
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Field Offices:  
CA Ed Marchner, 300 Scott Blvd. #107, Santa Clara 95050 ..... 408 727-6132  
CO Ron Barnes, 3110 S. Wadsworth #302, Denver 80227 ..... 303 989-7310  
GA Lee Knowell, 3731 N. Crest Rd. #7, Atlanta 30340 ..... 404 458-2519  
IL Greg Smith, 360 Beinoris Dr., Wood Dale 60191 ..... 312 860-7373  
NY Bob Richman, 230 Duffy Ave., Hicksville 11802 ..... 516 931-6200  
TX Don White, 13772 N.C. Exy., Dallas 75243 ..... 214 231-3481

**AMPEX CORP.** ✓  
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VTRs: one-inch C, M-format. Digital still stores, VTR slow-mo systems, video animation controllers. Digital art/paint systems. Production switchers: compact studio/mobile, post-production. Manual master control switchers. Multisource video editors. Videotape: two-inch, one-inch, 3/4-inch & half-inch cassettes. TBCs. ENG cameras. Replacement VTR heads.  
See ad on pg. 3, 51  
Field Offices:  
CA Roger Miller, 500 Rodier Dr., Glendale 91201 ..... 213 240-5000

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## Two Leaders with an important following.

Check the racks of the industry's leaders, and you'll find Leader instruments. At ABC, Sony Broadcast, Reeves, Zenith, HBO, RCA, A.F. Associates, Group W, ATC, Midwest Corporation, and NBC, to name a few... where quality is paramount, Leader has been their choice.

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lines 14-21 (fields 1 and 2) from the front panel. And there's an L model that shows you lines 7-21 for coding information, too. Our half-rack LVS-5850B Vectorscope is the perfect mate, with selectable, electronically-generated targets\* that can be read from across the room. Electronically-generated targets also provide the highest level of measurement accuracy, even if you misalign the CRT center dot. It also has an internal etched graticule, and gives a VITS display with strobe input.

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The convenience of viewing both vector and waveform displays simultaneously gives you uninterrupted monitoring capability.

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 (514) 337-9500

GA Paul Hansil, 1872 Montreal Rd., Tucker 30084 ..... 404 491-7112

IL Mike d'Amore, 719 W. Algonquin Rd., Arlington Heights 60005 ..... 312 593-6000

KY Dick Coomes, 7509 Stonebrook Dr., Louisville 40291 ..... 502 239-6111

MD Frank Rush, 10215 Fernwood Rd., Bethesda 20034 ..... 301 530-8800

NJ Bob Natwick, 5 Pearl Ct., Allendale Ind. Pk., Allendale 07401 ..... 201 825-9600

OH Chuck Wright, 4130 Linden Ave., Dayton 45432 ..... 513 254-6101

TX Frank Nault, 3353 Earhard Dr., Carrollton 75006 ..... 214 960-1162

UT Dave Clayton, 2880 S. Main St. #111, Salt Lake City 84115 ..... 801 487-8181

WA Dick Carroll, 628 Industry Dr., Tukwila 98188 ..... 206 575-0156

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617 938-8551  
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Video sync generators. Video monitors: monochrome, NTSC, RGB. Video test signal generators.

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800 428-9281/317-842-1830  
Radio & TV business automation software. Radio music location system.

**ANCHOR SYSTEMS**  
See VJ ELECTRONICS

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**Field Offices:**

CA 701 Welch Rd. #1126, Palo Alto 94304  
... 415 323-3139 1037 W. 9 St., Upland 91786 ..... 714 946-7777

CO 451 E. 58 Ave. #2585, Denver 80216 ..... 303 295-1042

GA 6205 Barfield Rd. N.E. #245, Atlanta 30328 ..... 404 256-0881

MA 393 Totten Pond Rd., Waltham 02154 ..... 617 890-0888

MO 5601 Gardner Ave., Kansas City 64120 ..... 816 483-1100

NJ 550 N. Maple Ave., Box 297, Ridgewood ..... 201 652-1310

TX 2701 Mayhill Rd., Denton 76201 ..... 817 566-2400

VA 1497 Chain Bridge Rd. #102, Box 1063, McLean 22101 ... 703 442-8771

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305 595-1144  
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2180 S. Wolf Rd., Des Plaines, IL 60018  
312 298-9420  
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**R.B. ANNIS CO.** ✓

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317 637-9282  
Magnetic field indicators. Audio & video head cleaners, degaussers, tape erasers, tape degaussers. Current, split core transformers.

**ANRITSU AMERICA** ✓

128 Bauer Dr., Oakland, NJ 07436  
201 337-1111  
Audio signal analyzers. Video test signal generators, waveform monitors, diff. phase/gain meters, video noise meters, automatic VITS analyzers, automatic video analyzer. Field intensity meters, RF power meters, wattmeters, RF test signal generators, impedance bridges, MSA microwave system analyzer. Logic analyzers, signal generators, frequency counters.

See listings in Repts section  
Field Office:  
TX 400 Chisholm Pl. #200, Plano 75075  
..... 214 422-5014

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**ANTENNA TECHNOLOGY** ✓

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602 264-7275

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**ANTENNAS FOR COMMUNICATIONS** ✓

334 Cypress Rd., Ocala, FL 32672  
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Ultralight & Black Beauty quartz lighting fixtures. ProPac & Lifesaver nicad batteries, chargers; silver-zinc batteries, chargers; ac/dc converters, inverters. Diagnostic battery evaluator; silver cell equalizer. Light Link fiberoptic systems. Micro Control standalone CCUs. Micro Phase black burst generators.  
See ad on pg. 61

**ANVIL CASES** ✓

4128 Temple City Blvd., Rosemead, CA 91770  
213 575-8614  
Foam insert & rack configuration transportation cases.

**APERT-HERZOG CORP.** ✓

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**APHEX SYSTEMS, LTD.** ✓

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Aphex aural exciter. Compellor ALC & AGC amps, AM & FM compressor/limiters; parametric equalizers. Mic preamps, line amps. Voltage-controlled attenuators.

**APIS CORP.** ✓

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801 467-2727  
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**APPLELOG**

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412 283-1500  
Radio business automation hardware & software.

**APPLIED DIGITAL TECHNOLOGY** ✓

39 W. 14 St., New York, NY 10011  
212 929-2360  
Relecon color correcting & video processing computer system.

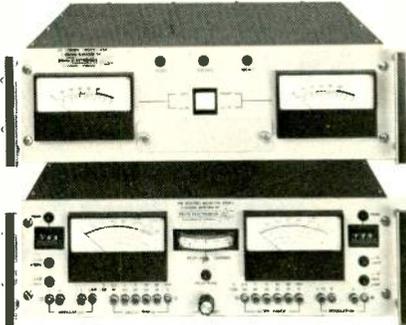
**ARBEN DESIGN** ✓

9870 Derby Lane, Westchester, IL 60153  
312 345-1545  
Modular news & studio sets, scenery construction, props, set design service, prefabricated hard cycs.

**ARISTOCART, DIV. WESTERN INTL.**

1960-505 Burrard St., Vancouver, BC, Canada V7X 1M6  
604 687-2844  
Audio cartridges, test tapes, empty reels & carts. Cart/tape storage.  
See ad on pg. 129

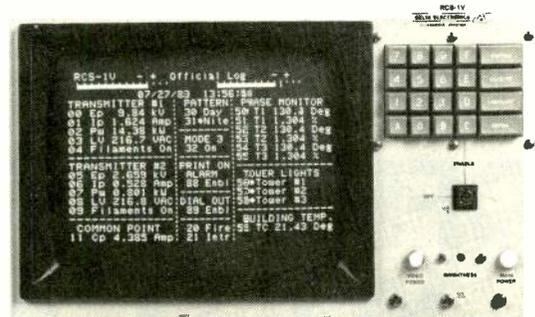
# DELTA BROADCAST PRODUCTS



## ASE-1/ASM-1

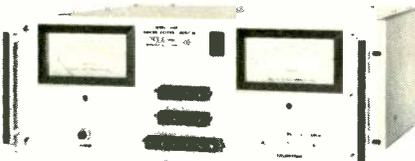
**AM Stereo without compromise.** The AM Stereo Exciter and Modulation Monitor provides a C-QUAM™ quadrature modulated stereo signal featuring low distortion and channel separation greater than 35 dB throughout the audio spectrum. The ASE-1 generates a signal to produce a phase modulated transmitter carrier. An L + R audio signal AM's this carrier to produce the C-QUAM signal, the only signal completely compatible with all C-QUAM, multimode and envelope detector receivers.

C-QUAM is a registered trademark of Motorola, Inc.



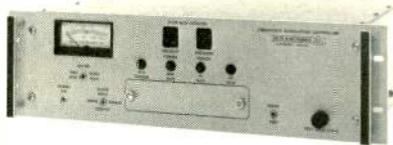
## RCS-1V

**This Remote Control System calls you when it needs help!** The RCS-1 combines microprocessor technology with easy operation. Features include direct interface boards for antenna monitors, patented remote modulation bargraphs, automatic logging, and synthesized speech telephone interface. Additional input and control boards to expand remote control capabilities can be added at any time.



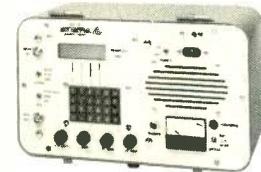
## DAM-1/AAM-1

**The Digital and Analog Antenna Monitors measure the parameters of directional antenna systems.** Readings are: relative current; and current ratio and current phase to a reference antenna. The DAM-1 accepts samples from 12 towers with a  $\pm 1^\circ$  phase and  $\pm 2\%$  current accuracies displayed on digital readouts. The AAM-1 can monitor up to 8 antennas with ratio and phase measurements displayed on front panel meters.



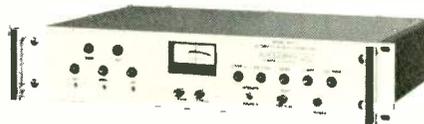
## AMC-1/FMC-1

**The only modulation control systems which provide a completely closed loop around the transmitter.** The Amplitude and Digital Modulation Controllers sample actual modulation levels after the PA output network assures precise adjustment for optimum modulation levels. Both the AMC-1 and FMC-1 keep count of over-modulation bursts for signal control through a linear attenuator.



## RG-3/RG-4

**High output/super sensitive Receiver/Generator.** The Receiver/Generators combine a two-watt RF output and a correlation detector circuit that virtually eliminates interference problems. The RG-3 operates in the 500 kHz to 1.65 MHz frequency range while the RG-4 operates in the 100 kHz to 30 MHz range. Both can be used with the OIB series bridges for accurate null detector readings.



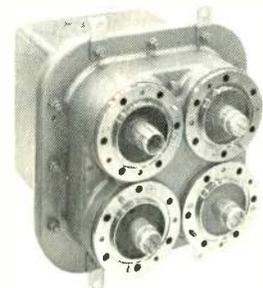
## APC-1

**Your insurance against over- and under-power operation.** The Automatic Power Controller continuously monitors the transmitter output power, making automatic power adjustments via the transmitter loading control. The APC assures proper power levels at all times.



## OIB-1/OIB-3/CPB-1

**Full power impedance measuring.** The Operating Impedance Bridges measure the impedance of radiators, networks and the like while operating under normal power. The OIB-1 measures VSWR and impedance up to  $400 \pm j300$  ohms. The OIB-3 extends the range to  $1000 \pm j900$  ohms, and has an RF amplifier for improved nulling. The Common Point Impedance Bridge is permanently installed for continuous monitoring of the common point during network adjustment. An optional TCA ammeter can be installed in its front panel.



## 6730E/6740B

**Fast, efficient coaxial transfer switches.** The coaxial transfer switches are designed to switch transmitters, transmission lines, antennas, dummy loads and auxiliary equipment quickly and easily. Either manually or remotely controlled, the switches are fully interlocked to prevent switching with RF power applied. The 6730E switch uses 1-5/8 inch connectors, the 6740B switch uses 3-1/8 inch connectors.



## TCA/TCT

**Simplifies antenna current and phase sampling.** TCA Ammeter Systems provide accurate, modulation-free current readings on a variety of meter types. Toroidal Current Transformers provide current and phase samples, and are available with three output voltage ranges, as well as high voltage models.

# DELTA ELECTRONICS

5730 General Washington Drive  
P.O. Box 11268 • Alexandria, Virginia 22312  
Telephone: (703) 354-3350 • TWX: 710-832-0273 • Telex: 90-1963



# WHY BUY OFF THE RACK WHEN YOU CAN AFFORD TAILOR-MADE?

THE ONLY SPECIALIST  
POST-PRODUCTION  
TELECINE.

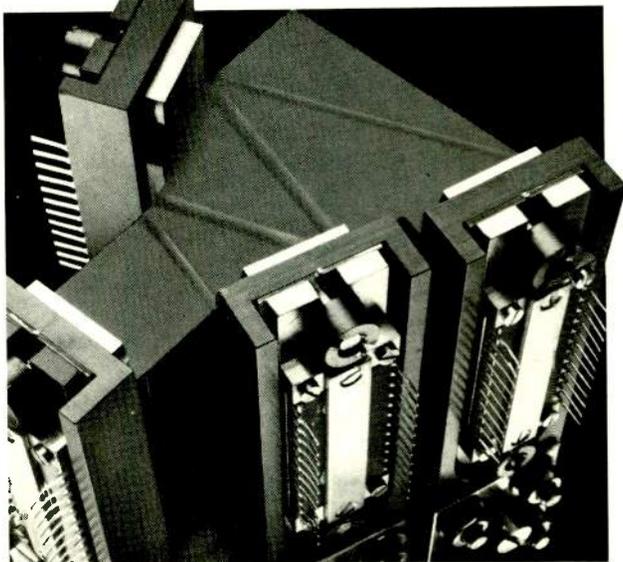
THE ONLY SPECIALIST  
DIRECT-BROADCAST  
TELECINE.



Some broadcast equipment manufacturers would have you believe that one telecine will neatly fit both film post-production and direct broadcasting.

But there's one manufacturer who just doesn't agree – and that's Rank Cintel. Now, the only telecine specialist in the world has two products that clearly make the point: the Mk III C and the ADS I.

The Mk III C is internationally recognised as the best when it comes to high-quality film transfers. Thanks to X-Y Zoom, it's the only advanced telecine capable of optical zooms and moves at full tv resolution. True still-frame reproduction is another plus made possible by flying-spot scanning technology. And as for the pictures, they are outstanding – from positive or negative stock shot for wide-screen as well as normal presentation. Of course, this impressive post-production capability – even secondary colour – can be programmed on Amigo, the simplest, most powerful telecine computer. And the Ferrit sep. mag. sound-follower brings Rank Cintel quality to post-production audio.



ADS I CCD SENSOR BLOCK

MK III C FLYING SPOT SCANNING CRT



When it comes to direct film broadcasting, everybody can appreciate the versatility and sophistication of the Mk III C – but not everybody needs it. The new alternative is the ADS I.

Designed specifically to meet the direct-broadcast needs of today's tv-station, ADS I offers the right performance at the right price. This is achieved by combining compact, multiplexed design with modern manufacturing techniques and the latest in solid-state technology. For the broadcaster, this approach pays off handsomely at time of initial purchase. Then it pays off with low daily running costs. Then it pays off yet again when it's time to expand. And important features like variable speed, programmable A/B roll and a unique dirt and scratch concealment system prove that these economies have not been made at the expense of performance.

So, the next time someone tells you there's only one telecine, you can tell them there are only two – and they're both made by Rank Cintel. If you'd like to find out more about the world's finest telecines, contact one of our sales offices listed below.

 **Rank Cintel**  
The world leader in telecine

SALES AND SERVICE: RANK PRECISION INDUSTRIES INC.  
260 North Route 303, West Nyack, New York 10094 Telephone (914) 353 1914. CONTACT: David Fenton.  
13340 Saticoy Street, North Hollywood, CA 91605 Telephone (818) 765 7265. CONTACT: Neil Kempt.  
FOR SALES LITERATURE ONLY: 1411 East Jarvis Avenue, Des Plaines, Illinois 60018 Telephone (312) 297 7720. CONTACT: Claire Brogni.



## THE WHEATSTONE SP-5 STEREO PRODUCTION CONSOLE

WHEATSTONE BROADCAST GROUP announces the SP-5 Stereo Production Console, the latest in a long line of high performance audio mixing systems from AUDIOARTS ENGINEERING, a company with an established reputation for technical excellence, quality production and product reliability.

Modular, and specifically designed for stereo broadcast production, the SP-5 offers true stereo subgrouping for mix-minus and stereo program work. Optional configurations allow mono subgroups and outputs, dual stereo line or mono mic/line inputs, and a wide variety of mainframe sizes accomodating 8 to 52 input modules.

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 Wheatstone Broadcast Group

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5 COLLINS ROAD, BETHANY, CT 06525 (203) 393-0887

Circle 144 on Reader Service Card

**TOBY ARNOLD & ASSOC.**  
4255 LBJ #156, Dallas, TX 75234  
214 661-8201  
Syndicated radio programming; music library.

**ARRAKIS** ✓  
309 Commerce Dr., Unit 2, Fort Collins, CO 80524  
303 224-2248  
Audio consoles: mic mixers, portable, mono & stereo studio. Audio routing switchers. Studio furniture; cart/tape storage.

**ARRIFLEX CORP.** ✓  
500 Rte. 303, Blauvelt, NY 10913  
913 353-1400  
Cine cameras. Zeiss motion picture optics. HMI fixtures; Arrilites quartz fixtures. Arri geared camera head; CineJib crane; Image Stabilizer camera stabilizing system.

**ARTEL COMMUNICATIONS** ✓  
Box 100, Worcester, MA 01602  
617 752-5690  
Fiberoptic systems; STLs; remote pickup equipment.

**ARVIN/DIAMOND** ✓  
4465 Coonpath Rd., Carroll, OH 43112  
614 756-9222  
Weather satellite receivers.

**ASACA/SHIBASOKU CORP.** ✓  
12509 Beatrice St., Los Angeles, CA 90066  
213 827-7144  
Videotape cleaners, evaluators. Portable & compact studio/mobile production switchers. Standalone analog efx, downstream keyers. Sync, black burst, color bar & multiburst generators. NTSC encoders. Video monitors: NTSC, RGB, battery-powered portable, monitor calibrators. Audio test signal generators, harmonic distortion meters. Videotest signal generators, video noise meters, automatic VITS analyzers.

**A&S CASES**  
1111 N. Gordon St., Hollywood, CA 90038  
213 466-6181  
Standard & custom foam insert & rack configuration transportation cases, editing/production consoles.

**ASHLY AUDIO**  
100 Fernwood Ave, Rochester, NY 14621  
716 544-5191  
FM compressor/limiters, parametric equalizers, audio noise reduction, electronic crossovers.

**ASSOCIATED PRODUCTION MUSIC** ✓  
888 Seventh Ave., New York, NY 10106  
212 977-5680  
Production music libraries.  
Field Office:  
CA John Osiecki, 6255 Sunset Blvd., Hollywood 90028 ..... 213 461-3211

**ASTATIC CORP.**  
Harbor & Jackson Sts., Box 120, Conneaut, OH 44030  
216 593-1111  
Moving flux phono cartridges. Mics: dynamic, electret/condenser, lavalier; mic booms, dollies.



**ATI-AUDIO TECHNOLOGIES** ✓  
328 Maple Ave., Horsham, PA. 19044  
215 443-0330  
EmphaSizer line of ALC, AGC amps. AM & FM compressor/limiters, parametric equalizers. Phono & mic preamps, line amps, monitor/power amps. MicroAmp & Encore audio DAs; audio routing switchers. MicroMeter audio level display.

**ATLANTIC RESEARCH CORP.**  
5390 Cherokee Ave., Alexandria, VA 22314  
703 642-4000  
Consoles: portable, mono & stereo studio, audio for TV, console automation. AM & FM compressor/limiters, parametric & graphic equalizers. Audio patch panels. Slide attenuators.

**ATLAS SOUND**  
See TRANSMISSION STRUCTURES LIMITED

**ATLAS TOWER CORP.**  
Box 972, Vinita, OK 74301  
918 256-7883  
Tower masts, rigging, hardware, lighting.

**A/T SCHARFF RENTALS**  
1619 Broadway, New York, NY 10019  
212 582-7360  
Mobile recording studios; equipment rental services (esp. RF mics).

**AT&T COMMUNICATIONS** ✓  
Rte. 202-206, Bedminster, NJ 07921  
201 234-7546  
Transmit/receive & receive-only satellite earth stations; satellite system design services; engineering consultants.

**AUBURN INSTRUMENTS** ✓  
107 Church St., Watertown, MA 02172  
617 923-4747  
Parallel interface machine control/technical automation.

**AUDICO** ✓  
219 Crossen Ave., Elk Grove, IL 60007  
312 640-1030  
Audio & video tape loaders, timers, re-winders; videotape cleaners. Audio cassette labels. Half-inch & 3/4-inch videocassette labels, splicers, splicing tape.

**AUDI-CORD CORP.** ✓  
1845 W. Hovey Ave., Normal, IL 61761  
309 452-9461  
Audio cart player/recorders: single-deck, dual/triple deck, time delay. Replacement audio heads.

**AUDIO ACCESSORIES**  
Mill St., Marlow, NH 03456  
603 446-3335  
Audioline audio patch panels; prewired jackfields. Video jack panels. Miniature & full-size patch cords.

**AUDIOARTS ENGINEERING**  
See WHEATSTONE

**AUDIO & DESIGN/CALREC** ✓  
Box 786, Bremerton, WA 98310  
206 275-5009/5010

Calrec portable audio consoles, mono & stereo studio consoles, audio for TV consoles. Compex, Stresser, EZ Rider, Scamp, Express lines of ALC & AGC amps. Stresser, Transdynamic, Super-Dynamic AM compressor/limiters. Scamp, Transdynamic, Express FM compressor/limiters. Paragaphic graphic equalizers. Calrec electret/condenser mics, modular, capsule mic systems; Soundfield stereo mics. Scamp parametric equalizers, audio noise reduction, analog efx, reverb, audio DAs, PPM meters. Scamp, Matchamp preamps; Ampak monitor/power amps. Ambisonic Surround Sound encoders, decoders. SMPTE time code readers.

**AUDIO DEVELOPMENTS**  
414 N. Sparks St., Burbank, CA 91506  
818 842-6260  
Stereo portable & small studio consoles.

**AUDIO ENGINEERING ASSOC.**  
1029 N. Allen Ave., Pasadena, CA 91104  
213 798-9127  
Mics: BEC ribbon, Schoeps condenser. Record cleaning, care.

**AUDIO KINETICS** ✓  
4721 Laurel Canyon Blvd. #209, N. Hollywood, CA 91607  
818 980-5717  
Master Mix audio console automation. Q.Lock SMPTE time code synchronizers.

**AUDIO METRICS (BY RADIO SYSTEMS)** ✓  
5131 W. Chester Park, Edgemont, PA 19028  
215 356-4700  
Stereo studio consoles. Preamps. Audio DAs. Studio timers. Facilities design & engineering services.

**AUDIONICS OF OREGON**  
934 N.E. 25, Portland, OR 97232  
503 239-5343  
ATR replacement electronics. Preamps, monitor/power amps. Multichannel audio synthesis.

**AUDIO PLUS VIDEO INTL.** ✓  
1438 N. Gower St., Hollywood, CA 90028  
213 856-0152  
Digital standards conversion service.

**AUDIO PROCESSING SYSTEMS**  
90 Oak St., Box 8, Newton Upper Falls, MA 02164  
617 965-1200  
Consoles: portable, mono & stereo studio, console automation. Parametric & graphic equalizers. VU & PPM meters.

**AUDIO-TECHNICA U.S.** ✓  
1221 Commerce Dr., Stow, OH 44224  
216 686-2600  
Pickup arms, phono cartridges, record cleaning & care equipment. Mics: dynamic, electret/condenser, lavalier, shotgun.

**AUDIOTECHNIQUES**  
652 Glenbrook Rd., Stamford, CT 06906  
203 359-2312  
Equipment rental services; facilities design & engineering services.

## AUDIO TECHNOLOGY

Box 94487, Schaumburg, IL 60195  
312 882-6481

Audio noise reduction. Audio line amps. VU, PPM, LED level meters, dB meters.

See ad on pg. 157

## AUDIOTRONICS CORP.

7428 Bellaire Ave., N. Hollywood, CA 91605  
213 765-2645

Audio cassette player/recorders. Video status display monitor.

## AUDIO-VIDEO CORP.

213 Broadway, Menands, NY 12204  
518 449-7213

Audio & video post-production facilities; recording studios; equipment rental service; mobile vehicle construction.

## AUDISAR

Box 1561, Bellevue, WA 98009  
206 454-2040

One-output mic mixers. Electronic audio editors. Graphic equalizers. Powered & nonpowered audio speakers. Preamps, line amps, monitor/power amps; amp power supplies. VU meters, LED level displays. Spectrum analyzers, special test equipment. Broad line of broadcast transformers. System design & manufacture.

## AUDITRONICS

3750 Old Getwell Rd., Memphis, TN 38118  
901 362-1350

Audio consoles, stereo studio, audio for TV. RTW Interface digital audio recorders. Parametric equalizers. Preamps, line amps. Audio DAs; audio patch panels, jackfields. RTW PPM meters.

See ad on pg. 45

## AUERNHEIMER LABS & CO.

4561 E. Florence Ave., Fresno, CA 93725  
209 442-1048

Monitor speakers.

## AURATONE CORP.

Box 698, Coronado, CA 92118  
619 297-2820

Monitor speakers.

## AURORA SYSTEMS

185 Berry St., San Francisco, CA 94107  
415 777-2288

Character generator/graphics systems, digital art/paint systems. Weather-based art/paint systems.

## AUTOGRAM CORP.

Box 456, 631 J Pl., Plano, TX 75074  
214 424-8585

Audio consoles: mono & stereo studio, audio for TV; console automation.

## AUTOMATED BROADCAST CONTROLS

9155 Brookville Rd., Silver Spring, MD 20910  
301 587-3505

Complete program automation systems. Radio business automation hardware.

## AUTOMATED BUSINESS CONCEPTS, DIV. CETEC

1110 Mark Ave., Carpinteria, CA 93013  
805 684-7186

Radio business computer systems.

## AUTOMATED STUDIO TECHNOLOGIES

25 W. 45 St., New York, NY 10036  
212 398-0995

Multisource audio/video editor.

## AUTOMATION TECHNIQUES

1550 N. 105 E. Ave., Tulsa, OK 74116  
918 836-2584

Black burst, color bar generators. Video proc amps. Receive-only satellite earth stations.

## AVAB AMERICA

967 Howard St., San Francisco, CA 94103  
415 421-3562

HMI fixtures, lighting control boards, dimmer packs, dimmer systems.

## AVANTEK

3175 Bowers Ave., Santa Clara, CA 95051  
408 727-0700

Receive-only satellite earth stations, LNAs. Microwave STLs.

## AVC SYSTEMS

1517 E. Lake, Minneapolis, MN 55407  
612 729-8305

Equipment rental services.

Field Office:

IL 747 Church Rd. #A6, Elmhurst 60126  
312 279-6580

## AVL DIGITAL, LTD.

70 Milner Ave. #5, Scarborough, Ont., Canada M1S 3P8

416 298-6220

Parallel & serial interface routing switchers & station automation systems. Monitor/power amps. Audio DAs. Sync, black burst, multiburst & countdown generators. Video DAs, pulse amps. Video test signal generators.

## AVONIX VIDEO SYSTEMS

Box 505, Brookfield, WI 53005  
414 784-1800

Facilities design & engineering services.

## AVT TELEVISION PRODUCTIONS

1466 Amherst Rd., Knoxville, TN 37919  
615 584-2166

Mobile production facilities rental.

## WILLIAM BAL CORP.

947 Newark Ave., Elizabeth, NJ 07207  
201 354-9625

Foam insert transportation cases. Videotape cases. Custom case design.

## BALD MOUNTAIN LAB

230 Bellevue Rd., Troy, NY 12180  
518 279-9753

EBS two-tone systems. Audio test signal generators, dB meters.

## BALLY CASE & COOLER

Box 98, Bally, PA 19503  
215 845-2311

Remote equipment shelters.

See listings in Repts section

## BARBIZON

426 W. 55 St., New York, NY 10019  
212 586-1620

Lighting equipment rentals including lamps, HMI & quartz fixtures, lighting stands, connectors, dimmers.

## BARDWELL & McALISTER

7051 Santa Monica Blvd., Hollywood, CA 90038

213 466-9361

HMI & CSI fixtures, quartz fixtures, cyc lighting, diffusion & efx material, lighting stands & rigging, lighting control boards, dimmer packs. Nicad batteries, chargers; HMI ballasts. Camera tripods, heads.

## BARKER & WILLIAMSON

10 Canal St., Bristol, PA 19007  
215 788-5581

RF filters, loads, switches. Communications antennas. Harmonic distortion meters. RF power meters, wattmeters.

## BASF SYSTEMS CORP.

19 Crosby Dr., Bedford, MA 01730  
617 271-4000

Open-reel & cassette audio tape, test tapes. Videocassettes.

## BASYS

2685 Marine Way, Mountain View, CA 94043  
415 969-9810

Radio & TV newsroom computer systems.

## BAY AREA MOBILETAPE

1019 E. San Carlos Ave., San Carlos, CA 94070

415 593-7124

Mobile production facilities rental.

## BAYLY ENGINEERING, LTD. (AEG-TELEFUNKEN)

167 Hunt St., Ajax, Ont., Canada L1S 1P6  
416 683-8200

FM transmitters. FM exciters. STLs, TSLs. Two-way radio communications.

## BEAVERONICS

8 Haven Ave., Port Washington, NY 11050  
516 883-4414

Production switchers: compact studio/mobile, large automated, post-production, efx generators, RGB chromakeyers, title keyers, downstream keyers. Master/slave clocks.

## BELAR ELECTRONICS LABORATORY

Box 76, Devon, PA 19333  
215 687-5550

Demodulators, modulation monitors, frequency monitors & controllers.

See ad on pg. 153

## BELDEN COMMUNICATIONS

534 W. 25 St., New York, NY 10001  
212 691-1910

Lee filters, gels, resin camera filters.

## BELDEN ELECTRONIC WIRE & CABLE

Box 1980, Richmond, IN 47375  
317 983-5200

Audio & video cable.

## BELL AUDIO SYSTEMS

994 Freeway Dr. N., Columbus, OH 43229  
614 846-2766

Audio DAs. Preamps, power amps, PA amps. Audio cart player/recorders.

# Discover a high-performance mixer with a personality all your own.

## The Ramsa WR-8616.

Inside every recording engineer is the desire for more creative control at the board.

Now there's a post-production/recording mixer designed to make your sessions sound more like you. And less like everybody else's. The Ramsa WR-8616. And its modular design is as ambitious as your needs.

You can have 16 channels of either full stereo or mono modules. Or a combination of the two.

The WR-8616 will also save you valuable time. By letting you simultaneously monitor as many as 16 channels on a multi-track machine while recording.

What's more, this high-performance mixer gives you two discrete mixes. This allows for full monitoring capability, which can be independent from the control room's mix.

#### SPECIFICATIONS:

- +4dBm, 600-Ohm Line Input and Output Signal Levels
- Frequency Response: 20-20,000Hz; +0.5dB
- Noise: -128dB (IHF "A" WTD, 150 Ohm)
- THD: 0.05% typical at 1kHz, +20dBm
- CMRR: Greater than 80dB typical

And in the mixdown, you'll have access to all 16 inputs without having to repatch or reset the board.

You'll also find the 3-band continuously variable input EQ will give you more precise control over the highs, midrange and lows. And the six-channel remote start/stop capability lets you program materials using turntables, or tape and cart machines.

To make the WR-8616 even more compatible, we've given it a dual set of meters. Eight LED bar graphs will monitor the 16 input signals. While the six VU meters handle the Master, Group, Send, Echo outputs and Solo level.

And the balanced Mic and Line inputs and Main outputs won't let any unwanted noise come between you and your sound.

The Ramsa WR-8616. A post-production/recording mixer designed to treat you like an individual.

# RAMSA



Please send me more information about the Ramsa WR-8616.

Name \_\_\_\_\_ PLEASE PRINT

Address \_\_\_\_\_

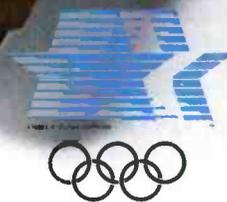
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_

Return Coupon To: Panasonic Industrial Company, Professional Audio Systems, One Panasonic Way, Secaucus, N.J. 07094.

BME

**Panasonic**  
PROFESSIONAL AUDIO SYSTEMS



Supplier of Sound Systems for the 1984 Olympic Games

**BELL HELICOPTER/TEXTRON**

Box 482, Ft. Worth, TX 76101  
817 280-8200  
Helicopters.

**BEST AUDIO**

5422 Farr Ave., N. Hollywood, CA 91601  
213 763-2378  
Production & post-production equipment rental services; audio post-production facilities; TV audio remote facilities rental.

**BESTON/McINNIS-SKINNER**

15315 S. 169 Highway, Box 937, Olathe, KS 66061  
2913 764-1900  
NewsScan TV newsroom computers. Weathergraphics weather-based art/paint system. Data-Graphics digital art/paint system. Marquee titlers, subtitlers, character generator/graphics systems. Dataprompter keyboard-entry teleprompter.

**BEYER DYNAMIC**

5-05 Burns Ave., Hicksville, NY 11801  
516 935-8000  
Mics: dynamic, electret/condenser, ribbon, lavalier, shotgun, modular & capsule systems; mic booms, dollies. Headphones.  
See listings in Reps section  
See ad on pg. 142

**BGW SYSTEMS**

13130 S. Yukon, Hawthorne, CA 90250  
213 973-8090  
Monitor speakers. Power amps. Crossovers.

**BIAS**

See DATA COMMUNICATIONS

**BIRD ELECTRONIC CORP.**

30303 Aurora Rd., Solon, OH 44139  
216 248-1200  
Tenuline RF attenuators, Sentriline RF filters, Termaline & Moduload RF loads, Coaxswitch RF switches. Thru-line RF power sensors, RF power meters & wattmeters, Termaline RF calorimeters, Wattcher RF power monitor/alarms.

**Field Office:**

CA George Churpek, 621 W. Ojai Ave. #F., Box 28, Ojai 93023 . . . . 805 646-7255

**BIRNS & SAWYER**

1026 N. Highland Ave., Hollywood, CA 90038  
213 466-8211  
TriPods.

**BIW CABLE SYSTEMS**

65 Bay St., Boston, MA 02125  
617 265-2102  
Cable: audio, video, lighting/ac, fiberoptic, triax; cable connectors.

**BLACK'S COMMUNICATIONS CONSULTANTS**

120 W. Picacho, Las Cruces, NM 88005  
505 524-9681  
Broadcast equipment computer database; equipment rental services; facilities design & engineering services; engineering consultants.

**BLONDER-TONGUE LABS**

1 Jake Brown Rd., Old Bridge, NJ 08857  
201 679-4000  
RF amps, filters, loads. Receiving modulators. Modulators. DAs. PTV, CATV, MATV systems.

**BOGEN DIV., LEAR SIEGLER**

Box 500, Paramus, NJ 07653  
201 343-5700  
Tech-Craft AM & FM compressor/limiters, graphic equalizers. Monitor speakers. Hard-wired intercoms. Mics: dynamic, electret/condenser, lavalier; mic booms, dollies. Preamps, line amps, monitor/power amps. Telco interface equipment.  
See listings in Reps section

**BOGNER BROADCAST EQUIPMENT**

401 Railroad Ave., Westbury, NY 11590  
516 997-7800  
Antennas: FM, TV HP & CP, UHF, ITFS, MDS, LPTV, communications.

**BONNEVILLE BDCST. CONSULTANTS**

274 County Rd., Tennaflay, NJ 07670  
201 567-8800  
Syndicated radio programming.

**BONNEVILLE MEDIA CONSULTANTS**

130 Social Hall Ave., Salt Lake City, UT 84111  
801 237-2400  
Audio line amps. Audio DAs.

**BONNEVILLE SATELLITE**

165 W. S. Temple, Salt Lake City, UT 84101  
801 237-2450  
Turnkey conferencing services; mobile & fixed satellite uplinking.

**BOONTON ELECTRONICS**

791 Rte. 10, Randolph, NJ 07869  
201 584-1077  
Modulation monitors, RF power meters, wattmeters, RF test signal generators, impedance bridges. Voltmeters.

**ROBERT BOSCH CORP., VIDEO EQUIPMENT DIV.**

Box 31816, Salt Lake City, UT 84131  
801 972-8000

VTRs: one-inch B, Quartercam quarter-inch. Solid state telecine systems, telecine color correctors. Character generator/graphics systems, digital art/paint systems, 3D modeling & manipulation, bit pad digitizers. Large, automated production switchers. Master control switchers. Parallel interface video routing switchers. Parallel interface machine control/technical automation. Mach One two-machine editor/controller. Sync, black burst, color bar generators. NTSC encoders. NTSC, RGB video monitors.

See ad on pgs. 23, 59

**Field Offices:**

CA 3391 Robertson Pl., Los Angeles 90034 . . . . . 213 559-5637  
GA 3110 Maple Dr. #318, Atlanta 30305 . . . . . 404 237-8571  
IA 1421 W. 1 St., Pella 50219 . . . . . 515 628-1717  
IL 3436 N. Kennicott Dr. #110, Arlington Heights 60004 . . . . . 312 253-0247  
NJ 279 Midland Ave., Saddle Brook 07662 . . . . . 201 797-7400  
TX 3 Dallas Comm. Cpx., 6311 N. O'Connor #N-30, Irving 75039 . . . . . 214 869-7675

UT Box 31816, Salt Lake City 84119 . . . . . 801 972-8000  
VA 7921 Jones Branch Dr. #275 McLean 22102 . . . . . 703 790-5570

**BOWEN BROADCAST SERVICE**

8343 Lynn Haven Ave., El Paso, TX 79907  
915 598-1067  
Teleho computerized equipment maintenance assistance system. TCR-100 refurbishing, maintenance.

**BPI/BROADCAST PROGRAMMING INTL.**

Box 2027, Bellingham, WA 98009  
206 454-5010  
Syndicated radio programming; program consultants.

**BRADLEY BROADCAST SALES**

15555-L Frederick Rd., Rockville, MD 20855  
301 762-9222/800 632-7665  
Distributor of audio, RF, T&M equipment, cases, cable.

**BRAND-REX CO.**

1600 W. Main St., Willimantic, CT 06226  
203 423-7771  
Audio, video, lighting/ac cables.

**BRINER-CHASE GROUP**  
See PHOENIX SYSTEMS**BRITISH TELETXT/LOGICA**  
See LOGICA**BROADCAST AIDS INC.**

20 Red Rose Dr., Levittown, PA 19056  
215 547-7133  
Digital clocks; timers. Facilities design & engineering services; engineering consultants; custom equipment modification.

**BROADCAST AUDIO CORP.**

11306 Sunco Dr., Rancho Cordova, CA 95670  
916 635-1048  
Audio consoles: stereo studio, audio for TV. Graphic equalizers. Monitor speakers. Audio amplifiers. Audio DAs. Rotary & slide attenuators; VU, PPM & LED level displays. Digital clocks.

**BROADCAST CARTRIDGE SERVICE**

15131 Triton Ln. #108, Huntington Beach, CA 92649  
714 898-7224  
Audio cartridge reconditioning service. Simpact cart/tape storage.

**BROADCAST ELECTRONICS**

4100 N. 24 St., Box 3606, Quincy, IL 62305  
217 224-9600  
Mono & stereo studio consoles. Cart player/recorders: single deck, dual/triple deck, multideck, time delay decks. Digital audio recorders. Audio carts, test tapes, leaders, tape loaders timers, rewinders, erasers, degaussers. Turntables, pickup arms, phono cartridges. Computer automation controllers, automatic satellite switchers, complete program automation systems. AM & FM compressor/limiters. Line amps. Audio DAs, patch panels, jackfields, telco interface

# FLEXiKEY™

# ILLUSION™

## Two new digital effects systems

### FlexiKey

**The Key Manipulator designed for any budget... \$19,500! and now available with DSC's Optical Perspective option.**

FlexiKey™ is the smart solution for your station's first digital effects system, or use it as a 2nd channel special effects system with your present digital effects.

Check all these standard FlexiKey special effects...

- variable image positioning • split images
- matrix wipes • horizontal and vertical title squeeze • flip, spin, tumble, compress, zoom, rotate or any combination of these effects.

Plus the new Key Klean-up mode... a great production tool that eliminates ragged edges from poor key sources.



Digital Services Corporation  
3622 NE 4th Street  
Gainesville, Florida 32601  
904-377-8013

### Illusion

**The new hi-tech full optical digital video effects system that puts cost in its proper perspective.**

Illusion™ is a full frame effects system using the most advanced digital design techniques to provide a full range of video optical effects plus...

- barrel roll • posterization • strobe effects
- tumble • borders and border clipping
- chroma key manipulation • adjusts blanking widths...and with DSC's Optical Perspective as a standard optional accessory.

And the cost is as exciting as Illusion's effects.

Ask for FlexiKey and Illusion demo tapes when you call or write for complete details.

Sales Offices and Representatives  
New York City: 212-228-3952  
Mid West: 317-832-3212  
Minneapolis: 612-447-4453

West Coast: 619-485-1156  
Dallas: 214-894-6303  
Canada: 416-475-7575

equipment. FM transmitters, antennas. AM stereo exciters, FM exciters, stereo generators. RF amps. FM & AM SCA equipment.

### BROADCAST INFORMATION BUREAU

100 Lafayette Dr., Syosset, NY 11791  
516 496-3355  
Radio programming sourcebook.

### BROADCAST MICROWAVE SERVICES

7322 Convoy Ct., San Diego, CA 92111  
619 560-8601  
Microwave systems: intercity, portable ENG, airborne, central receivers. STLs, TSLs. Helicopter rigs, remote pan/tilt systems. RF amps, filters.  
See listings in Reps section

### BROADCAST MUSIC/BMI

320 W. 57 St., New York, NY 10019  
212 586-2000  
Syndicated radio programming; music licensing.

### BROADCAST SUPPLY WEST

7012 27 St. W., Tacoma, WA 98466  
206 565-2301  
Proamp preamps. ProRax cart racks; ProBase turntable base.

### BROADCAST SYSTEMS

8222 Jamestown Dr., Austin, TX 78758  
512 836-6011  
Prewired audio patch panels. Automated video cart machine. Prewired RF input & monitoring system. Foam dielectric & coaxial cable transmission line. Facilities design & engineering services; set/studio design services; engineering consultants; financial consultants; earth station site selection; mobile vehicle construction.  
See ad on pg. 167

### BROADCAST TECHNOLOGY CONSULTANTS

6700 Squibb Rd. #104, Mission, KS 66202  
913 677-1483  
Newsroom computer system consultants; facilities design & engineering services.

### BROADCAST TECHNOLOGY

33 Comac Loop, Ronkonkoma, NY 11779  
617 588-6565  
Graphic equalizers. Hardwired & RF intercoms. Preamps, line amps, monitor/power amps; amp power supplies. Audio DAs, audio routing switchers, telco interface equipment. VU, PPM & LED level displays. Mix-minus. program interrupt equipment.

### BROADCAST VIDEO SYSTEMS

1050 McNicoll Ave., Unit 15, Agincourt, Ont., Canada M1W 2L8  
416 497-1020  
Title keyers, downstream keyers. Safe title area generators. Comb filter decoders, video delay lines, video filters. Video mix amp, passive 10x1 switcher. Blanking width meters, displays. Hum bucking coils. Cox line of RGB & encoded chromakeyers, TBC/framestores, color correctors, NTSC encoders. Electronic Visuals waveform monitors, vectorscopes, waveform monitor/vectorscopes.



### BROADWAY VIDEO

1619 Broadway, New York, NY 10019  
212 603-0660  
Video post-production facilities; audio/video consulting.

### BRUEL & KJAER INSTRUMENTS

185 Forest St., Marlborough, MA 01752  
617 481-7000  
Harmonic distortion meters, spectrum analyzers, real time analyzers, wow & flutter meters, distortion phase meters, test records, Voltmeters, dB meters. Chart recorders. Electret/condenser mics.  
Field Offices:  
CA 1151 E. Katella, Anaheim 92805 ..... 714 978-8066  
IL 555 W. Central Rd., Hoffman Est., 60195 ..... 312 358-7582  
GA 2030 Powers Ferry Rd. #214, Atlanta 30339 ..... 404 951-0115  
MD 15944 Shady Grove Rd., Gaithersburg 20877-1375 ..... 301 948-0494  
MI 12878 Farmington Rd., Livonia 48150 ..... 313 522-8600  
NJ 1140 Bloomfield Ave., W. Caldwell 07006 ..... 201 227-6100  
TX 8031 Airport Blvd. #115, Houston 77061 ..... 713 645-0167

### BRYSTON LTD.

57 Westmore Dr., Rexdale, Ont., Canada M9V 3Y6  
416 746-1800  
Audio preamps, monitor/power amps. LED level displays.  
See ad on pg. 159

### BSM BROADCAST SYSTEMS

Box 8081, Spokane, WA 99203  
509 448-0697  
Audio & video DAs, audio routing switchers. Parallel & serial interface video routing switchers. Video pulse amps, subcarrier amps.  
See ad on pg. 158

### THE BTX CORP.

75 Wiggins Ave., Bedford, MA 01730  
617 275-1420  
Softouch electronic audio editors; Shadow SMPTE time code synchronizers. Cypher SMPTE time code system.  
Field Offices:  
CA Jim Lucas/Terri Fiyalko, 2750 W. Silverlake Dr., Los Angeles 90039 ..... 213 664-5980  
MA Serge Gravel, 75 Wiggins Ave., Bedford 01730 ..... 617 275-1420  
NJ Paul Duncan, 120 Brick Ave., Lanoka Harbor 08734 ..... 609 693-5088

### BUHL OPTICAL CO.

1009 Beech Ave., Pittsburgh, PA 15233  
800 245-4574  
Optical multiplexers.

### THE BURBANK STUDIOS

4000 Warner Blvd., Burbank, CA 91522  
213 954-6000  
Video production facilities.

### RICHARD W. BURDEN ASSOC.

20944 Sherman Way, Canoga Park, CA 91303  
818 340-4590  
Facilities design & engineering services; engineering consultants.

### BUSH & MILLIMAKI SERVICES

902 Bob Wallace Ave., Huntsville, AL 35801  
205 533-9274  
Repair of lenses, cameras, 3/4-inch & half-inch VCRs. Tricolor video collimator. Universal tripods, heads.

### B-W LIGHTING SYSTEMS

Box 470162, Tulsa, OK 74147  
918 664-1111  
Lamps, HMI & CSI fixtures, quartz fixtures, cyc lighting, cyc track & curtains, lighting stands & rigging, lighting control boards, dimmer packs. Transportation cases. Studio furniture; equipment racks. Lighting/ac cable, cable connectors, jackfields. Set/studio design services. Engineering consultants.

### CABLEWAVE SYSTEMS

60 Dodge Ave., North Haven, CT 06473  
203 239-3111  
Intercity microwave systems. Microwave antennas. STLs. Foam dielectric transmission line. Connectors. Carrier current systems.

### CALICO VIDEO CO.

8955 Thornton Rd., Stockton, CA 95209  
209 952-3333  
Videotape: two-inch, one-inch, 3/4-inch cassettes, empty reels, carts, cases. TCR-100 video cart manufacturing, refurbishing & reloading.

### CALIFORNIA MICROWAVE

990 Almanor Ave., Sunnyvale, CA 94086  
408 732-4000  
Satellite earth stations: transmit/receive, receive-only, transportable. PTV scramblers. Facilities design & engineering services; engineering consultants; earth station site selection.

### CALREC AUDIO LTD.

See AUDIO & DESIGN/CALREC

### CALVERT ELECTRONICS

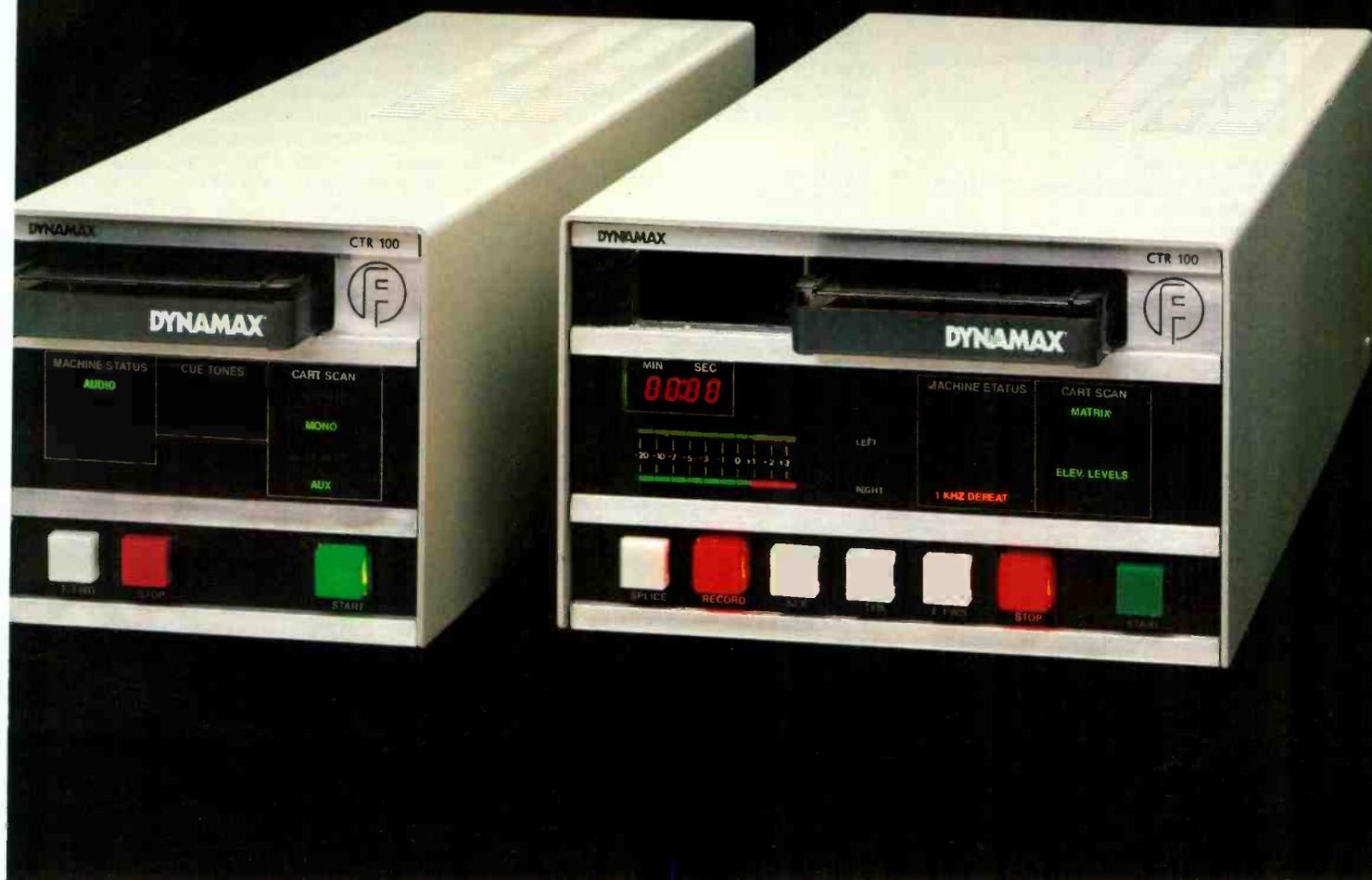
1 Branch Road, E. Rutherford, NJ 07073  
800 526-6362  
Camera pickup tubes. RF amps, tubes. Audio & video cable, RF cable.  
Field Office:  
CA 1355 Redondo Ave. #6, Long Beach 90804 ..... 213 989-0116

### CALZONE CASE CO.

225 Black Rock Ave., Bridgeport, CT 06605  
800 243-5152  
Transportation cases: foam insert, rack configuration; editing/production consoles. Equipment racks; cart/tape storage.  
See listings in Reps section

### THE CAMERA MART

456 W. 55 St., New York, NY 10019  
212 757-6977  
Equipment rental service. East coast distributor of Ikegami ED-35 camera. U.S. distributor of Multidyne products & Milab audio products.



# Dynamax™ Cartridge Machines CTR 100™ Series from Fidelipac

All features on the CTR series are standard.

- **Cart Scan™ System** — Automatically allows the intermixing of cartridges recorded at elevated level, mono or matrix; provides auxiliary output to activate equipment like a Dolby® encoder or decoder.
- **Vary Speed** — Permits operator or synchronizer to continuously vary DC Servo Drive motor speed while maintaining cue tone tracking.
- **Real Time Digital Tape Counter** — Displays precise tape position regardless of tape speed.
- Front Panel Diagnostics.
- Fast Forward.
- Secondary and Tertiary Cue Tones.
- Status Display.
- Front Panel 1 kHz Add and Defeat.
- Fully-switchable Metering with Automatic Changeover.
- Active Bias and Signal Mixing.
- Improved Heads for Flat Low Frequency Response.
- On-board Test Oscillator.
- Splice Finder.



**DYNAMAX™**  
RECORDING TAPE BY FIDELIPAC

Fidelipac Corporation • 97 Foster Road, Moorestown, NJ 08057 U.S.A. • 609-235-3900 • TELEX 710-897-0254

Dynamax, Cart Scan and CTR 100 are trademarks of Fidelipac Corporation.  
Dolby is a registered trademark of Dolby Laboratories Licensing Corp.

Circle 147 on Reader Service Card

See ad on pg. 7

Field Office:

NY 304 First St., Liverpool 13088 .....  
..... 315 457-3703

### CANARE CABLE

6733 Vineland Ave., N. Hollywood, CA 91606  
213 508-0776

Audio & video cable.

See ad on pg. 130

### CANON USA

1 Canon Plaza, Lake Success, NY 11042

516 488-6700

Camera lenses.

See ad on pg. 55

Field Offices:

CA 123 Paularino Ave. E., Costa Mesa  
92626 ..... 714 979-6000

GA 6380 Peachtree Ind. Blvd., Norcross  
30071 ..... 404 448-1430

IL 140 Industrial Dr., Elmhurst 60126 ...  
312 833-3070

### CAPITOL MAGNETIC PRODUCTS

6902 Sunset Blvd., Hollywood, CA 90028  
213 461-2701

Audio carts, bulk tape, master disc recording blanks.

See ad on pg. 136

### CARLETON PRODUCTIONS

1500 Merivale Rd., Ottawa, Ont., Canada  
K2C 3G6

613 224-1313

Video production & post-production facilities; mobile production facilities rental; recording studios; audio post-production facilities; equipment rental services; set/studio design services; videotape duplication.

### CARVIN MFG. CORP.

1153 Industrial Ave., Escondido, CA 92025  
619 747-1710

Audio consoles: mic mixers, portable, stereo studio. Graphic equalizers. Monitor speakers. Line amps, monitor/power amps.

### CASES, INC.

1745 W. 134 St., Gardena, CA 90249  
213 770-4444

Foam insert & rack configuration transportation cases. Equipment racks.

### CAT SYSTEMS, INC

401 E. 74 St., New York, NY 10021  
212 988-0290

Program automation: computer controllers, automatic satellite switchers. Monitor-based & keyboard entry teleprompters. Satellite network controllers. Transmitter remote control systems. RF monitoring systems. Log printers, status/alarm indicators. Facilities design & engineering services, set/studio design services, engineering & computer consultants.

### CATEL TELECOMMUNICATIONS

4800 Patrick Henry Dr., Santa Clara, CA  
95054

408 988-7722

Stereo generators, modulators. RF amps, converters. Fiberoptic systems.

### DWIGHT CAVENDISH CO. LTD.

2117 Chestnut Ave., Wilmette, IL 60091  
312 256-0937

Videocassette duplicator.

### CAVOX-TAPEATHON

502 S. Isis Ave., Inglewood, CA 90301  
800 421-1029

Relay sequencers, time insertion sequencers, complete program automation systems, automatic time/weather announcers. Portable & studio open-reel ATRs. Syndicated radio programming services; tape duplicating services.

### CBX

147 E. Olive Ave., Monrovia, CA 91016  
818 357-8878

Facilities design & engineering services; engineering consultants; mobile vehicle construction.

### CCR VIDEO CORP.

135 E. 55 St., New York, NY 10022  
212 753-7341

Mobile production facilities rental; video & audio post-production facilities.

### CECO COMMUNICATIONS

2115 Ave. X, Brooklyn, NY 11235  
800 221-0860/212 646-6300

Distributor of full line video equipment, RF tubes.

See ad on pg. 162

### CELESTIAL MECHANIX

612 Hampton Dr., Venice, CA 90291  
213 392-8771

TV promotions for radio stations.

### CELWAVE

Rte. 79, Marlboro, NJ 07746  
201 462-1880

FM antennas. Transmission line: rigid, foam, coaxial, power dividers, RF connectors.

Field Offices:

AZ 115 E. Watkins St., Phoenix 85004 ...  
..... 602 252-8058

FL Box 389, Leesburg 32749-0389 ...  
..... 904 787-9200

IL 941 N. Plum Grove Rd., Ste. C.,  
Schaumburg 60195 ... 312 843-7511

### CENTER CITY VIDEO

1503 Walnut St., Philadelphia, PA 19102  
215 568-4134

Video production & post-production facilities; mobile production facilities rental.

### CENTER VIDEO CENTER

5565 N. Elston Ave., Chicago, IL 60630  
312 637-1600

Editing, production consoles. Equipment rental services; video post-production facilities; studio/set design services.

### CENTRO CORP.

9516 Chesapeake Ave., San Diego, CA  
92123

619 560-1578

Mobile vehicle construction; facilities design & engineering services; set/studio design services; engineering consultants; video teleconferencing systems design & construction. Studio consoles, equipment racks.

See ad on pg. 116

### CENTRAL DYNAMICS

147 Hymus Blvd. Pointe Claire, Que.,  
Canada H9R 1G1

514 697-0810

Production switchers: portable, compact studio/mobile, large automated, post-

production. Digital efx generators, compressor/positioners, standalone analog efx, colorizers, RGB chromakeyers, title keyers, downstream keyers, nonadditive keyers. Master control switchers: manual, automated, business automation interfaced. Parallel & serial interface video routing switchers. Machine control/technical automation: parallel interface, serial interface, vertical interval systems. Digi-Sync sync & signal generator. Proc amps, video DAs, pulse amps, subcarrier amps.

See ad on pg. 31

Field Offices:

AL 401 Wynn Dr. N.W., Huntsville 35805  
..... 205 837-5180

CA 3760 Cahuenga Blvd. W., N. Hollywood  
91604 ..... 213 766-8185

IL 331 W. Northwest Hwy., Palatine 60067  
..... 312 991-4720

NY Honeywell Bldg. #570, 570 Taxter Rd.,  
Elmsford 10523 ..... 914 592-5440

CAN Central Dynamics Ltd., 801 York Mills  
Rd. #201, Don Mills, Ont. M3B 1X7  
..... 416 446-1543

### CENTURY PRECISION OPTICS

10713 Burbank Blvd., N. Hollywood, CA  
91601

818 766-3715

Lenses: telephoto, wide angle, periscope.

### CENTURY 21 PROGRAMMING

4340 Beltwood Pkwy., Dallas, TX 75234  
800 527-5959

Syndicated radio programming; music on carts; Supercart service; computerized music scheduling.

### CETEC ANTENNAS

6939 Power Inn Rd., Sacramento, CA 95828  
916 383-1177

Antennas: FM, TV HP, TV CP.

### CETEC BROADCAST GROUP

1110 Mark Ave., Carpinteria, CA 93013  
805 684-7686

Consoles: portable, mono & stereo studio, audio for TV. Turntables, pickup arms. Time insertion sequencers, computer automation controllers, complete program automation systems, automatic time/weather announcers. Radio business automation systems.

Field Office:

VA 11 Hardwick Cir., Chesapeake 23320  
..... 804 424-6350

### CETEC GAUSS

9130 Glen Oaks Blvd., Sun Valley, CA 91352  
213 875-1900

Audio tape duplicators. Monitor speakers.

### CETEC IVIE

1366 W. Center, Orem, UT 84057  
801 224-1800

Graphic equalizers. Digital reverb, delay. Preamps, monitor/power amps. Audio test signal generators, spectrum analyzers.

### CETEC VEGA

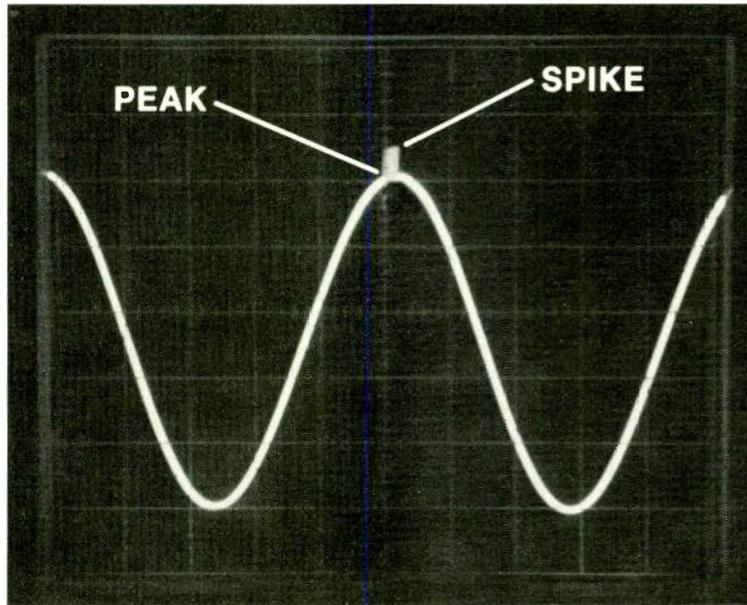
9900 Baldwin Pl., El Monte, CA 91731  
818 442-0782

Q System RF intercoms. RF mics.

### CFI VIDEO

959 N. Seward St., Hollywood, CA 90038  
213 462-3161

# Can Your FM Modulation Monitor Tell a Peak from a Spike?



TFT's new FM/Stereo and SCA monitors make modulation uncertainty a thing of the past. Based on more than 14 years of experience with over 5,000 monitors, these new instruments have an exclusive (pat. pending) Peak Differentiator that separates true modulation peaks from the spikes generated by noise, overshoot and multipath distortion.

With the Model 844 FM/Stereo monitor and the Model 845 SCA monitor, you can modulate your transmitter at the absolute legal limit, with absolute confidence, to achieve maximum coverage.

Both new monitors have a built-in frequency-synthesized FM modulation calibrator—another TFT first. Merely push a button on the front panel to get a modulation accuracy better than 1 percent—year after year—without any additional instruments.

Other important features include automatic bandwidth selection when you change be-

tween remote and on-site monitoring, and a multipath detector to minimize distortion in off-the-air applications.

In addition, the Model 845 SCA monitor allows you to select up to three SCA frequencies. And, using the digitally programmable pre-selector in the Model 844, you can monitor your competition off-air to get a fast, precise fix on how your loudness measures up.

So, to take the guesswork out of modulation and get all the coverage you're entitled to, get your monitor from TFT. For detailed specifications, and a demonstration, call or write.



*Committed to keeping you, on the air!*

3090 Oakmead Village Dr., Santa Clara, CA 95051 ■ (408) 727-7272 ■ TWX 910-338-0584

# AFA

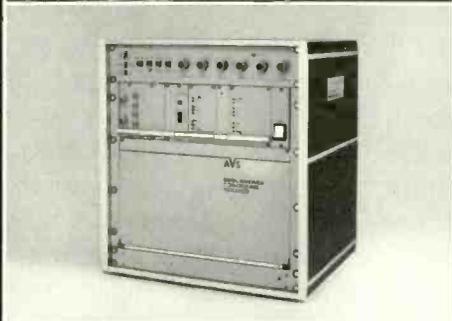
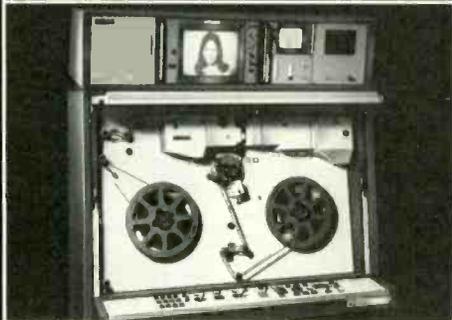
## AFA SYSTEMS

The nation's leading designer and fabricator of video systems, including ENG/EFP vans, large mobile production units, corporate video facilities, multi-camera studios, post-production suites, satellite network playback centers and more!



## AFA PRODUCTS

Exclusive representative in North America for the Marconi B3410 Telecine and the AVS Standards Converter, and exclusive representative in the Mid-Atlantic states and the District of Columbia for the Abekas A42 still store and the A52 digital video effects system.



# YOU



**A.F. ASSOCIATES INC.**  
**ADVANCED SYSTEMS AND PRODUCTS FOR THE VIDEO INDUSTRY**

100 STONEHURST COURT NORTHVALE NJ 07647 (201) 767-1000

Circle 149 on Reader Service Card

Video post-production facilities.

### CHANNELMATIC

821 Tavern Rd., Alpine, CA 92001  
619 445-2691

Automatic satellite switchers. MERPS multicassette decks. Audio & video DAs. Parallel interface video routing switchers. Parallel interface & vertical interval machine control/technical automation. Pulse amps. Videocassette machine sequencers & changer mechanisms. VCR automation systems. Tone signalling systems. Satellite network controllers. Digital clocks; timers; complete timing systems. Custom time-controlled A/V switchers.

### CHANNEL ONE VIDEO TAPE

3341 N.W. 82 Ave., Miami, FL 33122  
305 592-1764/in NYC 926-6391

Video production & post-production facilities; mobile production facilities rental.

### CHATON RECORDINGS

5625 E. Nauri Valley Dr., Scottsdale, AZ 85253  
602 991-2802

Recording studios; audio post-production facilities; mobile production facilities rental; music libraries.

### CHESTER CABLE

Drawer D, Chester, NY 10918  
914 249-4813

Audio, video, RF distribution cable. Cable design consulting.

See ad on pg. 121

### CHICAGO VIDEO

48 E. University, Arlington Heights, IL 60004  
312 577-2430

Video production & post-production facilities; mobile production facilities rental.

### JOHN CHILES

7622 Main St., Jacksonville, FL 32208  
904 764-5281

Nicad & lead-acid batteries, chargers.

### CHRISTIE ELECTRIC CORP.

20665 Manhattan Pl., Torrance, CA 90501  
213 320-0808

Nicad batteries, chargers. Bulk tape degaussers.

### CHRONICLE PRODUCTIONS

1001 Van Ness Ave., San Francisco, CA 94109  
415 561-8663

Video production & post-production facilities; mobile production facilities rental.

### CHROMA DIGITAL SYSTEMS

2065 Martin Ave. #104, Santa Clara, CA 95050

408 986-8270

Chromafex line of video digital efx generators, compressor/positioners, TBCs, frame synchronizers, TBC/framestore, dropout compensators.

### CHRONO-LOG CORP.

2 W. Park Rd., Havertown, PA 19083  
215 853-1130

Digital clocks, timers, complete clock/timing systems. Time insertion sequencers. See listings in Reps section

### CHYRON CORP.

265 Spagnoli Rd., Melville, NY 11747  
516 249-3296

Character generator/graphics systems, digital art/paint systems, draw-on-screen systems, bit pad digitizers. Weather symbol inserters.

### CINEMA PRODUCTS CORP.

2037 Granville Ave., Los Angeles, CA 90025  
213 478-0711

Cine cameras. Ultra T, Todd-AO cine lenses. Video matte boxes; adjustable video zoom lens control. Bubbelite quartz fixtures. Nicad batteries, chargers. Mini-Worrall geared head; Steadicam camera stabilizing system; Mini-Mote remote pan/tilt system. Camraprompter scroll entry, ENG/EFP portable teleprompters.

### CINEMILLS CORP.

3500 W. Magnolia Blvd., Burbank, CA 91505  
213 843-4560

Daymax high-intensity bulbs for Strand Century & Arriflex HMI's; DeSisti lighting products; Sunburst HMI fixtures, Lee filters.

### CINE 60

630 Ninth Ave., New York, NY 10036  
212 586-8782

Nicad batteries, chargers. Portable lighting units. ENG braces.

See ad on pg. 159

### CINETRONICS

304 S. Broadway #510, Los Angeles, CA 90013

213 617-0976

Video production and post-production services.

### CIPHER DIGITAL

150 Huntington Ave., Boston, MA 02115  
617 267-1148

SMPT time code generator/readers, VITC reader/generators, high resolution character displays.

### CIRCUIT DEVELOPMENT CO.

1029 Utica Ave., Brooklyn, NY 11203  
212 346-9101

Three-channel RF monitors. Two-way communications systems including base station repeater & cassette recorder interface. Headphone monitor amp.

### CIRCUIT RESEARCH LABS/ CRL AUDIO

2522 W. Geneva Dr., Tempe, AZ 85282  
800 535-7648

ALC, AGC amps; AM & FM compressor/limiters. FM stereo generators. FM SCA equipment.

See ad on pg. 65

### CLARCOMPUTER SERVICES

111 S. Fifth St., Box 100, Vandalia, IL 62471  
618 283-2325

Radio business automation hardware.

### DAVID CLARK CO.

360 Franklin St., Worcester, MA 01604  
617 756-6216

Headphones. Intercom systems.

### CLARION REMOTE TELEVISION/CRT

60 Williamsburg Rd., Evanston, IL 60203  
312 674-5850

Mobile production facilities rental.

### CLEAR-COM INTERCOM SYSTEMS

1111 17 St., San Francisco, CA 94107  
415 861-6666

Hardwired intercom systems.

See listings in Reps section

See ad on pg. 18

### CLEARWATER TELEPRODUCTIONS

8036 Aviation Pl., Box 71, Love Field Terminal, Dallas, TX 75235

214 263-3586

Mobile production facilities rental.

### CMC TECHNOLOGY CORP.

2650 Lafayette St., Santa Clara, CA 94086  
408 980-9800

Replacement & rebuilt heads for quad & one-inch VTRs; VTR rebuilding service; bulk tape erasers.

### CMX SYSTEMS, AN ORROX CORP.

3303 Scott Blvd., Santa Clara, CA 95050  
408 988-2000

Two-machine editor/controllers, A/B-roll editors, multisource editors.

### COASTCOM

2312 Stanwell Dr., Concord, CA 94520  
415 825-7500

Video filters. Diplexers. Transmit/receive satellite earth stations. Remote control systems. RF program subcarrier.

### COAXIAL DYNAMICS

15210 Industrial Pky., Cleveland, OH 44135  
216 267-2233

RF attenuators, filters, loads. RF power meters, wattmeters, calorimeters, frequency monitors & controllers. Digital frequency meters.

See listings in Reps section

### COHERENT COMMUNICATIONS

13756 Glenoaks Blvd., Sylmar, CA 91342  
213 362-2566

Mic mixers, portable audio consoles. Mics: electret/condenser, RF, lavalier. Time code equipment. Portable video transmitters.

### COLORADO VIDEO

Box 928, Boulder, CO 80306  
303 444-3972

Slow-scan transmitters/receivers. Digital still stores. Colorizers. Video sync generators. Framestore. Waveform monitors. Distributor of monochrome cameras, lenses, lens extenders.

### COLOR FILM CORP., VIDEO DIV.

98 Commerce Rd., Stamford, CT 06904  
203 327-7270

Video post-production facilities. Videocassette duplication, film-to-tape transfers, TV standards conversion.

### COLORGRAPHICS SYSTEMS

5725 Tokay Blvd., Madison, WI 53719  
608 274-5786

Liveline weather satellite displays, radar displays, weather-based art/paint system. Artstar character generator/graphics systems, digital art/paint systems, draw-on-screen systems. Newstar radio & TV newsroom computers. Lightning detection & display.

## COLORTRAN

1015 Chestnut St., Burbank, CA 91506  
818 843-1200

Lamps, quartz fixtures, cyc lighting, diffusion & efx material, lighting stands & rigging, lighting control boards, dimmer packs. Nicad batteries, chargers.

## COLUMBIA VIDEO SYSTEMS

1741 Second St., Highland Park, IL 60035  
312 433-6010

Equipment rental service; video production & post-production facilities; recording studios; facilities design & engineering services; set/studio design services.

See ad on pg. 125

## COLUMBINE SYSTEMS

7 Jackson Bldg., Lev. 3, Plaza of the Presidents, Golden, CO 80401  
303 279-4000

Complete program automation systems; radio & TV business automation software & IBM hardware.

## COMAD

Box 10667, Pensacola, FL 32504  
904 434-9782

Audio patch panels, jackfields. Manual, automated master control switchers. Parallel & serial interface video routing switchers. Parallel & serial interface machine control/technical automation; vertical interval systems.

## COMARK COMMUNICATIONS

Box 224, Feeding Hill Rd., Southwick, MA 01077

215 822-0777

Comark, Marconi VHF transmitters; UHF, LPTV transmitters, translators. TV exciters, diplexers, multiplexers, modulators. RF amps, tubes, attenuators, converters, filters, loads, switches. Transmit/receive satellite earth stations. M/A-Com intercity microwave. FM antennas; antenna tuning units. Bogner, Andrew, A.B. Dick TV HP & CP antennas. Coaxial transmission line, power dividers, RF connectors. Pi-Rod, Vert. Technology tower masts, rigging, hardware, lighting. Moseley, TFT transmitter remote control systems, STLs. Comark, Tektronix demodulators. Tektronix modulation monitors, antenna monitors, field intensity meters, sideband analyzers, RF power meters & wattmeters, RF calorimeters, frequency monitors, controllers, RF test signal generators, impedance bridges, phase meters, oscilloscopes, delayed sweep scopes. EEV, Amperex klystrons. LEA surge protectors.

Field Offices:

PA Stuart Kravitz, Dir. of Mktg., Comark, Box 275, Colmar 18915 215 822-0777

## COMEX SYSTEMS

See GRANITE TELCOM

## COMMERCE AIRBORNE

16425 Hart St. #106, Van Nuys, CA 91406  
213 782-4810

Airborne microwave systems. Audio DAs. Engineering consultant.

## COMMUNICATIONS

### ALTATEC

7124 Dixie Dr., Austin, TX 78744  
512 282-5355

Video production & post-production facilities; mobile production facilities rental; equipment rental services; turnkey production services.



## COMPACT VIDEO SERVICES

2813 W. Alameda, Burbank, CA 91505  
818 840-7000

Mobile teleproduction facilities rental; video post-production facilities; satellite uplink & downlink services; film-to-tape transfers; tape duplication services; video & film sound services.

## COMPUCON

Box 809006, Dallas, TX 75380  
214 680-1000

Earth station site selection; engineering consultants.

## COMPREHENSIVE VIDEO SUPPLY CORP.

148 Veterans Dr., Northvale, NJ 07647  
201 767-7990/800 526-0242

Mic mixers. Audio & video tape erasers, degaussers. Videotape cleaners, evaluators. PortaCom hardwired intercoms. Mics: dynamic, electret/condenser, lavalier, shotgun; mic booms, dollies. Camera lenses 3M 3/4-inch, half-inch videocassettes. Portable production switchers. Video DAs. Portable video special effects generator. Lamps, quartz fixtures, diffusion & efx material, lighting stands & rigging, dimmer packs. Nicad batteries, chargers; ac/dc converters, inverters. Camera tripods, heads, dollies. Padded nylon & rack configuration transportation cases. Studio furniture, cabinets; studio consoles; equipment racks; cart/tape storage.

RF converters, switches. Leader audio & video test signal generators, wow & flutter meters, waveform monitors, vectorscopes, oscilloscopes, voltmeters, multimeters. Audio & video cable, connectors. Computer interface cables. Music libraries.

Field Office:

CA 14731 Franklin Ave., Tustin 92680  
800 847-4778/in CA 800 847-4779

## COMPU-PROMPT

940 N. Orange Dr. #209, Los Angeles, CA 91367

213 992-5882

Color computerized monitor-based teleprompter.

## COMPUTER BROADCASTING

6085 Dawn Dr., Rohnert Park, CA 94928  
707 585-0266

Music Index programming software; radio programming consultants.

## COMPUTER CONCEPTS CORP.

8375 Melrose Dr., Lenexa, KS 66214  
800 255-6350

Complete program automation systems. Radio business automation hardware, radio newsroom computers.

## COMPUTER GRAPHICS LABORATORIES/CGL

405 Lexington Ave., New York, NY 10174  
212 557-5130

IMAGES digital art/paint system. 3-DV 3D modeling & manipulation system. CAAS, 3-DV video animation systems

## COMPUTER IMAGE CORP.

2475 W. Second Ave., Denver, CO 80223  
303 934-5801

System IV video animation system. Scanimate standalone analog video efx.

## COMREX CORP.

60 Union Ave., Box 269, Sudbury, MA 01776  
617 443-8811

Portable audio consoles. ALC, AGC amps. RF intercom systems. RF mics. Telco interface equipment. Frequency extenders.

## COMSEARCH

11503 Sunrise Valley Dr., Reston, VA 22091  
703 620-6300

Engineering consultants; earth station site selection; cellular radio services; terrestrial microwave frequency planning; MDS services.

## COMTECH ANTENNA

3100 Communications Rd., St. Cloud, FL 32769

305 892-6111

Offsat transmit/receive satellite earth station; receive-only & transportable satellite earth stations.

## COMTECH DATA CORP.

350 N. Hayden Rd., Scottsdale, AZ 85257  
602 949-1155

Satellite equipment; upconverters, downconverters, modems; encoders & decoders; low-noise amps, high-power amps; audio receivers.

## COM-TEK COMMUNICATIONS TECHNOLOGY

375 W. Lemel Cir., Salt Lake City, UT 84115  
801 466-3463

RF intercoms; RF mics. Receive-a-Cue RF cuing system.

## CONCEPT PRODUCTIONS

1224 Coloma Way, Roseville, CA 95678  
916 782-7754

Syndicated radio programming.

## CONEX ELECTRO-SYSTEMS

Box 1342, Bellingham, WA 98227  
206 734-4323

Cue-Amp monitor/power amps. 25 Hz tone sensors & generators.

## CONNECT-AIR INTL.

50 37 St. N.E., Auburn, WA 98002  
206 939-4880

Video, audio, lighting/ac cable; cable connectors.

## CONNECTRONICS CORP.

652 Glenbrook Rd., Stamford, CT 06906  
203 324-3889

Analog audio efx, reverb. Audio preamps, amp power supplies. Audio & video cable; cable connectors; jackfields, patch panels. See listings in Repts section

## OTIS CONNER PRODUCTIONS

2829 W. Northwest Hwy. #940, Dallas, TX 75220

214 358-5500

Music library; TV & radio musical ID production packages.

## CONRAC

600 N. Rimsdale Ave., Covina, CA 91722  
213 966-3511

Video monitors: monochrome, NTSC, RGB, graphics displays.

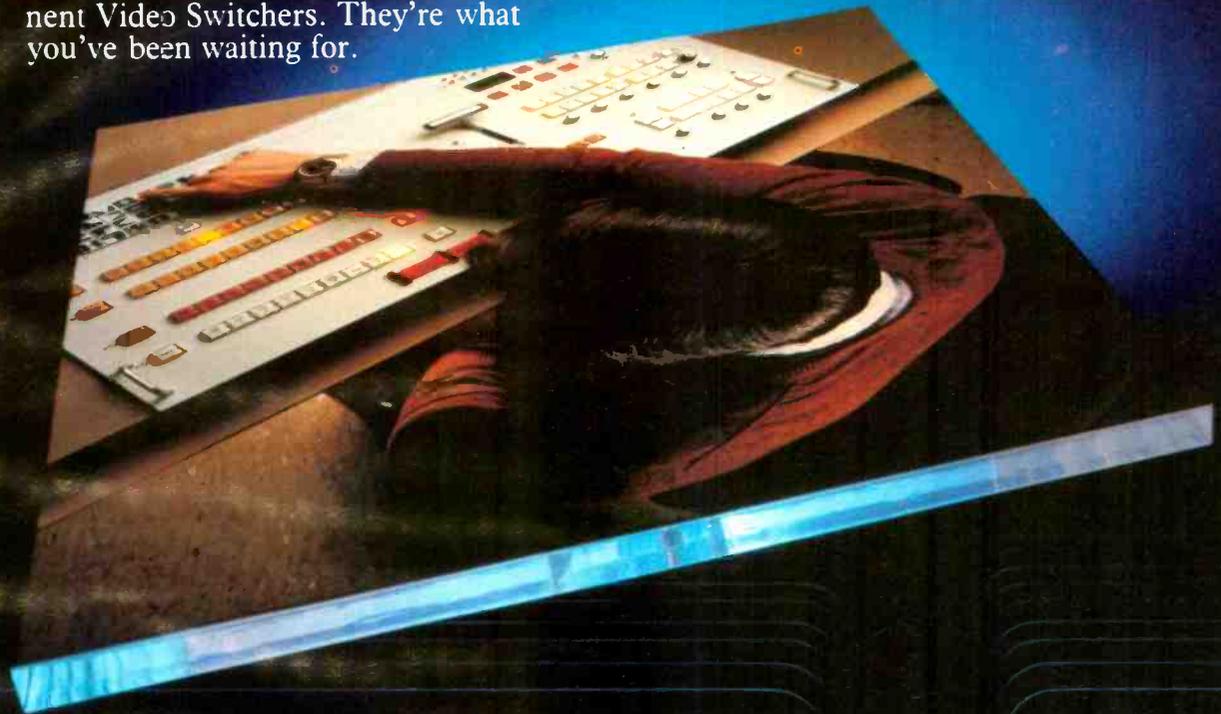
# If you like BetaCam or M recorders and RGB cameras, you'll love our component video switcher.

Until now, your entire component system had to be the same format as your switcher. But Grass Valley Group has changed all that.

Our revolutionary 1600 Component Video Switchers handle all three formats — RGB, M and BetaCam. Simultaneously. Plus any future formats using R-Y, B-Y or I,Q axes. Each input and output can be any format you'd like. So your cameras, character generators and recorders don't have to speak the same language.

Talk to us about our new 1600 Component Video Switchers. They're what you've been waiting for.

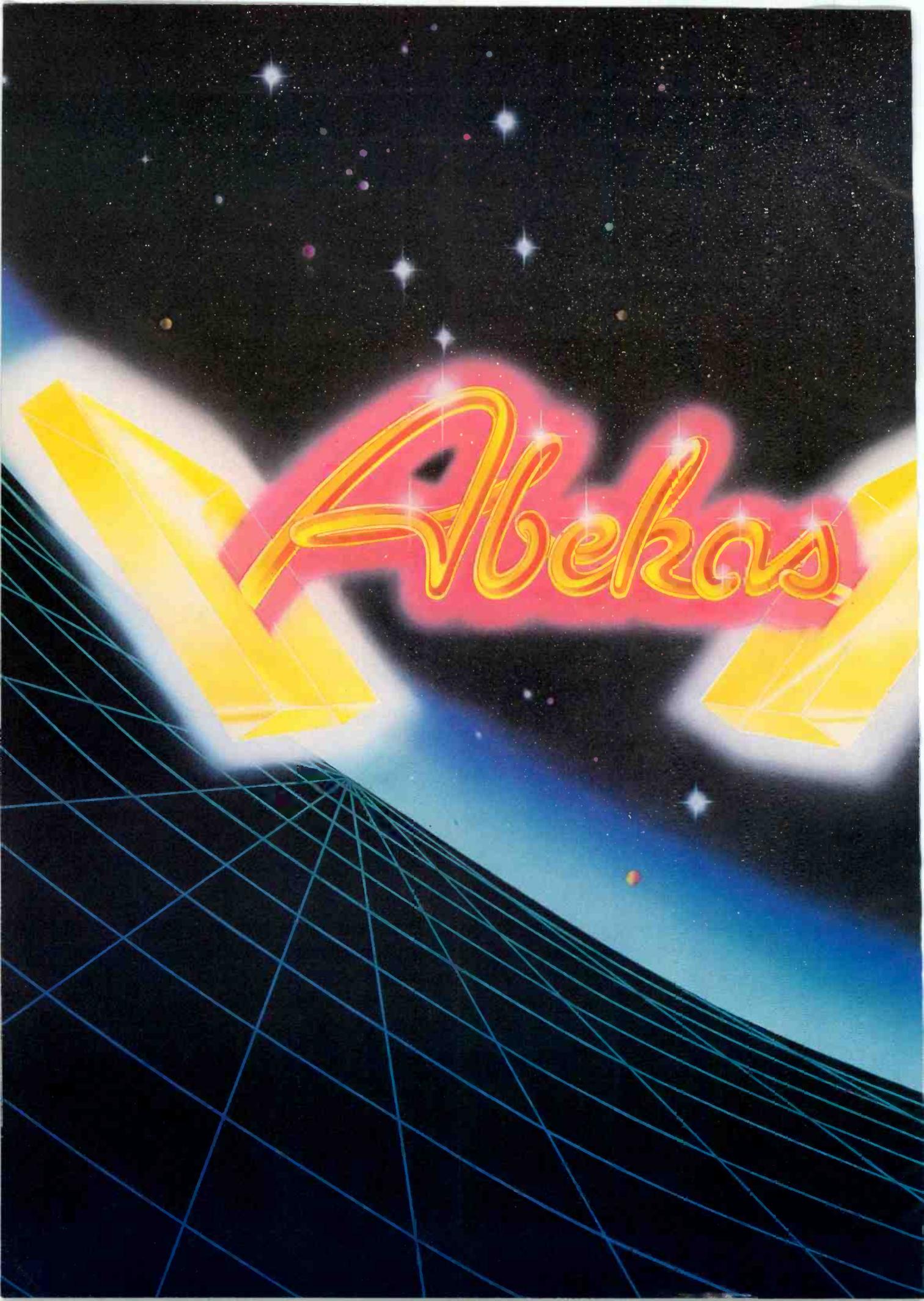
**Grass Valley Group**<sup>®</sup>  
A TEKTRONIX COMPANY



Grass Valley Group  
1600 Component Video Switchers.  
Speak RGB, M and BetaCam.  
Simultaneously.

THE GRASS VALLEY GROUP, INC.® — P.O. Box 1114 — Grass Valley, California 95945 USA — Telephone (916) 273-8421 — TRT: 160432  
OFFICES: Edison, NJ (201) 549-9600 — Atlanta, GA (404) 321-4318 — Elkhart, IN (219) 264-0931 — Arden Hills, MN (612) 483-2594  
Fort Worth, TX (817) 921-9411 — Woodland Hills, CA (818) 999-2303 — Palo Alto, CA (415) 968-6680

Circle 221 on Reader Service Card



Abekas

# LET US SHOW YOU TWO WAYS TO IMPROVE YOUR IMAGE.

Abekas revolutionized the digital still store market in 1983 with the A42 Video Slide Projector. In 1984, we intend to set a new standard of performance with our A52 Digital Special Effects System.

**The A52 Digital special Effects System** provides extremely high signal transparency, smooth picture movement, and a control system ideal for both on-air and post-production applications. Effects include: variable axis compression to zero, infinite expansion, picture repositioning, mosaics, posterization, flips, tumbles, splits, freeze, multi-freeze, background and border. Single or multi-channel system.

**The A42 Video Slide Projector** combines the very latest in 5¼" Winchester disk drive and full bandwidth digital video processing in a quality still store system that's both powerful and easy to use. Adaptive digital signal processing. Excellent multi-generation capability for graphics composition. On-line storage expandable to 1050 frames/2100 fields. Practical and economical off-line storage on ¼" digital tape cartridge. Single or dual-channel system.

Put the individual power of the new A52 or the A42 to use, or digitally interface them to form an awesome creative tool. For details, contact Abekas Video Systems, Inc., 319 Lincoln Centre Drive, Foster City, CA 94404, (415) 571-1711.



The Abekas A52.



The Abekas A42.

## Abekas

Video Systems, Inc.

Circle 222 on Reader Service Card

## CONTINENTAL ELECTRONIC/ CONTEL

1620 W. 32 Pl, Hialeah, FL 33012  
305 822-1421  
Cart player/recorders; LPTV transmitters.

## CONTINENTAL ELECTRONICS MFG. CO.

Box 270879, Dallas, TX 75227  
214 381-7161

AM & FM transmitters. AM, AM stereo, FM exciters; stereo generators, diplexers, multiplexers, modulators. RF power amps, filters, loads, switches. AM & FM antennas; antenna tuning units. FM & AM SCA equipment. Stereo studio audio consoles.

See ad on pg. 67

### Field Offices:

AL Dave Hultsman, Box 26509, Birmingham 35226 . . . . . 205 822-1078  
CA Steve Keating, 18533 Burbank Blvd., Box 145, Tarzana 91356 . . . . . 213 708-7771  
CO Ken Perkins, 7846 S. Centaur Dr., Evergreen . . . . . 303 670-1049  
IL John D. Abdnour, Box 575, Streator 815 672-8585  
MN Jim Littlejohn, 670 N. Branch Rd., Maple Plain . . . . . 612 479-2633  
NC John Hutson, 2 Fair Oaks N., Arden 28704 . . . . . 704 687-1016  
NY R. Clifford Rogers, Box 157, Schroom Lake 12870 . . . . . 518 532-7488  
OR Tom T. Cauthers, 1215 SE 73 Ave., Portland 97215 . . . . . 503 254-2818  
TN Barry Ariaz, 106 Louann Ln., Hendersonville 37075 . . . . . 615 822-0256  
TX Steve H. Schott, Box 2008, Plano 75074 . . . . . 214 423-3644

## CONTINENTAL RECORDINGS

210 South St., Boston, MA 02111  
617 426-3131  
Audio post-production facilities; recording studio; music libraries; jingles.

## CONTROL CONCEPTS CORP.

328 Water St., Binghamton, NY 13901  
607 724-2484  
ISASIL magnetic isolator; ISLATRAL active tracking filter.

## CONTROL TECHNOLOGY

2322 Davie Blvd., Ft. Lauderdale, FL 33312  
305 587-2716/800 327-4121  
Relay & time insertion sequencers, computer automation controllers, complete program automation systems, auto time/weather announcers. Facilities design & engineering services; engineering consultants; distributor of audio & RF equipment.

## CONTROL VIDEO CORP., SUBSIDIARY ADDA CORP.

1640 Dell Ave., Campbell, CA 95008  
408 866-7447  
The Sequencer machine control/technical automation: random access, parallel & serial interface, vertical interval. Intelligent Controller time code synchronizer, SMPTE time code generator/reader, VITC reader/generator; Sword, Saber two-machine editor/controllers; LightFinger Plus A/B roll, multisource editor.

## CONVERGENCE CORP.

1641 McGaw, Irvine, CA 92714  
714 250-1641  
Two-machine editor/controllers, A/B roll edi-

tors, multisource editors. SMPTE time code readers. Special effects generators.

### Field Offices:

CA Richard Sher, 3575 Cahuenga Blvd. W., Los Angeles 91403 . . . . . 213 506-7678  
NY Monique De Vusser, 250 W. 57 St. #815, New York 10019 . . . . . 212 765-1333

## COOL LIGHT

5723 Auckland Ave., N. Hollywood, CA 91601  
213 761-6116  
Lamps, lighting fixtures.

## COPPERWELD BIMETALLICS GROUP

Robinson Plaza 2, Pittsburgh, PA 15205  
412 777-3000  
Alumoweld strand tower guying material.

## CORELLI JACOBS MUSIC

25 W. 45 St., New York, NY 10036  
212 586-6673  
Audio post-production facilities.

## CORPORATE COMMUNICATIONS CONSULTANTS

4250 Veterans Memorial Hwy., Holbrook, NY 11741  
516 737-0903  
Telecine color correctors, telecine control systems. Scene-by-scene videotape color correctors. Comb filter decoders.

## COUNTRYMAN ASSOCIATES

417 Stanford Ave., Redwood City, CA 94063  
415 364-9988  
Mics: electret/condenser. PZM, RF, lavalier, stereo. Isomax sound reinforcement.  
See ad on pg. 153

## CREATIVE TECHNOLOGY

853 Copley Rd., Akron, OH 44320  
216 535-5778  
Video production & post-production facilities; mobile production facilities rental.

## CRL AUDIO

See CIRCUIT RESEARCH LABS

## CROSSPOINT LATCH CORP.

95 Progress St., Union, NJ 07083  
201 688-1510  
Video production switchers: compact, studio/mobile units; large, automated systems; post-production switchers. Video sync, black burst, color bar generators.  
See ad on pg. 132

## JOHN CROWE PRODUCTIONS

10 Greenway Plaza, Houston, TX 77046  
713 627-9270  
Mobile production facilities rental.

## CROWN INTERNATIONAL

1718 W. Mishawaka Rd., Elkhart, IN 46517  
219 294-5571  
Mics: electret/condenser, PZM, lavalier. Graphic equalizers. Preamps, monitor/power amps. Real time analyzers; Tecron spectrum analyzers.

## CSI ELECTRONICS

18248 E. Rogers Cir., Boca Raton, FL 33431  
305 994-6511  
AM & FM transmitters. Stereo generators.

Antenna tuning units. SCA equipment. Status/alarm indicators.

## CSP

203 Airport Rd., Doylestown, PA 18901  
215 345-7386  
Diplexers. RF filters, loads, switches. Power dividers. AM sampling systems.

## CUSTOM BUSINESS SYSTEMS

Box 67, Reedsport, OR 97467  
503 271-3684  
Radio business automation software & hardware.

## CYBERNETIC DATA PRODUCTS

20732 Lassen St., Chatsworth, CA 91311  
818 998-0900  
Silent Radio broadcast system for distribution of news & advertising to LED display boards; vertical interval inserter.

## DABURN ELECTRONICS & CABLE CORP.

70 Oak St., Norwood, NJ 07648  
201 768-5400  
Audio & video cable.

## PETER W. DAHL CO.

4007 Fort Blvd., El Paso, TX 79930  
915 566-5365  
Rectifiers; transformers; surge protectors.

## DALSAT SATELLITE COMMUNICATIONS

Box 1960, Plano, TX 75074  
214 578-7561  
Transportable satellite earth station; facilities design & engineering services; engineering consultants.

## DATA COMMUNICATIONS

3000 Directors Row, Memphis, TN 38131  
901 345-3544  
BIAS radio business automation software. BIAS business-automation-interfaced master control automation. BIAS TV traffic system & newsroom computer system.

## DATA PRECISION CORP.

Electronics Ave., Danvers, MA 01923  
617 777-1401  
Waveform analyzers; dc voltage standards. Voltmeters, multimeters, capacitance meters, ohm meters, thermometers.

## DATATEK CORP.

1121 Bristol Rd., Mountainside, NJ 07092  
201 654-8100  
Preamps, line amps, monitor/power amps. Serial interface video routing switchers. Serial interface machine control. Black burst generators. Pulse amps, audio & video DAs.

## DATATRONIX

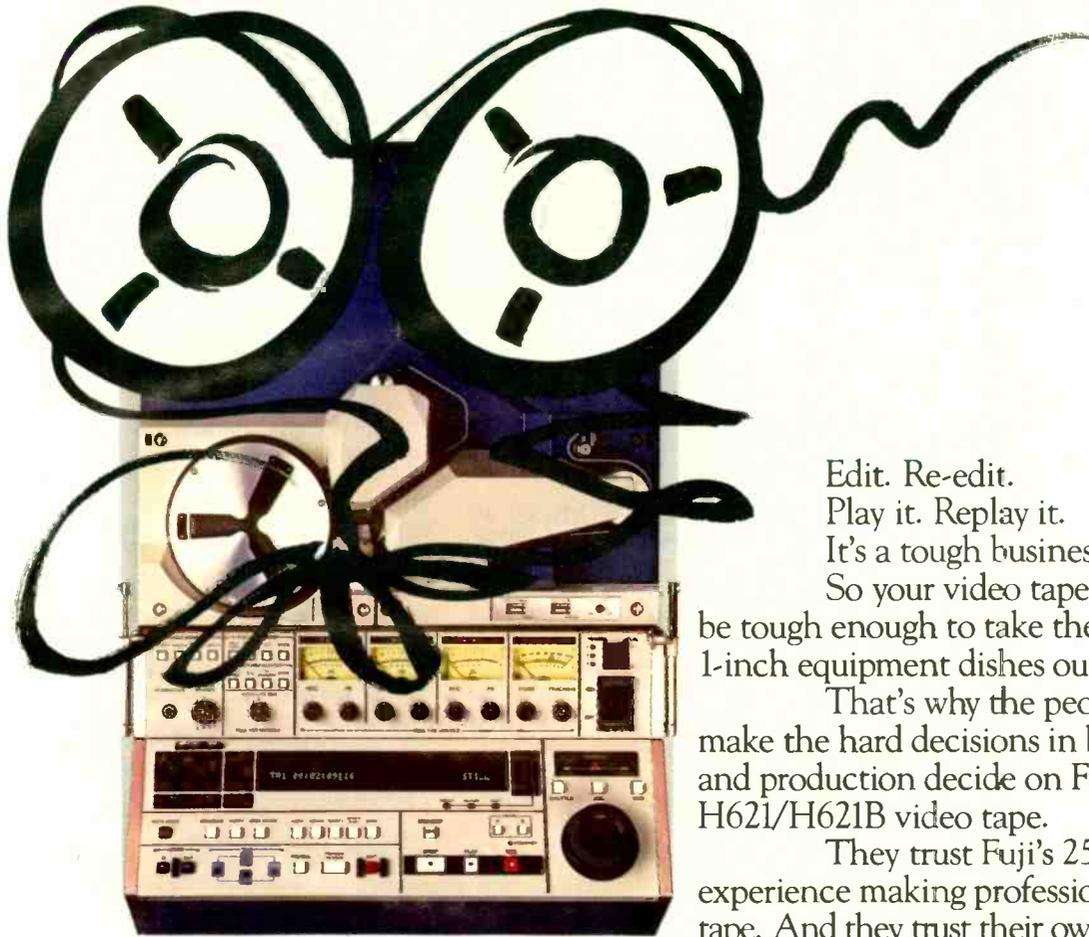
2100 Reston Ave., Reston, VA 22091  
703 620-5300  
Datatronix/API AM & FM compressor/limiters; parametric & graphic equalizers; preamps, line amps, monitor/power amps, amp power supplies; slide attenuators. Datatronix/Telepath hardwired intercom systems. Audio DAs, audio routing switchers, audio patch panels & jackfields, teico interface equipment, VU meter amps.

## DATAWORLD INC.

1302 18 St. NW, Washington, DC 20036  
202 296-4790



What good is a \$75,000 video recorder when the video tape gives a two-bit performance?



Edit. Re-edit.  
Play it. Replay it.  
It's a tough business.  
So your video tape has got to be tough enough to take the beating your 1-inch equipment dishes out.

That's why the people who make the hard decisions in broadcasting and production decide on Fuji 1-inch H621/H621B video tape.

They trust Fuji's 25 years of experience making professional video tape. And they trust their own experience.

With Fuji, they know that our high-density BERIDOX formula and special back-coating deliver picture quality that's consistently vivid, even after multiple generations. They know that dropouts drop down to a minimum. And that valuable video heads are protected to a maximum.

If you want to know more about what makes Fuji's extraordinary video tape the first choice of professionals, just do a very ordinary thing.

Run to your phone and call Fuji.  
And we'll show you a tape you can run and run and run and run and run and run.



**FUJI.**

Nobody gives you better performance.

© 1984 Fuji Photo Film U.S.A., Inc., Magnetic Products Div., 350 Fifth Avenue, NY, NY 10118

Circle 223 on Reader Service Card

Computer database of FCC engineering information.

#### DATUM

1363 S. State College Blvd., Anaheim, CA 92806

714 533-6333

SMPTE time code generator/readers; VITC reader/generators; time code character generators.

#### DAVIS & SANFORD CO.

24 Pleasant St., New Rochelle, NY 10802

914 632-1636

Camera tripods, heads, pedestals, dollies.

#### dbx

71 Chapel St., Newton, MA 02195

617 964-3210

Audio noise reduction; ALC & AGC amps, AM & FM compressor/limiters, parametric equalizers. Digital efx, reverb. Audio noise gate; satellite compandor.

#### DEL.COM CORP.

6019 S. 66 E. Ave., Tulsa, OK 74145

918 494-9500/800 331-5461

Studio furniture; cabinets; studio consoles; equipment racks. Mobile production facilities rental; facilities design & engineering services; set/studio design services; engineering consultants; mobile vehicle construction; SCAT computerized documentation of video system cabling.

#### DELTA ELECTRONICS

5730 Gen. Washington Dr., Alexandria, VA 22312

703 354-3350

ALC & AGC amps, AM compressor/limiters. Coaxial transfer switches, control panels, RF switches, DA equipment, ATS equipment. Frequency modulation controller. Meter jacks & plugs, remote sample rectifier circuits, antenna monitor sampling transformers. Antenna monitors, RF generators, impedance bridges. Status & alarm indicators. Common point bridges, power controllers, base current & common point RF metering. Remote control systems, pulse reflectometers. AM stereo system.

See ad on pg. 77

#### DESISTI AMERICA

141 Garden St., Hoboken, NJ 07030

201 792-4980

HMI, CSI fixtures, quartz fixtures, cyc lighting, lighting stands & rigging, lighting control boards, dimmer packs, CID lamps, Coemar diffusion & efx material. Irem/DeSisti HMI ballasts. Tripods, heads, Elemack dollies, cranes, jibs. Foam insert transportation cases. Lighting/ac cable. Facilities design & engineering services; studio design services.

#### DEVLIN PRODUCTIONS

150 W. 55 St., New York, NY 10019

212 582-5572

Video production & post-production facilities; mobile production facilities rental.

#### DE WOLFE MUSIC LIBRARY

25 W 45 St., New York, NY 10036

212 586-6673

Production music library & sound effects.

#### DEXCEL

2580 Junction Ave., San Jose, CA 95134

408 943-9055

Receive-only satellite earth stations, LNAs, LNA downconverters.

#### DICTAPHONE CORP.

120 Old Post Rd., Rye, NY 10580

914 967-7300

Tape-based loggers.

See ad on pg. 63

#### DIELECTRIC COMMUNICATIONS

Tower Rd., Raymond, ME 04071

207 655-4555

RF filters, loads, switches. FM antennas. Rigid & coaxial transmission line, power dividers.

#### DIGIMAX INSTRUMENTS

5625 Kearny Villa Rd., San Diego, CA 92123

619 569-6582

Frequency counters & accessories.

#### DIGITAL BY DICKINSON

9 Westinghouse Plaza, Box 547, Bloomfield, NJ 07003

201 429-8996

Digital audio lock to video. Mobile production facilities rental; video post-production facilities; recording studios; audio post-production facilities; equipment rental services; engineering consultants.

#### DIGITAL ENTERTAINMENT

555 W. 57 St. #1530, New York, NY 10019

212 581-6100

Pluto mic mixers, SAM portable audio consoles. Mitsubishi digital audio recorders: portable, multitrack. Mitsubishi editor for digital audio. Equipment rental services.

#### DIGITAL SERVICES CORP./DSC

3622 N.E. 4 St., Gainesville, FL 32601

904 377-8013

Illusion/Flexikey digital video efx generators.

See ad on pg. 85

See listings in Reqs section

Field Offices:

CA Hugh Gillogly, 17206 Pinot Pl., Poway 92064 ..... 619 485-1156

IN Morrell Beavers, Rt. 1, Box 177, Rosedale 47874 ..... 317 832-3212

NY John Barker, 300 Mercer St. #11-O, New York 10003 ..... 212 228-3952

#### DIGITAL VIDEO PRODUCTIONS

62 S. Franklin St., Wilkes-Barre, PA 18773

717 824-1161

Video production & post-production facilities; mobile production facilities rental.

#### DIGITAL VIDEO SYSTEMS, SUBSIDIARY SCIENTIFIC-ATLANTA

120 Middlefield Rd., Scarborough, Ont., Canada M1F 4M6

416 299-6888

Digital & dual-channel TBCs, frame & field synchronizers. Comb filter decoders, drop-out compensators. A/D & D/A converters, phasers. Encryption/decryption satellite transmission systems.

See ad on pg. 107

#### DIGIVISION

11722 Sorrento Valley Rd., San Diego, CA

92121

619 481-9988

High resolution digital video converter for display devices.

#### DI-TECH

48 Jefryn Blvd., Deer Park, NY 11729

516 667-6300

Audio & video DAs. Audio & video routing switchers: parallel & serial interface. Pulse amps.

See ad on pg. 53

#### DOLBY LABORATORIES

731 Sansome, San Francisco, CA 94111

415 392-0300

Audio noise reduction systems.

#### DORROUGH ELECTRONICS

5221 Collier Pl., Woodland Hills, CA 91364

818 999-1132

AM & FM compressor/limiters. LED loudness meters. Stereo generators.

#### DRAKE-CHENAULT ENTERPRISES

Box 1629, 8399 Topanga Canyon Blvd.,

Canoga Park, CA 91304

213 883-7400

Syndicated radio programming; engineering consultant.

#### DuART VIDEO

245 W. 55 St., New York, NY 10019

212 757-3681

Video post-production facility.

#### DUBNER COMPUTER SYSTEMS

158 Linwood Plaza, Fort Lee, NJ 07024

201 592-6500

Character generator/graphics systems; digital art/paint systems; 3D modeling & manipulation, bit pad digitizers. Telecine color correctors.

#### VICTOR DUNCAN

6305 N. O'Connor Rd. #100, Irving, TX

75039

214 869-0200

Video & film production equipment rentals, sales & service.

#### DUNN INSTRUMENTS

544 Second St., San Francisco, CA 94107

415 957-1600

CompuSlide digital art/paint system. ProColor recorder/cameras.

#### DYMA ENGINEERING

367 Main SE, Box 1535, Los Lunas, NM

87031

505 865-6700

International portable audio mixer. Audio DAs. Line surge protectors. Facilities design & engineering services; engineering consultants; earth station site selection, mobile vehicle construction.

#### DYNAIR ELECTRONICS

5275 Market St., San Diego, CA 92114

619 263-7711

Master control switchers: manual, automated, business automation interfaced. Serial interface video routing switchers; audio routing switchers. Parallel & serial interface machine control/technical automation. Video/cable equalizers. Audio & video DAs, pulse amps, subcarrier amps.

# AT LAST A MONITOR WITH ITS FOCUS ON YOUR NEEDS.



At last there's a line of broadcast color monitors that's built the way you'd build them if you built them yourself—the Lenco 514 series.

It's all here—everything you want in a professional monitor. Everything you need to give you maximum performance, easier adjustability and greater reliability.

All the latest technology is here. Including PIL tube for simplified convergence and an ultra-stable, non-scan-derived high voltage system that really nails down regulation. Lenco monitors mean you get the stable picture you want—with the color accurate every time.

Features that are optional at extra cost on many other units you get standard with Lenco. Including RGB and two NTSC inputs, Comb filter, Pulse cross, Underscan, Chroma align, Int-Ext sync and degauss—all selectable from the front panel.

And if service is your concern, you'll really like the modular construction that

makes every printed circuit section easily accessible. Plus the fact that we're building these Lenco monitors with nearly all American parts—parts your distributor knows and carries.

Before you buy, take a look at how much better Lenco monitors fit your needs. Ask us today.

Lenco Inc.  
Electronics Division  
300 N. Maryland St.  
Jackson, MO 63755  
(314) 243-3147



Engineered and manufactured  
in the United States.  
The Professionals' Choice.

# LENCO

## E.A.R. PROFESSIONAL AUDIO

2641 E. McDowell, Phoenix, AZ 85008  
602 267-0600

Distributor of full line audio equipment, audio & videotape.

## EAST COAST VIDEO SYSTEMS

548 Broadway, New York, NY 10012  
212 431-7453

Facilities design & engineering services; engineering consultants.

## EASTMAN KODAK CO.

343 State St., Rochester, NY 14650  
716 724-4000

Eastman professional videotape: one-inch, 3/4-inch cassettes, half-inch cassettes. Motion picture film, projectors.

## ECHOLAB

175 Bedford Rd., Burlington, MA 01803  
617 273-1512

Standalone analog video efx, colorizers, RGB & encoded chromakeyers, title keyers, downstream keyers. Compact, studio/mobile production switchers.

## ECONCO BROADCAST SERVICE

1318 Commerce Ave., Woodland, CA 95695  
916 662-7553

Rebuilt power tubes.

## EDITEL/CHICAGO

301 E. Erie, Chicago, IL 60611  
312 440-2360

Video production & post-production facilities; mobile production facilities rental.

## EDITEL/LA

729 N. Highland, Hollywood, CA 90038  
213 931-1821

Video production & post-production facilities; mobile production facilities rental.

## EDITEL/NEW YORK

222 E. 44 St., New York, NY 10017  
212 551-8400

Video production & post-production facilities; mobile production facilities rental.

## EECO

1601 E. Chestnut Ave., Santa Ana, CA 92702  
714 835-6000

Time code synchronizers; IVEs two-machine editor/controllers, A/B-roll editors; EMME multisource editor; SMPTE time code generator/readers; VITC reader/generators. EECODER still-frame encoders, decoders for interactive videodiscs.

See listings in Rep section

See ad on pg. 72

## EEG ENTERPRISES

1 Rome St., Farmingdale, NY 11735  
516 293-7472

SMPTE time code generator/readers. Video source ID. Closed captioning, teletext.

## EELA AUDIO

Box 786, Bremerton, WA 98310  
206 275-5009

Consoles: mic mixers, portable, mono & stereo studio, audio for TV.



## EEV

7 Westchester Plaza, Elmsford, NY 10523  
914 592-6050

Camera pickup tubes; monochrome cameras. RF tubes; UHF TV klystrons. Vacuum tubes; rectifiers; surge protectors; LCDs.

See ad on pg. 9

Field Offices:

CA Garden Grove Blvd. #420,  
Westminster 92683 . . . . . 714 895-3948

GA 15 Dunwoody Pk. #100E, Atlanta  
30338 . . . . . 404 394-9201

IL 2073 Arleen Ct., Schaumburg 60194

NY . . . . . 312 843-8417

NY 250 Hamilton Dr., Snyder 14226 . . . . .

. . . . . 716 839-5959

WA 19001 40 Pl. N.E., Seattle 98155 . . . . .

. . . . . 206 363-2200

## EG&G

35 Congress St., Salem, MA 01970  
617 745-3200

Tower lighting.

See ad on pg. 24

## EIGEN VIDEO

Box 848, Nevada City, CA 95959  
916 272-3461

Videodisc slow motion recorders. Video animation controllers. Winchester & floppy disk framestores, video noise reducers.

## ELCOM BAUER

6199 Warehouse Way, Sacramento, CA  
95826

916 381-3750

Mono audio consoles. Single-deck cart player/recorders. ALC & AGC amps, AM & FM compressor/limiters. AM & FM transmitters. AM & FM exciters. Antenna tuning units.

## ELCON ASSOCIATES

1450 O'Connor Dr., Toronto, Ont., Canada  
M4B 2T8

416 759-5614

Videotape cleaners, evaluators.

## ELECTOR USA

Box 699, Pinebrook, NJ 07058  
201 882-0584

Barco video monitors: monochrome, NTSC, high resolution, battery-powered portable, video projectors; Gigatek RGB monitors; Saber Technology wide aspect ratio monitors. Barco safe title area generators, video decoders, modulators, demodulators. Saber video test signal generators. TV tuners.

Field Office:

NJ Chris Golson, Box 699, Pinebrook  
07058 . . . . . 201 888-0584

## ELECTRO CONTROLS

2975 S. 300 West, Salt Lake City, UT 84115  
801 487-9861

Celebrity lighting control boards; Playmate dimmer packs.

## ELECTROHOME, LTD.

809 Wellington St. N., Kitchener, Ont.,  
Canada N2G 4J6

519 744-7111

Video monitors: monochrome, NTSC, RGB, high resolution, video projectors. Receive-only earth stations.

Field Offices:

NY 250 Wales Ave., Tonawanda 14150 . . . . .  
. . . . . 716 694-3332

## ELECTROIMPULSE LAB

116 Chestnut St., Box 870, Red Bank, NJ  
07701

201 741-0404

RF attenuators, loads, baluns. RF power meters, wattmeters, calorimeters.

## ELECTRONICS DIVERSIFIED

1675 NW 216, Hillsboro, OR 97124  
503 645-5533

Lighting control boards, dimmer packs.

## ELECTRO-VOICE

600 Cecil St., Buchanan, MI 49107  
616 695-6831

Mics: dynamic, electret/condenser, shotgun, lavalier. Graphic equalizers. Monitor speakers.

See ad on pg. 122

Field Office:

CA Dennis Ehrlicke, 8234 Doe Ave., Box  
3297, Visalia 93277 . . . . . 209 651-7777

MI Customer Services Dept., 600 Cecil St.,  
Buchanan 49107 . . . . . 616 695-6831

CAN Mark Simmons, 345 Herbert St., Box  
520, Gananoqui Ont. K7G 2V1  
. . . . . 613 382-2141

## ELICON

245 Viking Ave., Brea, CA 92621  
714 990-6647

Video animation controllers. 3D modeling & manipulation; bit pad digitizers. Sara TV newsroom computers, speech-activated robotic arm camera system. Camera tripods, heads, pedestals, remote pan/tilt systems. See listings in Rep section

## ELLIS TOWER CO.

Box 23217, Ft. Lauderdale, FL 33307  
305 566-6432

Facilities design & engineering services; communications towers; CATV towers, earth stations, buildings.

## EMCEE

Box 68, White Haven, PA 18661  
717 443-9575

Transmitters: VHF, UHF, LPTV, MDS, ITFS, translators.

## EMCOR PRODUCTS

1600 Fourth Ave. N.W., Rochester, MN  
55901

507 289-3371

Cabinets; equipment racks.

## EMERGENCY ALERT RECEIVER

1 W. 30 St., New York, NY 10001  
212 695-4767

SCA receivers; EBS receivers.

## ENCLOSURE CORP.

4529 Adams Circle, Cornwells Heights, PA  
19020

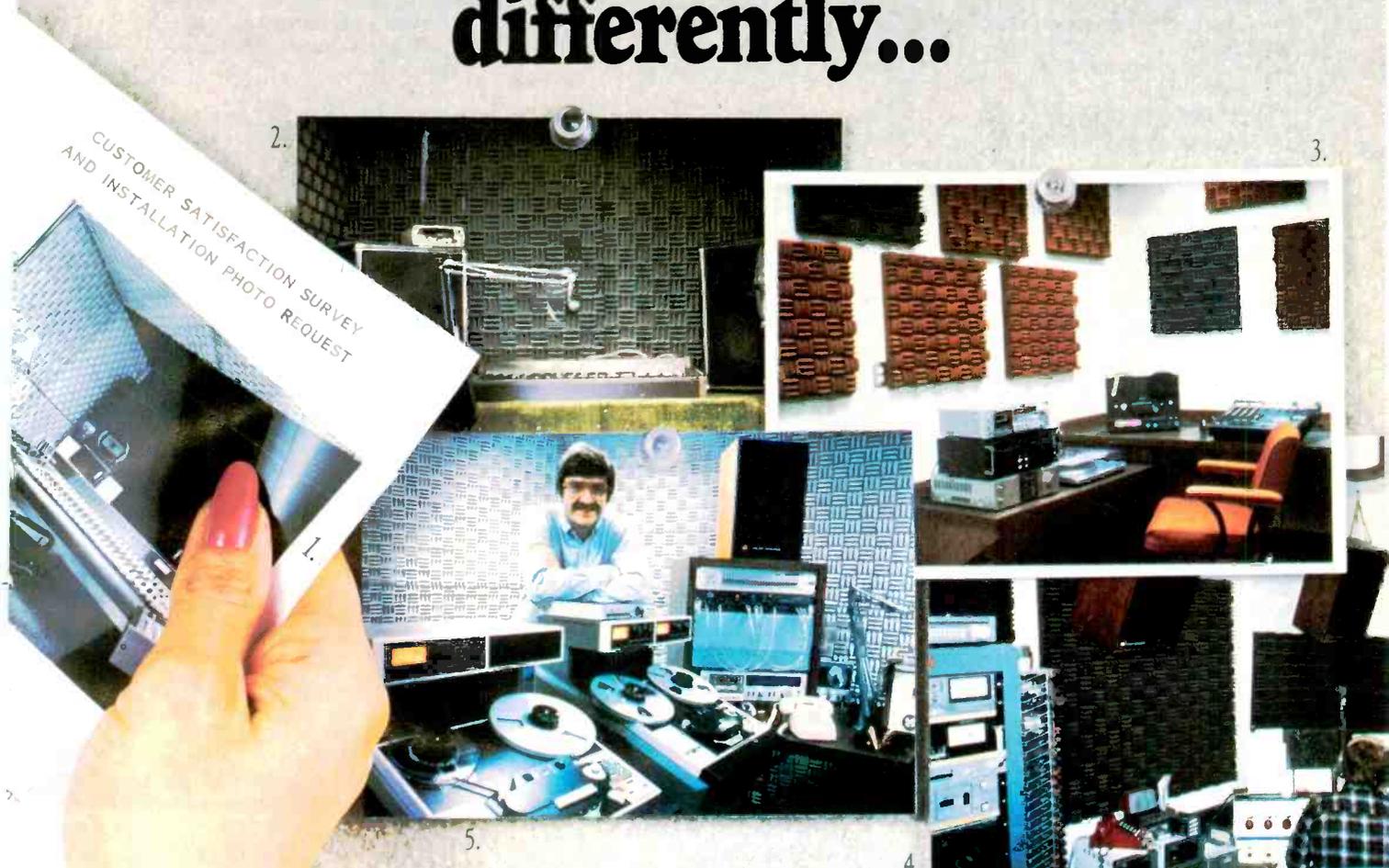
215 638-9550

Cabinets; studio consoles; equipment racks.

## E-N-G CORP.

2930 Cloverdale Dr., Concord, CA 94520

# White Crow Audio uses SONEX a little differently...



## and so do thousands of others.

**Just listen**—1. White Crow Audio in Burlington, Vermont attaches SONEX to plywood panels in the LEDE control room and studio. It works “quite nicely,” says Todd Lockwood.

2. “It’s fantastic!” says Jeff Edman of Results Broadcasting, who uses SONEX to soundproof his studio. “Nothing compares—SONEX is worth twice the price, or more!”

3. The Audio Visual Center uses SONEX for audio taping. “It works great!” says Jim Vequist. “SONEX stops reverberating sounds from bouncing around.”

4. SONEX reduces ambient noise and smooths out frequency response for master tape work at KFOR-FM, Ponca City, Oklahoma. “SONEX works GREAT! It’s far superior to any other system we’ve tried,” says David Gates.

5. “It works great,” says Larry Blakeney of Larry Blakeney & Associates, an audio production studio in Jackson, Mississippi. Pictures do speak louder than words.\*

When we asked our customers to show us how they used SONEX, we weren’t surprised to hear that it did the job. We knew that this patented acoustic foam with a specially sculptured anechoic design absorbs sound successfully. What really amazed us was the number of different applications they showed us. And what you’re looking at here are just five responses out of the hundreds we’ve received. Even so, you can see (and hear) for yourself: Wherever sound is the problem, SONEX is the solution.

SONEX is manufactured by Illbruck/usa and distributed exclusively to the pro sound industry by Alpha Audio. Get all the facts by calling or writing:

**Alpha Audio**<sup>®</sup>  
2049 West Broad Street  
Richmond, Virginia 23220 (804) 358-3852  
Acoustic Products for the Audio Industry

\*SUBMITTED BY SECOND ROUND OF SONEX PHOTO CONTEST WINNERS.

415 798-4060

ENG microwave-equipped mobile vehicles with telescoping masts.

### ENG HELICOPTER SATELLITES, LTD.

9919 Carter Rd., Bethesda, MD 20817  
301 469-8109

Helicopter-mounted camera stabilizing systems; complete helicopter microwave & communication system rentals.

### ENGINEERING LAB

11535 Sorrento Valley Rd., San Diego, CA 92121

619 450-1067

Machine control/technical automation: parallel & serial interface, vertical interval systems.

### ENSTROM HELICOPTER

Box 277, Menominee, MI 49858

906 863-9971

ENG microwave-equipped helicopters.

### ENTERPRISE ELECTRONICS

Box 1216, Enterprise, AL 36330

205 347-3478

Weather radar systems.

### ENVIRONMENTAL SATELLITE DATA

5200 Auth Rd., World Weather Bldg.,

Suitland, MD 20746

301 423-2113

Weather systems: satellite displays, radar displays, weather symbol inserters, weather-based art/paint systems. Character generator/graphics systems.

See listings in Rep section

### ESE

142 Sierra St., El Segundo, CA 90245

213 322-2136

Digital clocks; timers; complete clock/timing systems. Telco interface equipment. LED level displays. SMPTE time code generator/readers. Video DAs.

See ad on pg. 66

### ESPN

ESPN Plaza, Bristol, CT 06010

203 584-8477

Video production & post-production facilities; mobile production facilities rental.

### EUMIG (USA)

225 Community, Business Pk., Great Neck, NY 11020

516 238-6608

Audio cassette decks. Preamps, line amps, monitor amps, amp power supplies. Cine cameras.

### EUREKA TELEPRODUCTION CENTER

1250 San Carlos Ave., San Carlos, CA 94070

415 595-3200

Video production & post-production facilities; mobile production facilities rental; recording studios.

### EURO EQUIPMENT SERVICE

607 S. Main St., Spring Valley, NY 10977

914 352-4004

Automator Plus computer retrofit system for automation stands.

### EVENTIDE

1 Alsan Way, Little Ferry, NJ 07643

201 641-1200

Harmonizer digital audio efx; digital delay; Timesqueeze audio time compression/expansion. Omnipressor AM compressor/limiter. Mono/stereo matrix.

### EVERTZ MICROSYSTEMS

3515 Mainway, Burlington, Ont., Canada

L7M 1A9

416 335-3700

Vertical interval machine control/technical automation. SMPTE time code generator/readers; VITC reader/generators. Digital clocks, timers, complete clock/timing systems.

### EXCALIBUR INDUSTRIES

12427 Foothill Blvd., Lake View Terrace, CA 91342

818 899-2547

Foam insert & rack configuration transportation cases; editing/production consoles. Cabinets; studio consoles; equipment racks; cart/tape storage.

See listings in Rep section

### EXCALIBUR VIDEO SYSTEMS

4015 Wilshire Blvd., Los Angeles, CA 90010

213 384-5175

Video production & post-production facilities; mobile production facilities rental.

### EXR

3373 Oak Knoll Dr., Brighton, MI 48116

313 227-6122

Audio processing exciter, projector.

### FAIRCHILD CAMERA/CCD IMAGING DIV.

4001 Miranda Ave., Palo Alto, CA 94304

415 493-3100

Video delay lines. CCD line sensor for telecines.

### FANTASEE LIGHTING

404 N. River, Ypsilanti, MI 48197

313 482-6565

GE, Sylvania lamps; Altman HMI & CSI fixtures, quartz fixtures; cyc lighting; Strong HMI & CSI fixtures; Lee diffusion, efx material; Atlas, Genie lighting stands & rigging; Rainbo, Teatronics lighting control boards; CAE, Teatronics dimmer packs. Set design service. Lighting/ac cable.

### FAROUDJA LABORATORIES

946 Benicia Ave., Sunnyvale, CA 94086

408 248-7518

RecordEx video noise reducers; ColorEx color correctors.

### FARRTRONICS, LTD.

151 Bentley St. Unit #1, Markham, Ont.,

Canada L3R 3X9

416 475-6720

Hardwired intercom systems. Audio & video patch panels. Audio delay lines. Dc-controlled audio console.

### FAX PRODUCTIONS

4924 Hampden Ln., Bethesda, MD 20814

301 652-7800

Video production & post production facilities; mobile production facilities rental.

### FIBERBILT CASES

601 W. 26 St., New York, NY 10001

212 675-5820/800 847-4176

Foam insert & rack configuration transportation cases.

### FICON BROADCAST

Box 150846, Nashville, TN 37215

615 329-2400

Radio business automation software.

### FIDELIPAC CORP.

Box 808, Moorestown, NJ 08057

609 235-3900

Open-reel audio tape, carts, back-lubricated cartridge tape, cart reload kits. Tape erasers, degaussers. Alignment, calibration, tension gauges. Phono cartridges. On-air & recording studio warning lamps. Dynamax single-deck cart player/recorders, phase control matrixing. Cart storage.

See ad on pg. 87

### FILM/VIDEO EQUIPMENT SERVICE

1875 S. Pearl St., Denver, CO 80210

303 778-8616

Wide Eye wide-angle lens attachments. Portable Energy Products nicad & lead-acid batteries, chargers.

### FINNTEK LTD.

12797 S. 2230 West, Box 235, Riverton, UT

84065

801 254-6398

Consoles: mono & stereo studio, audio for TV. Audio & video test signal generators.

### IMERO FIORENTINO ASSOC.

44 W. 63 St., New York, NY 10023

212 246-0600

Facilities design & engineering services; set/studio design services; engineering consultants. TV color contrast evaluator; TV monitor evaluator.

Field Office:

CA Robert M. Dahl, 6430 Sunset Blvd., Hollywood 90028 . . . . . 213 467-4020

### FIRST COMMUNICATIONS

3095-H Presidential Dr., Atlanta, GA 30340

404 458-0901

Video production facilities; mobile production facilities; video post-production facilities; equipment rental services; facilities design & engineering services; set/studio design services; music libraries.

### FISHER BERKELEY CORP.

5800 Christie Ave., Emeryville, CA 94608

415 655-9696

Hardwired intercom systems.

### FITZCO SOUND

204 N. Midhiff, Midland, TX 79701

915 684-0861

Audio equipment rental service; audio engineering consultants.

# Your Wings to the World's Airwaves



## *The World's Leading Portable TV Standards Converter Bar None*

Professionals demand an uncommon level of picture quality and smooth image reproduction in TV standards conversion. The LT1210 is the world's smallest converter able to handle NTSC, PAL and SECAM, with PAL-M conversion as an option. The image enhancement function ensures a high-definition picture with outstanding image clarity. This converter is also a totally

integrated unit so no adaptor or changing of encoder/decoder modules is required for conversion between NTSC, PAL and SECAM. The cost-performance of the LT1210 is nothing less than outstanding. The LT1210. Check it out. Anywhere.

Oki also produces the high-end LT1015Σ Digital TV Standards Converter.

## **LT1210 Digital Television Standards Converter**

### *In the U.S.A. and Canada, contact:*

Oki America Inc.  
Oki Telecom Group.  
One University Plaza  
Hackensack, New Jersey 07601 U.S.A.  
Tel. (201) 646-0011-0015  
Telex: (25) 710-990-5004 OKI ELEC HAK

### *In other areas, contact:*

Head Office:  
Overseas Marketing & Sales  
10-3, Shibaura 4-chome,  
Minato-ku, Tokyo 108, Japan  
Tel: (03) 454-2111 Telex: J22627  
Cable: OKIDENKI TOKYO



**OKI**  
**electric**  
**industry**  
**company, Ltd.**

**FLASH TECHNOLOGY CORP. OF AMERICA**

55 Lake St., Nashua, NH 03060  
603 883-6500

High-intensity tower beacons; photoelectric controls; remote monitoring for incandescent lighting.

**JOHN FLUKE MFG. CO.**

Box C9090, MS250C, Everett, WA 98206  
206 342-6300

RF test signal generators. Voltmeters, multimeters, dB meters.

**FOR-A CORP. OF AMERICA**

49 Lexington St., W. Newton, MA 02165  
617 244-3223

Digital still stores, VTR slow-mo systems. Telecine color correctors. Titlers, subtitles, character generator/graphics systems, VideoWriter draw-on-screen system. Colorizers, title keyers. SMPTE time code generator/readers. Sync, black burst, color bar generators. TBC, TBC/framestores, image enhancers, color correctors. NTSC endoders, decoders, dropout compensators. Video test signal generators. Digital clocks, timers, complete clock/timing systems.

See ad on pg. 115

See listings in Rep section

**Field Office:**

CA 11060-E Artesia Blvd., Cerritos 90701  
213 402-5391

**FOROX CORP.**

393 West Ave., Stamford, CT 06902  
203 324-7400

Animation cameras & stands.

**FORTEL**

2985 Gateway Dr., Norcross, GA 30071  
404 449-4343

TBC/framestores, video noise reducers, image enhancers. Video sync generators.

**FORT WORTH TOWER CO.**

See TOMMY MOORE, INC.

**FOSTEX CORP. OF AMERICA**

15431 Blackburn Ave., Norwalk, CA 90650  
213 921-1112

Consoles: mic mixers, portable, audio for TV. ATRs: 2/4-track, multitrack, time delay decks. Parametric & graphic equalizers, audio noise reduction. Analog special efx, reverb. Monitor speakers.

**FREELAND PRODUCTS CO.**

Rt. 7 Box 628, Covington, LA 70433  
504 893-1243

Rebuilt RF tubes.

**FREQUENCY DEVICES**

25 Locust St., Haverhill, MA 08130  
617 374-0761

Audio equalizers & filters, audio noise reduction. Amp power supplies. Audio tone test signal generators.

**FREZZOLINI ELECTRONICS**

7 Valley St., Hawthorne, NJ 07506  
201 427-1160



Nicad batteries, chargers. Cine cameras. VHS VCRs. Portable camera lights.

**FUJINON**

672 White Plains Rd., Scarsdale, NY 10583  
914 472-9800

Camera lenses.

See ad on pg. 33

**FUJI PHOTO FILM USA**

350 Fifth Ave., New York, NY 10118  
212 736-3335

Videotape: two-inch, one-inch, 3/4-inch & half-inch cassettes; tape cleaners, evaluators. Audio cassettes.

See ad on pg. 97

**Field Offices:**

CA 1211 E. Artesia Blvd., Carson 90746  
213 636-0101  
GA 5461 Peachtree Ind. Blvd., Norcross  
30092 404 441-2222  
IL 1000 Pratt Blvd., Elk Grove Village  
60007 312 569-3500  
NJ 800 Central Blvd., Carlstadt 07072  
201 935-6022  
TX 3500 Garden Brook Dr., Dallas 75234  
214 243-2537

**GABRIEL ELECTRONICS**

Box 70, Scarborough, ME 04074  
207 883-5161

Receive-only satellite earth stations.

**GAGNON LAFOREST**

930 Wellington, Montreal, Canada H3C 1V1  
514 861-6768

Scenery rigging.

**GARDINER**

**COMMUNICATIONS CORP.**  
3605 Security St., Garland, TX 75042  
214 348-4747

Receive-only satellite earth stations, LNAs; receivers, switchers.

**GARNER INDUSTRIES**

4200 N. 48 St., Lincoln, NE 68504  
402 464-5911

Tape duplicators. Audio head degaussers. Audio & video tape erasers, degaussers.

**GBH PRODUCTION SERVICES**

125 Western Ave., Boston, MA 02134  
617 492-2777

Video production & post-production facilities; mobile production facilities rental.

**GENERAL ELECTRIC CO., LIGHTING BUSINESS GROUP**

Nela Pk., Cleveland, OH 44112  
216 266-2092

Incandescent & quartz Quartzline tungsten-halogen lamps for TV production & picture projection. Multi-Mirror camera lights.

**GENERAL ELECTRIC CO., PROJECTION DISPLAY OPERATION**

Electronics Park 6-206, Syracuse, NY 13221  
315 456-2152

Video projectors.

**GENERAL TELEVISION NETWORK**

13225 Capital Ave., Oak Park, MI 48237  
313 548-2500

Video production facilities; mobile production facilities rental; video post-production facilities; recording studios; audio post-production facilities; equipment rental services; facilities design & engineering services; set/studio design services; engineering consultants; earth station site selection; mobile vehicle construction.

**GENERIC COMPUTER SYSTEMS**

Box 151, Butler, PA 16001  
412 283-1500

Radio business automation software.

**GENTNER ENGINEERING CO.**

540 W. 3560 South, Salt Lake City, UT 84115  
801 268-1117

Telco interface equipment, audio patch panels.

**GERSTENSLAGER CO.**

1425 E. Bowman St., Wooster, OH 44691  
216 262-2015

Mobile vehicle construction.

**GF BUSINESS EQUIP. See EMCOR**

**GIESE ELECTRONIC**

Klaus-Groth-Str. 84-86, Hamburg 26, W. Germany D-2000

Time code synchronizers, two-machine editor/controllers, SMPTE time code generator/readers, VITC reader/generators.

**GKM MFG. CORP.**

57 Bridgewater St., Brooklyn, NY 11222  
212 388-4114

Cabinets; studio consoles; equipment racks.

**GLETRONIX (1977) LTD.**

160 Duncan Mill Rd., Don Mills, Ont., Canada M3B 1Z5

416 444-8497

Equipment rental services. Exclusive Canadian distributor of Ross video switchers & special efx systems, Interactive Systems Co. videotape editing systems, Dynatech jackfields, Telcom Research time code generator/readers & synchronizers, Porta-Pattern test charts, CMC head rebuilding program, Scientel sideband analyzers, Torpey clocks & timing systems.

**GLOBAL VIDEO COMMUNICATIONS**

744 W. Church St., Orlando, FL 32805  
305 843-8982

Duplicating services; TV standards conversion.

**G & M POWER PRODUCTS**

1130 N. Highland, Los Angeles, CA 90038  
213 465-8236

# Add Color to Your Audio

*In growing numbers, broadcasters and postproduction houses are using the 200 to add ambience to their audio. The 200's Hall and Chamber programs add reflected energy to dry voices, delivering fullness while maintaining clarity and articulation. Simple adjustments of the 200's size control can produce ambiences that identify an unlimited variety of spaces, such as a wooden cabin, an empty factory, a long corridor, or a stone temple. Scenes and dialog acquire more meaning – and the audience's ears appreciate ambience as much as their eyes appreciate color.*

**A reliable, cool-running, affordable package.**

**Human-engineered panel controls for easy intuitive operation.**

**On-board mixing.**

**Programmable nonvolatile memory for storing up to 10 user setups with instant recall.**

**Now with the Lexicon Model 200 Digital Reverberator, broadcast audio takes on new color.**

**Size control – from the smallest closet to grandest canyon.**

**Balanced input and output connections with a maximum signal level of +24 dBm – in full stereo.**

**Hall, Chamber, and Plate programs – each with 10 preset variations.**



**lexicon**

60 Turner Street  
Waltham, MA 02154 USA  
(617) 891-6790  
Telex 923463

Export:  
Gotham Export  
Corporation,  
New York, NY 10014

Nicad & lead-acid batteries, chargers; ac power dividers; inverters, converters. Monitoring devices, analyzers, condition monitors.

### **GOLDEN WEST VIDEOTAPE**

5800 Sunset Blvd., Box 500, Los Angeles, CA 90028  
213 460-5866

Video production & post-production services; mobile production facilities rental.

### **ALAN GORDON ENTERPRISES**

1430 N. Cahuenga Blvd., Hollywood, CA 90028  
213 466-3561

Manufacturer & distributor of cine production equipment: tripods, Swintek RF mics, director's viewfinder, NCE animation motors, film projectors, portable lighting, Elemack dollies, Supergrip camera support equipment.

### **GORMAN-REDLICH MFG.**

6 Curtis St., Athens, OH 45701  
614 953-3150

EBS two-tone systems. Weather radar receivers.

### **GOTHAM AUDIO CORP.**

741 Washington St., New York, NY 10014  
212 741-7411

Audio consoles: stereo studio, audio for TV. Telefunken ATRs: 2/4-track studio, multi-track. EMT stereo studio consoles, turntables, pickup arms, phono cartridges, digital efx, reverb, FM compressor/limiters. Systex computer automation controllers, complete program automation systems, radio newsroom computers. Telcom audio noise reduction. K&H monitor speakers. Neumann mics: electret/condenser, shotgun, stereo, mic booms & dollies. NTP PPM meters, LED displays, video monitor displays.

#### **Field Office:**

CA 1710 LaBrea Ave., Hollywood 90046  
213 874-4444

### **GRAHAM-PATTEN SYSTEMS**

Box 1960, Grass Valley, CA 95945  
916 273-8412

Video & audio DAs, pulse amps, subcarrier amps. Title keyers, downstream keyers, nonadditive keyers. PPM meters. Audio for TV consoles.

### **GRANITE TELCOM CORP.**

8 Continental Blvd., Merrimack, NH 03053  
603 424-3900

Digital audio delay.

### **GRAPHIC EXPRESS**

3678 Fourth Ave., San Diego, CA 92103  
619 298-2834

Modular news & studio sets, scenery construction, scenery rigging, props & materials, set design service. Studio furniture, cabinets, studio consoles. News graphics slide service, lighting design.

### **THE GRASS VALLEY GROUP**

Box 1114, Grass Valley, CA 95945

### **916 273-8421**

Video production switchers: portable, compact studio/mobile, large automated, post-production. Digital efx generators, compressor/positioners, title keyers, downstream keyers. Master control switchers: manual, automated, business automation interfaced. Parallel & serial interface video routing switchers. Audio routing switchers. Parallel interface machine control/technical automation. Video sync generators. Video delay lines. Proc amps, video DAs, pulse amps, subcarrier amps. Isophasing automatic color timing equipment. SC/H phase meters.

See ad on pg. 93

#### **Field Offices:**

CA 21243 Ventura Blvd. #206, Woodland Hills 91364 . 213 999-2303 1032 Elwell Ct. #244, Palo Alto 94303

GA 1644 Tullie Cir. N.E. #102, Atlanta 30329 . 415 968-6680

IN 810 Bristol St., Elkhart 46514 . 404 321-4318

MN 3585 N. Lexington Ave. #238, Arden Hills 55112 . 219 264-0931

NJ 499 Thornall St., Metro-Park II, Edison 08817 . 612 483-2594

TX 316 Seminary S. Office Bldg., Fort Worth 76115 . 201 549-9600

817 921-9411

### **GRASIS CORP.**

Box 1039, Kansas City, MO 64141  
816 482-1100

Tower masts, lighting. Electronic equipment shelters.

### **GRAY COMMUNICATIONS CONSULTANTS**

5441 Pepsi St., New Orleans, LA 70123  
800 252-9577/504 733-7265

Mobile vehicle construction; equipment dealer.

### **GRAY ENGINEERING LABS**

504 W. Chapman Ave., Ste. P, Orange, CA 92668

714 997-4151

SMPTE time code generator/readers; VITC reader/generators. Safe title area generators.

See ad on pg. 171

### **THE GREAT AMERICAN MARKET**

826 N. Cole Ave., Hollywood, CA 90038  
213 461-0200

Lamps, HMI & CSI fixtures, quartz fixtures, lighting control boards. HMI ballasts, ac/dc converters & inverters. Modular news, studio sets.

### **DAVID GREEN BROADCAST CONSULTANTS**

Box 8782, BWI Airport, Baltimore, MD 21240  
301 796-1500/800 547-2346

Broadcaster brand cart labels, cart timers, head swabs, blades, edit marker, turntable refelt kit, record shucks, call letter mic clips, mic mount kit, danger signs. Dexel radio business automation software; Dexel/IBM business automation hardware.

### **GREGG LABORATORIES**

1542-A Moulton Pky., Tustin, CA 92680  
714 730-1100

Mono & stereo studio audio consoles. ALC & AGC amps, AM & FM compressor/limiters. Phono preamps. Telco interface equipment. Radio audio processor.

### **GRINNAN FIXTURE CO.**

16041 Georgetown St. N.E., Minerva, OH 44657

216 862-2323

Facilities design & engineering services; engineering consultants; mobile vehicle construction; studio cabinets & furniture.

### **GROSH SCENIC STUDIOS**

4114 Sunset Blvd., Hollywood, CA 90029  
213 662-1134

Lighting stands, rigging. Modular news & studio sets, scenery construction & rigging.

### **GROVE VIDEO**

See KNOX VIDEO PRODUCTS

### **GRUMMAN CORP.**

Sunrise Hwy., Great River, NY 11739  
516 435-6001

Sync processors. Time code generator/readers. VITS remote control monitors. Custom routing switchers. Digital video frame syncs, color ID. RF test equipment. Antenna tuning units. Equipment racks. Facilities design & engineering services; mobile vehicle construction.

### **GTE COMMUNICATIONS SYSTEMS CORP.**

2500 W. Utopia Rd., Phoenix, AZ 85027  
602 582-7000

Fiber optic systems. Intercity microwave equipment. Microwave & telco STLs. CATV transmission equipment.

### **GTE LIGHTING PRODUCTS**

Sylvania Lighting Center, Danvers, MA 01923

617 777-1900

Sylvania lamps.

### **HALLIKAINEN & FRIENDS**

101 Suburban Rd., San Luis Obispo, CA 93401

805 541-0200

Audio consoles: mono studio, audio for TV. Transmitter remote control. Transmitter logging systems.

### **HARRIS CORP., BROADCAST GROUP**

Box 4290, Quincy, IL 62305  
217 222-8200

Audio consoles: mono; Medalist, MicroMac stereo studio; console automation; Medalist audio for TV. Automatic satellite switchers, complete program automation systems. Autotron Star business automation software & hardware. ALC & AGC amps, AM & FM compressor/limiters. Studio/field cameras (25 mm tubes); lightweight ENG/EFP cameras. IRIS digital still store. Tilters, subtitlers; digital art/paint systems; teletext terminals. Digital efx generators, compressor/positioners. TBCs, field & frame synchronizers, field/framestores, TBC/framestores, video noise reducers. Transmitters: AM, FM, VHF, UHF, LPTV. Exciters: AM, AM stereo, FM, TV; stereo generators. Earth stations: transmit/receive, receive-only; upconverters, downconverters, LNAs. Mi-

# TIME BASE CORRECTION RE-DEFINED

Introducing the first totally different approach to time base correction in 10 years.

Until now, the TBC has only been as good as its weakest link - the analog circuitry. So we have eliminated the input clock and introduced the industry's first totally digital sync separator in a TBC.

The DPS-103 single clock TBC uses component processing and an advanced interpolation technique to breakthrough to "picture perfect" video.

Designed to work with 3/4" heterodyne VTR's, the DPS-103 is the long-awaited solution to conventional time base correction. Only \$8950.

## Features:

- Maintains lock through 40 times normal speed in forward and reverse
- Maintains color through 10 times play
- Velocity compensation
- 16 line window
- Auto color framing
- RS 170A output
- Internal test generator

DIGITAL DPS-103 COMPONENT TBC

VIDEO SET-UP CHROMA Hue  
GEN / TAL LOCK REF SPLIT TEST NORMAL BYPASS SYSTEM PHASE FINE  
COARSE

Contact your local dealer to see "picture perfect" video - with the DPS-103 Component TBC. Write Digital Video Systems A subsidiary of Scientific-Atlanta 120 Middlefield Road Scarborough, Ont. M1S 4M6 or call Digital Video Systems (416) 299-6888

crowave systems: intercity, portable, central receivers. Antennas: AM, FM, TV HP & CP. Transmitter remote control systems. STLs, TSLs; FM SCA equipment. Facilities design & engineering services; mobile vehicle construction.

See ad on pg. 131

**Field Offices:**

CA 333 N. Lantana St. #122, Camarillo  
93010 . . . . TV RF 805 484-0407/Radio  
987-7107

DC Vern Russell, 2600 Virginia Ave. N.W.,  
20037 . . . . . 202 342-3900

**HARRIS CORP., BROADCAST  
MICROWAVE** ✓

967 Sterlin Rd., Mountain View, CA 94043  
415 595-3500

Microwave systems: FV Series intercity & central receivers; Global, Challenger, FV portable ENG.

**HARRIS CORP., SATELLITE  
COMMUNICATIONS DIV.** ✓

Box 1700, Melbourne, FL 32901  
800 327-8478

Delta Gain & lines of transmit/receive, receive-only, & transportable satellite earth stations; upconverters, downconverters, LNAs & LNCs, encryption systems, MAC systems, satellite network controllers. Satellite audio, video & data exciters & receivers; TV channel modulators.

**HARRIS VIDEO SYSTEMS** ✓

1255 E. Arques Ave., Sunnyvale, CA 94086  
408 737-2100

Iris digital still store. Digital efx generators. TBCs, frame synchronizers, TBC/framestores, video noise reducers.

See listings in Repts section

**Field Offices:**

CA Terry Edwards, Operation, 1255 E. Arques Ave., Sunnyvale 94086 . . . .  
408 984-8287 Gary Johnston, 3129 S. Sycamore, Santa Ana 92705 . . . . .

714 850-1894

FL John Borger, 1496 Wexford Dr., Palm Harbord 33563 . . . . . 813 785-3208

IL Shawn Underwood, Toby Browning, Box 4290, Quincy 62305 . . . . . 217 222-8200

MA Aaron Snyder, 14 Heath Wood Ln., Chestnut Hill 02167 . . . . . 617 232-0717

MS Paul Raymond, 9450 Kolo Way, Bay St. Louis 39520 . . . . . 601 255-3337

**HARRIS SOUND SERVICES**

7063 Lexington Ave., Hollywood, CA 90038  
213 469-3500

Audio/video sync delay. Digital audio efx, reverb; digital delay; time compression/expansion; analog efx, reverb.

**HARRISON SYSTEMS** ✓

Box 22964, Nashville, TN 37202  
615 834-1184

Audio consoles: portable, stereo studio, audio for TV; console automation, video interface for consoles.

See ad on pg. 41

**HAWAII PRODUCTION  
CENTER**

1534 Kapiolani Blvd., Honolulu, HI 96814  
808 944-5200

Video production facilities; mobile produc-



tion facilities rental; video post-production facilities; recording studios; audio post-production facilities; music libraries.

**HBO STUDIOS**

120-A E. 23 St., New York, NY 10010  
212 477-8600

Video production & post-production facilities.

**HEATH CO.**

Benton Harbor, MI 49022  
616 982-3200

Preamps, monitor/power amps. LED audio level indicators. Video projectors. Harmonic distortion meters. Vectorscopes. Frequency monitors. Oscilloscopes, voltmeters, dB meters. Computer systems including digital weather systems.

**HEDCO** ✓

Box 1985, Grass Valley, CA 95945  
916 273-9524

Line amps. Audio DAs, audio routing switchers. Parallel & serial interface video routing switchers. Video DAs, pulse amps, subcarrier amps; 0.1% terminations & attenuators. Video return loss bridges.

**KARL HEITZ, INC.** ✓

Box 427, Woodside, NY 11377  
212 565-0004

Gitzo tripods, heads, dollies, mic booms & dollies.

**HENRY ENGINEERING** ✓

750 E. Fifth St. #83, Azusa, CA 91702  
818 334-5580

Turntable controller. Matchbox line amps.

**HEWLETT-PACKARD CO.** ✓

1501 Page Mill Rd., Palo Alto, CA 94304  
415 857-1501

Automated test & measuring systems. Diff. phase/gain measurement. Modulation monitors, sideband analyzers, frequency monitors & counters, audio & RF generators, impedance bridges, phase meters. Oscilloscopes, voltmeters, multimeters, dB meters, logic analyzers. TV & computer equipment. Audio preamps & line amps.

**HIPOTRONICS**

Drawer A, Rte. 22, Brewster, NY 10509  
914 279-8091

Automatic voltage regulators; ac/dc high voltage test sets.

**HITACHI DENSII AMERICA** ✓

175 Crossways Park Dr., Woodbury, NY  
11797

516 921-7200

Cameras: studio, field, ENG, lightweight, single-tube color, MOS color, recorder/cameras, monochrome, cine. Pickup tubes. VTRs: one-inch B, one-inch C, VHS, quarter-inch. Video monitors: monochrome, NTSC, RGB, high resolution. Waveform monitors,

vectorscopes, combination waveform monitor/vectorscopes. Oscilloscopes, delayed sweepscopes, multimeters, logic analyzers. Audio amp power supplies.

**HMELECTRONICS** ✓

6151 Fairmount Ave., San Diego, CA 92120  
619 280-6050

Hardwired & RF intercom systems. RF mics.

See ad on pg. 140

**HOTRONIC, INC.** ✓

1210 S. Bascom Ave. #128, San Jose, CA  
95128

408 292-1176

TBCs, field & frame synchronizers, field/framestores, TBC/framestores, video noise reducers.

**HOWE AUDIO  
PRODUCTIONS** ✓

3085-A Bluff St., Boulder, CO 80301  
303 444-4693

Audio consoles: portable, mono & stereo studio, audio for TV. Preamps, monitor/power amps. Audio phase correction unit.

**HUBBARD  
COMMUNICATIONS** ✓

10383 Oak St. N.E., St. Petersburg, FL  
33702

813 577-7759

MERPS multicassette decks. Telecine cameras. Facilities design & engineering services; engineering consultants; mobile vehicle construction; mobile satellite uplinks.

See ad on pg. 164

**HUGHES MICROWAVE  
COMMUNICATIONS  
PRODUCTS** ✓

Box 2999, Torrance, CA 90509  
213 517-6100

AML intercity microwave, SMATV systems, STLs, TSLs.

**HUGHES HELICOPTERS** ✓

Centennial & Teal Sts., Culver City, CA 90230  
213 305-3226

Broadcast-equipped helicopters.

**HUGHEY & PHILLIPS**

Box 6729, Burbank, CA 91510  
213 849-1104

Tower lighting.

**IDEAL INDUSTRIES**

Becker Pl., Sycamore, IL 60178  
815 895-5181

Dimmer packs. Audio & lighting/ac cable, cable connectors. Wire & cable strippers, other hand tools.

**IGM COMMUNICATIONS** ✓

4041 Home Rd., Bellingham, WA 98226  
206 733-4567

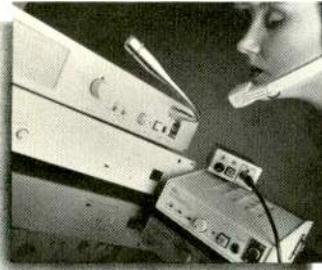
Go-Cart, Instacart multideck cart players. Digital audio recorders. Mark I, Basic A computer automation controllers; Basic A automatic satellite switchers, complete program automation systems. Custom system design service.

**IKEGAMI ELECTRONICS** ✓

37 Brook Ave., Maywood, NJ 07607  
201 368-9171

*Between You And Everyone Else*

# **WE'RE THE ONE.**



## **TW INTERCOM SYSTEM**

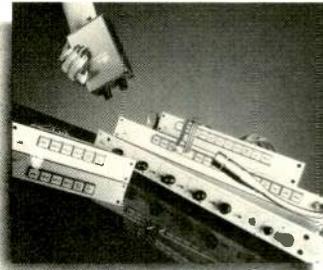
**A** high performance conference-line communications system featuring over 25 different components and accessories that allow an almost infinite variety of system configurations. It's universally designed for demanding applications in teleproduction and broadcast as well as industrial and commercial installations.

Standard TW features include: up to 75 user stations on line with minimum loading, powerful headphone amplification, carbon/dynamic headset capability, mic-level limiting, and two-channel operation on standard microphone cable. Sophisticated circuitry permits 12-volt power operation, two-, three-, and four-wire line operation, and balanced line operation. A series of versatile options are also available to meet virtually all special requirements.



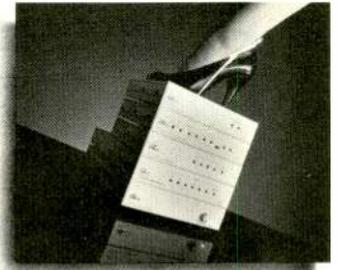
## **SERIES 800**

**T**he 802 Master Station is a unique micro-processor-assisted communications network providing 22 independent signal paths operating in up to six modes. It offers an impressive array of features including intercom, squawk, IFB/SA, station iso, and signalling. An intelligent combination of hardware and software programmability allows the user to conveniently structure an individualized operating format. Since the 802 is completely self-contained, it does not require space-consuming central electronics. Currently used in teleproduction, broadcast, theatre, security, aerospace and other industries, the 802 is both powerful and versatile enough to meet almost every communications requirement.



## **SERIES 4000 IFB SYSTEM**

**A** one-way communications system created especially to meet the critical requirements of the television broadcast industry. This "program interrupt" system is used primarily to cue on-air talent. It provides program source material to the person on camera that can be interrupted with messages from the producer or director. Its modular building-block design allows the user to configure a system to meet specific requirements. A typical system combines User Stations, Central Electronics, and Control Stations. An essential broadcast tool.



## **SERIES 400 AMPLIFIERS**

**A**pplication, performance, and reliability have all been carefully designed into the Series 400. The results: outstanding sound and unique versatility.

**MODEL 405 PROFESSIONAL PHONO PREAMPLIFIER:** High performance for broadcast stations and high-quality commercial installations.

**MODEL 410 10-WATT MONITOR AMPLIFIER:** A compact unit designed to power loudspeakers and headphones.

**MODEL 414 DISTRIBUTION AMPLIFIER:** High performance 1x4 audio D.A. with balanced input and four individually amplified transformer balanced outputs.

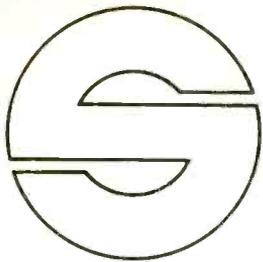
**MODEL 416 DISTRIBUTION AMPLIFIER:** Expanded version of the 414 with six outputs.

**MODEL 444 DUAL TWO-CHANNEL BUFFER AMPLIFIER:** Provides the necessary electronic interface between +8dBm balanced and -10dBv unbalanced circuits.

**MODEL 465 MICROPHONE PREAMPLIFIER:** A single-channel wideband preamp with transformer-balanced input and output.

**RTS**  
**Systems**  
INC. A COMPACT VIDEO COMPANY

RTS SYSTEMS, INC. • PROFESSIONAL INTERCOMMUNICATIONS • PROFESSIONAL AUDIO PRODUCTS  
1100 WEST CHESTNUT STREET • BURBANK, CA 91506 • 213/843-7022 • TWX 910-498-4987 • TELEX 194855



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Dial-in – up to seven – steps of drag,  
independently adjustable for pan and tilt,

built in compensation for center of  
gravity displacements,

camera-adequate or dynamic counter-  
balancing, adjustable on the spot  
for all your possible requirements,

extreme positive, operational locks,  
not effecting camera orientation  
when operated,

a leak-proof by design fluid system  
with guaranteed (for years) trouble free  
operation,

an all-in-one piece unit for easy handling  
and transport,

that is available when and where you need it  
worldwide.

Its the Sachtler headline offering all  
these features, dont ask for less!

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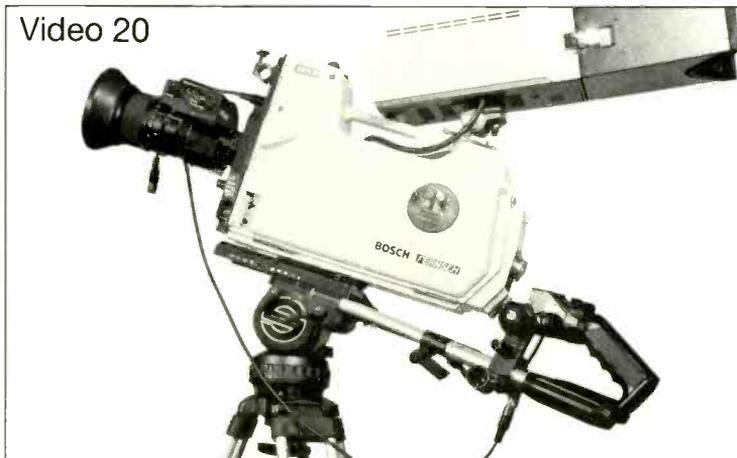
Sachtler Corporation of America  
400 Oser Avenue, Hauppauge NY 1178/8  
Phone (516) 2 31 00 33, Tx 140170,

a subsidiary of Sachtler GmbH  
Dieselstr. 16  
D-8046 Garching/München  
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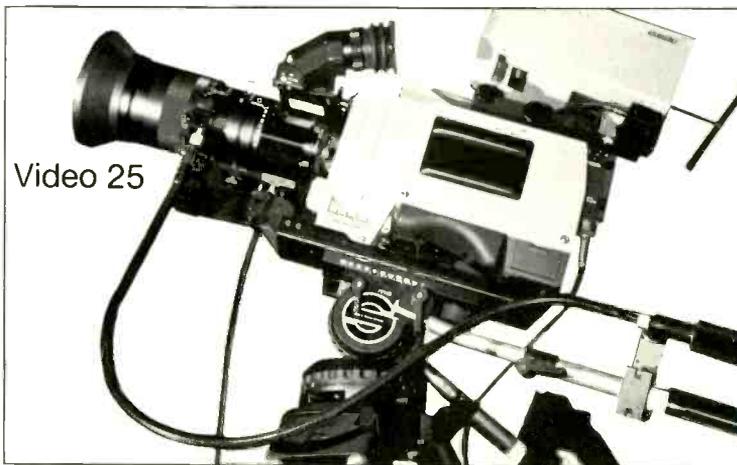
Panorama



Video 20



Video 25



Video 30



Cameras: studio, field, ENG, single-tube color, recorder/cameras, HDTV, monochrome. Standalone CCUs. Telecine cameras. Video monitors: monochrome, NTSC, RGB, high resolution, wide aspect ratio, battery-powered portable. Nicad & silver-zinc batteries, chargers. Portable ENG microwave systems.

**Field Offices:**

CA 3445 Kashiwa St., Torrance 90505 ... 213 534-0050  
FL 6201 Johns Rd. #5, Tampa 33614 ... 813 884-2046  
MO 12623 Woody Grove Dr., St. Louis 63141 ... 314 878-6290  
TX 13721 Omega Rd., Dallas 75234 ... 214 233-2844

**IMAGE DEVICES INTERNATIONAL**

1825 N.E. 149 St., Miami, FL 33181

305 945-1111

Video & cine, lighting & grip equipment rental service. Camera cranes & generators. Underwater cameras & lights. Portable audio mixer. Cassette player/recorders. Electret/condenser mics.

**IMAGE MAGNIFICATION**

739 Airway Circle, New Smyrna Beach, FL

32069

904 427-5294

Large-screen video projectors (sales & rentals).

**IMAGE RESOURCES**

Box 2519, Winter Park, FL 32790

305 645-4200

Video production & post-production facilities; mobile production facilities rental.

**IMAGE TRANSFORM**

4142 Lankershim Blvd., N. Hollywood, CA

91602

818 985-7566

Video post-production facilities; film laboratories; tape-to-film transfers; standards conversions.

**IMAGE VIDEO LTD.**

705 Progress Ave. #46, Scarborough, Ont.,

Canada M1H 2X1

416 438-3940

Downstream keyers. Manual & automated master control switchers. Parallel & serial interface video routing switchers. Parallel & serial interface machine control/technical automation. Voltage monitor. Audio routing switchers; audio patch panels, jackfields. Silence monitor.

**Field Offices:**

Box 102, Harvest 35749 ... 205 852-9252  
2440B Embarcadero Way, Palo Alto 94303 ... 205 424-1642

**INDUSTRIAL ACOUSTICS**

1160 Commerce Ave., Bronx, NY 10462

212 931-8000

Facilities design & engineering services.

**Field Office:**

CA 10971 Garden Grove Blvd., Garden Grove 92643 ... 714 636-5440

**INDUSTRIAL RESEARCH PRODUCTS**

321 N. Bond St., Elk Grove Village, IL 60004

312 439-3600

Digital audio special effects; audio/video sync delay; automatic mic mixers.

**INDUSTRIAL SCIENCES**

3521 S.W. 42 Ave., Box 1495, Gainesville, FL

32608

800 874-7590

Production switchers: portable, compact studio/mobile large automated, post-production. Standalone analog efx, RGB & encoded chromakeyers, downstream keyers. Manual & automated master control switchers. Parallel & serial interface routing switchers. Sync black burst & color bar generators. Proc amps, video DAs, pulse amps, subcarrier amps. Mono audio mixing consoles.

**INFORMATION TRANSMISSION SYSTEMS**

375 Valley Brook Rd., McMurray, PA 15317

412 941-1500

UHF, MDS transmitters. TV exciters, modulators.

**INNOVATIVE TELEVISION EQUIPMENT**

Box 681, Woodland Hills, CA 91365

213 888-9421

Tripods, heads, pedestals, ENG braces, dollies. Microwave support & portable equipment. Molded & fiber transportation cases.

**INOVONICS**

503-B Vandell Way, Campbell, CA 95008

408 374-8300

ALC & AGC amps, AM & FM compressor/limiters, audio noise reduction. Gordon Headroom meter (PPM); video monitor level displays. Audio recorder replacement electronics. Studio reverberation analyzer.

**INTEGRATED SOUND SYSTEMS**

29-50 Northern Blvd., Long Island City, NY

11101

212 729-8400

Stereo audio consoles. Turntables, complete disc consoles. Graphic equalizers. Time compression/expansion. Monitor speakers. Mics: dynamic, electret/condenser, shotgun. Monitor/power amps.

**INTERACTIVE SYSTEMS**

5601 N. Broadway, Boulder, CO 80302

303 447-2013

Two-machine video editor/controllers, A/B roll editors, multisource editors. Parallel & serial interface machine control/technical automation.

**INTERAND CORP.**

3200 W. Peterson Ave., Chicago, IL 60659

312 478-1700

Image File still store. Telestrator character generator/graphics systems, digital art/paint systems, draw-on-screen systems, weather-based art/paint systems, digital efx generators. Discon videographic teleconferencing systems. FastScan slow-scan transmitters/receivers.

**INTERCONTINENTAL TELEVIDEO**

13 W. 36 St., New York, NY 10018

212 947-9097

Video standards conversion facility.

**INTERFACE DATA SYSTEMS**

2990 E. LaJolla St., Anaheim, CA 92806

714 630-8030

Time insertion sequencers, computer automation controllers, complete program automation systems. Radio business automation hardware, radio newsroom computers.

**INTERFACE ELECTRONICS**

6710 Alder, Houston, TX 77081

713 660-0100

Portable audio consoles.

**INTERNATIONAL ELECTRO-MAGNETICS**

350 N. Eric Dr., Palatine, IL 60067

312 358-4622

Replacement & rebuilt audio heads. IEM/Optographic equalizers.

**INTERNATIONAL INSTRUMENTS, DIV. SIGMA**

88 Marsh Hill Rd., Orange, CT 06477

203 795-4711

Voltmeters, dB meters.

**INTERNATIONAL MICROWAVE CORP.**

65 Commerce Rd., Stamford, CT 06902

203 323-5599

Microwave systems: intercity, portable ENG, central receivers; STLs, TSLs. RF amps.

**INTERNATIONAL NUCLEAR**

608 Norris Ave., Nashville, TN 37204

615 254-3365

Preamps, line amps, monitor/power amps, amp power supplies. Audio DAs. EBS two-tone systems. Production switchers: portable, compact studio/mobile, large automated, post-production. Standalone analog efx, colorizers, RGB & encoded chromakeyers, downstream keyers. Manual & automated master control switchers. Parallel & serial interface video routing switchers. Black burst generators. Video/cable equalizers. Proc amps, video DAs, pulse amps, subcarrier amps.

**INTERNATIONAL PRODUCTION CENTER**

514 W. 57 St., New York, NY 10019

212 582-6530/800 223-0622

Video production & post-production facilities. Videotape duplication services.

**INTERNATIONAL TAPETRONICS CORP./3M**

2425 S. Main St., Bloomington, IL 61701

309 828-1381

Cart player/recorders: single-deck, dual/triple deck. ScotchCart audio cartridges.

See ad on pg. 28

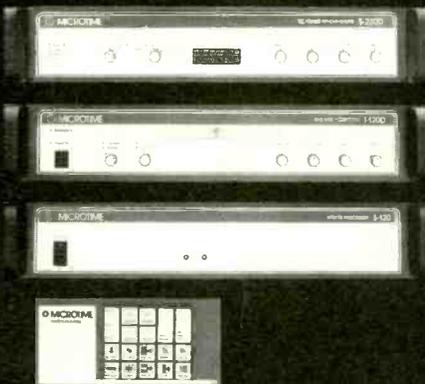
**INTERPLEX ELECTRONICS**

70 Fulton Terrace, New Haven, CT 06512

203 624-3103

Dc power supplies. Audio function genera-

The new S-230D easily interfaces with new or existing Microtime T<sup>2</sup>E-120 A/B Roll Effects Systems to provide the ultimate in input signal flexibility and freeze effects capability.



The S-230D allows inputs such as in-house camera signals, external ENG, microwave, satellite, network and remote studio feeds, as well as 1/2" and 3/4" heterodyne VTR formats with or *without* capstan servos. You also have the choice of operating in either standalone heterodyne or 3.58 MHz sub-carrier feedback modes. And by using the S-230D on one or both channels of the E-120 A/B Roll Effects System, you get the additional "effect" of manual or automatic freeze.

Now there are three E-120 A/B Roll Effects configurations:

**T<sup>2</sup>E-120.** This established configuration consists of two T-120D TBCs capable of

DYNAMIC TRACKING\* operation with a SONY\* BVU-820 U-MATIC\* VTR.

**TSE-120.** This new configuration consists of:

- one T-120D TBC capable of DYNAMIC TRACKING\* operation with a SONY\* BVU-820 U-MATIC\* VTR and
- one S-230D TBC/Synchronizer with freeze and auto mode switching.

**S<sup>2</sup>E-120.** This new configuration consists of two S-230D TBC/Synchronizers with freeze and auto mode switching for maximum flexibility in both channels.

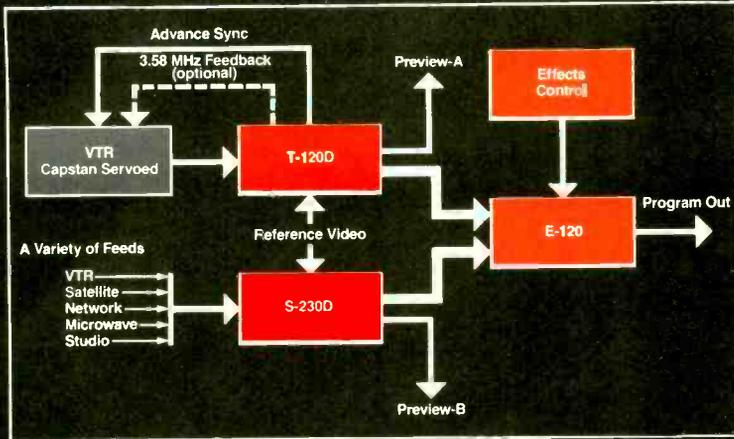
\*DYNAMIC TRACKING, SONY and U-MATIC are registered trademarks of Sony Corp.®

# Flexibility is on a roll.

## E-120 A/B Roll Effects System.



## TSE-120 System Typical A/B Roll Applications with Effects



DT\* operation is possible with the T-120D with a single cable interface to the SONY\* BVU-820 U-MATIC\* VTR.

T-120D or S-230D units can be separated from the systems for standalone operation.

Each E-120 System includes the E-120 A/B Roll Effects Processor and Effects Control with a 75' cable. Each features an 8 bit, 4x subcarrier design for high reliability and transparent performance and is controllable by VTR editor for preview and record. Each contains a RS-170A gen-lock sync generator to assure precise output timing. Each is made in the U.S.A., rigorously tested throughout the manufacturing process, and comes with a full one-year warranty on all parts and labor.

Microtime is on a roll. Contact us today. MICROTIME, INC., 1280 Blue Hills Ave., Bloomfield, CT 06002. (203) 242-4242. TWX 710-425-1165.

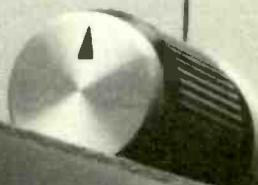
**MICROTIME**

A Subsidiary of ANDERSEN GROUP  
Circle 160 on Reader Service Card

CHRONIZER S-230D

oma Phase

Setup



tors. RF test signal generators. Frequency counters, counter/timers.

### INTERVIDEO NETWORK ✓

2029 Century Park E. #1850, Los Angeles, CA 90067

213 552-0580

Satellite earth stations; transmit/receive, receive-only, transportable. Mobile vehicle construction; downlink network teleconferencing.

### ISIS ELECTRONICS ✓

2664 S. Santa Fe Ave., Los Angeles, CA 90058

213 585-5849

Promotional novelties.

### ITI ELECTRONICS ✓

369 Lexington Ave., Clifton, NJ 07011

201 546-3900

Audio preamps, line amps, monitor/power amps, amp power supplies. Audio patch panels, jackfields.

### ITT JENNINGS ✓

970 McLaughlin Ave., San Jose, CA 95122

408 292-4025

RF switches; capacitors.

### IVIE ELECTRONICS

See CETEC IVIE

### JAM CREATIVE PRODUCTIONS

4631 Insurance Ln., Dallas, TX 75205

214 526-7080

Recording studio; music libraries; station ID jingle packages.

### JAMIESON & ASSOC. ✓

5200 Willson Rd. #300, Minneapolis, MN 55427

612 920-3770

Video production & post-production facilities; recording studios; audio post-production facilities; facilities design & engineering services; set/studio design services; engineering consultants; financial consultants; earth station site selection.

### THE JANSON INDUSTRIES

1200 Garfield Ave. S.W., Canton, OH 44706

216 455-7029

Scenery construction & rigging, props & materials. Cycloramas.

### JATEX

2626 Freewood Dr., Dallas, TX 75220

214 358-0200

Video & audio editing systems; SMPTE & proprietary time code generator/readers.

### JAVELIN ELECTRONICS

19831 Magelian Dr., Torrance, CA 90502

213 327-7440

Cameras: CCD, monochrome, color. Camera lenses, extenders. Video DAs. Monochrome & color picture monitors. Remote pan & tilt systems. Video source ID systems. Modulators. Video microscopes.

### JBL INC./UREI ✓

8500 Balboa Blvd., Northridge, CA 91329

818 893-8411

Audio consoles; mic mixers, portable, stereo studio; audio for TV console filters. ALC & AGC amps, AM & FM compressor/limiters.

## ✓ MEANS IT'S VERIFIED

parametric & graphic equalizers. Monitor speakers. Preamps, monitor/power amps. Field Offices:

CA Steve Armstrong, Box 2200, 8500 Balboa Blvd., Northridge 91329

213 767-1000

MI Tom Roseberry, 3040 Charlevoix Dr., S.E. #101, Grand Rapids 49506

616 455-6270

PA Bill Hamilton, 615 7 Ave., Folsom 19033

215 543-4677

TX Neil Conley, 3117 Murphy, Bedford

76021 817 540-3066

### JBS STUDIOS ✓

106 N. Avondale Rd., Avondale Estates, GA 30002

404 296-0604

Syndicated radio programming; video production facilities; recording studios; audio post-production facilities.

### JEFFERSON DATA SYSTEMS ✓

501 Archdale Dr., Charlotte, NC 28210

704 525-3901

Radio & TV business automation software & hardware; radio & TV newsroom computers.

### JEFFERSON PILOT TELEPRODUCTIONS

1 Julian Price Pl., Charlotte, NC 28208

704 374-3823

Video production & post-production facilities; mobile production facilities rental.

### JENSEN TOOLS

7815 S. 46 St., Phoenix, AZ 85040 602

968-6241

Tools.

### JOHNSON ELECTRONICS

62 S. Hwys. 17-92, Casselberry, FL 32707

305 339-2111

EBS two-tone systems. FM antennas. FM & TV SCA receiving equipment. SCA dual subchannel manual & remote switching.

### JONES PRODUCTIONS

517 Chester St., Little Rock, AR 72201

800 643-6535

Video production & post-production facilities; home video publishing.

### JRF/MAGNETIC SCIENCES ✓

101 Landing Rd., Landing, NJ 07850

201 398-7426

JRF, Saki, Nortronics replacement audio heads; rebuilt heads, custom head assemblies. JRF, Saki rebuilt video heads. Magnetic head refurbishing & custom design engineering.

### J.S.L. VIDEO SERVICES ✓

25 W. 45 St., New York, NY 10036

212 575-5082/212 944-9494

Video post-production facility.

### JVCO. OF AMERICA, PROFESSIONAL VIDEO DIV. ✓

41 Slater Dr., Elmwood Park, NJ 07407

201 794-3900

Cameras: field, ENG, lightweight, single-tube color. 3/4-inch & VHS VCRs. Half-inch videocassettes. Standalone analog video ef. Two-machine video editor/controllers, SMPTE time code generator/readers. NTSC & RGB video monitors.

Field offices:

CA 1011 W. Artesia Blvd., Compton 90220

213 537-6020

IL 2250 Lively Blvd., Elk Grove Village 60007

312 364-9300

TX 407 Garden Oaks Blvd., Houston 77018

713 694-0666

### JV ELECTRONICS ✓

4734 Bolton Ave., Terrace, BC, Canada V8G 4T9

604 635-5050

Amp power supplies. Audio DAs; Farrtronics audio patch panels, jackfields. Audio monitor selector.

### KAHN COMMUNICATIONS ✓

839 Stewart Ave., Garden City, NY 11530

516 222-2221

AM stereo exciters, stereo generators. Low frequency extenders. AM compressor/limiters. Audio line amps.

### KAITRONICS CORP. ✓

1540 Gilbreth Rd., Burlingame, CA 94010

415 697-9102

Studio & portable production switchers. Parallel & serial interface routing switchers. Parallel interface machine control/technical automation. Satellite switchers, cable & teleconferencing switchers.

### KALAMUSIC ✓

151 S. Rose St. #600, Kalamazoo, MI 49007

616 385-5110

Syndicated radio programming; music library.

### KALART VICTOR CORP. ✓

Hultenius St., Plainville, CT 06062

203 747-1663

Optical multiplexers. Telebeam large-screen TV projector.

### KAMAN SCIENCES ✓

1500 Garden of the Gods Rd., Colorado

Springs, CO 80933

303 599-1601

Radio & TV newsroom computers; business & program automation equipment.

### KANGAROO VIDEO PRODUCTS ✓

10845 Wheatlands Ave. Ste. C, Santee, CA

92071

619 572-9696

Padded nylon transportation cases.

### KARTES VIDEO COMMUNICATIONS ✓

10 E. 106 St., Indianapolis, IN 46280

317 844-7403

Video production & post-production facilities; mobile production facilities rental.

### KAVCO ✓

3931 Image Dr., Dayton, OH 45414

513 898-2003

Parallel & serial interface machine control/technical automation. Facilities design & engineering services; engineering consultants;

# THE BEST DIGITAL TBC IS NOW DYNAMICALLY BETTER!

FOR-A's Digital Time Base Corrector (FA-410) now offers Dynamic Tracking<sup>1</sup> compatibility for both the SONY Broadcast U-Matic<sup>1</sup> (BVU-820) and the PANASONIC VHS (NV-8950)<sup>2</sup> VTRs. All of the FA-410 features from extraordinary transparency in operation to good human engineering (not to mention price!) are now enhanced with the ability to fully utilize Dynamic Tracking modes for fast and slow motion and still frame. For broadcast, cable and editing, the FA-410 is dynamically better than ever.

This, in addition to FOR-A's Performance-Plus features like 8-bit component encoding for highest signal-to-noise ratio and lowest

distortion, a digital dropout compensator and full compatibility with  $\frac{3}{4}$ " and  $\frac{1}{2}$ " VTRs, makes the FA-410 the first choice of professionals.

Call or write today for your copy of the new FOR-A Digital TBC brochure which covers all performance and engineering specifications including details on the new Dynamic Tracking options.

Seeing is believing. Comparing is convincing. Arrange for a demonstration by your FOR-A representative or dealer by calling your closest FOR-A Sales Office. **FOR-A**<sup>®</sup>  
INNOVATIONS IN VIDEO



## FOR-A CORPORATION OF AMERICA

Headquarters: 49 Lexington St., West Newton, MA 02165 (617) 244-3223  
West Coast Office: 11060-E Artesia Blvd., Cerritos, CA 90701 (213) 402-5391

<sup>1</sup>Dynamic Tracking and U-Matic are trade names of Sony Corporation.

<sup>2</sup>The Panasonic VHS NV-8950 is V-locked with modification by FOR-A Corporation. Contact FOR-A Sales Department for complete information.

# All remote trucks make pictures but ours make money!

Attention to the needs of the operator is paramount at Centro. We recognize the importance of attracting and maintaining strong, long term client relationships.

A well designed, comfortable environment is an invitation to your clientele to come back again and again with the knowledge they will be utilizing the finest equipment available in a system designed for their needs.

Centro has produced a large variety of custom and standard mobile units, from compact ENG units to large sophisticated tractor trailer units. All exhibit Centro's advanced systems

engineering concepts, attention to detail and human engineering principles which have made Centro's remote trucks among the highest quality and most technologically advanced in the world.

Centro can help you increase bookings, profits and maintain your backlog. We want to assist you in building your next remote system and ensuring your return on investment. Let us build you a truck that makes pictures and money!

  
a subsidiary of SKAGGS TELECOMMUNICATIONS SERVICE

9516 Chesapeake Drive San Diego, California 92123

(619) 560-1578 TWX: 910-335-1734

mobile vehicle construction.

### KAVOURAS

6301 34 Ave. S., Minneapolis, MN 55450  
612 726-9515

TritonX satellite weather displays, weather-based art/paint systems, character generator/graphics systems. Radac weather radar displays.

### KAY ELEMETRICS CORP.

12 Maple Ave., Pine Brook, NJ 07058  
201 227-2000

Rotary & slide attenuators. RF attenuators, switches. Audio test signal generators, Digital Sona-Graph spectrum analyzers, real time analyzers. RF test signal generators.

### KAY INDUSTRIES

604 N. Hill St., South Bend, IN 46617  
219 234-0171

Rotary phase converters for radio & TV transmitters.

### KB SYSTEMS

10407 62 Pl. W., Everett, WA 98204  
206 355-8740

Replacement video heads; head cleaners, degaussers. Image enhancers. Quartz lighting fixtures. Nicad & lead-acid batteries, chargers. Tripods, heads, dollies. Padded nylon camera & VTR cases. Video cable, cable connectors.

### KEYLITE PSI

333 S. Front St., Burbank, CA 91502  
818 841-5487

Video production facilities; equipment rental services.

### KINEMATRICS/TRUE TIME DIV.

2343 Santa Rosa Ave., Santa Rosa, CA 95407

707 528-1230

Digital clocks, complete clock/timing systems.

#### Field Office:

CA 222 Vista Ave., Pasadena 91107 .....  
..... 213 795-2220

### KING INSTRUMENT CORP.

80 Turnpike Rd., Westboro, MA 01581  
617 366-9141

Audio & video cassette loaders; videotape evaluators.

### KLARK-TEKNIK ELECTRONICS

262A Eastern Pkwy., Farmingdale, NY 11735

516 249-3660

Graphic equalizers. Digital & analog audio efx, mechanical reverb. Spectrum analyzers.

### GEORGE KLEINKNECHT, INC.

940 Eighth Ave., New York, NY 10019  
212 246-2350

Electrical contractor specializing in transmitter, microwave & broadcast studio installations. Automatic room/area light controller.

### KLIEGL BROS.

32-32 48 Ave., Long Island City, NY 11101

212 786-7474

Lamps, quartz fixtures, cyc lighting, lighting stands & rigging, lighting control boards, dimmer packs.

### KLINE IRON & STEEL CO.

Box 1013, Columbia, SC 29202  
803 779-7080

Tower masts, tower rigging & hardware, tower lighting. Tower design, fabrication, & installation.

### KNOX VIDEO PRODUCTS

8547 Grovemont Circle, Gaithersburg, MD 20877

301 840-5805

Telecine color correctors. Titlers, subtitles, character generator/graphics systems. Color Box colorizers, title keyers, downstream keyers, nonadditive keyers. Video proc amps.

### KOSS CORP.

4129 N. Port Washington St., Milwaukee, WI 53212

414 964-5000

Dynamic & electrostatic headphones & speakers. Digital delay systems. Cassette players. Audio/video cleaning products.

### KQED PRODUCTIONS

500 Eighth St., San Francisco, CA 94103  
415 553-2137

Video production & post-production facilities; mobile production facilities rental.

### KTVY PRODUCTIONS

Box 14068, Oklahoma City, OK 73113  
405 478-1212

Video production & post-production facilities; mobile production facilities rental; recording studios.

### KVIE VIDEO

2480 Garden Hwy., Sacramento, CA 95833  
916 929-5797

Video production & post-production facilities; audio post-production facilities; equipment rental services.

### LAIRD TELEMEDIA

2424 S. 2570 West, Salt Lake City UT 84119  
801 972-5900

16/35 mm telecine projectors, 35 mm slide projectors, optical multiplexers. Titlers, subtitles, character generator/graphics systems. Video Pointer cue board. Equipment racks.

### LAKE SYSTEMS CORP.

55 Chapel St., Newton, MA 02160  
617 244-6881

La-Kart video cart automation system.

See ad on pg. 144

### LANDY ASSOCIATES

1890 E. Marlton Pike, Cherry Hill, NJ 08053  
609 424-4660

Sales & rentals of audio, video, lighting, power, support, RF & T&M equipment, components.

MA 1605 Trapelo Rd., Waltham 02154 ...  
..... 717 890-6325

### LANG VIDEO SYSTEMS CORP.

700 Warrington Ave., Redwood City, CA 94063

415 364-1287

Video source ID systems. Video DAs. ENG switchers.

### LARCAN COMMUNICATIONS EQUIPMENT

6520 Northam Dr., Mississauga, Ont., Canada L4V 1H9

416 678-9970

Transmitters: FM, VHF, UHF, LPTV, translators. TV excitors. RF filters.

See ad on pg. 60

#### Field Offices:

CO K.D. Jones, 19003 E. Oxford Dr., Aurora 80013 ..... 303 690-9427

MD L.F. Page, 14440 Cherry Ln. Ct., Laurel 20707 ..... 301 490-6800

CAN R.N. Beaudoin, 8150 Trans Canada Hwy., St. Laurent, Que. H4S 1M5 ..... 514 332-3322

### LAUDERDALE ELECTRONIC LABS

16 S.W. 13 St., Ft. Lauderdale, FL 33315

305 764-7755

Audio alignment, tension gauges; bulk audio & video erasers, tape cleaners & evaluators. Splicing blocks, tape. Record cleaning, care. Mic stands, booms & dollies. Preamps. Audio DAs. Video head cleaners, degaussers. Digital clocks, timers.

### LAUMIC CO.

306 E. 39 St., New York, NY 10016  
212 889-3300

Sales & rentals of video editing equipment.

### LEADER BROADCAST SYSTEMS

835 W. Seventh Ave., Vancouver, BC, Canada V5Z 1C2

604 873-4771

Sales & rental of full line audio & video equipment, including Solor sprocketed magnetic film transports, Elector SMPTE time code synchronizers, Milab mics.

### LEADER INSTRUMENTS

380 Oser Ave., Hauppauge NY 11788  
516 231-6900

Audio test signal generators, harmonic distortion meters, wow & flutter meters. Video test signal generators, waveform monitors, vectorscopes. Oscilloscopes, delayed sweepscopes, voltmeters, multimeters. Video sync, black burst & color bar generators. VTR head checker. Compact disc laser power meter.

See ad on pg. 75

### LEA DYNATECH

12516 Lakeland Rd., Santa Fe Springs, CA 90670

213 944-0916

Perfect Power Source transformers; Surge Eliminator/Kleanline surge protectors; lightning dissipation arrays. Engineering consultants.

### LEAR SIEGLER, BOGEN DIV.

Box 500, Paramus, NJ 07653  
201 343-5700

Preamps, line amps, monitor/power amps.  
Compresso./limiters, graphic equalizers.  
Hardwired intercoms.

#### LEASAMETRIC

1164 Triton Dr., Foster City, CA 94404  
800 227-1817

Test equipment rental services.

#### LEBLANC & DICK COMMUNICATIONS

1440 Cherry Ln. Ct. #201, Laurel, MD 20707  
301 498-2200

Antennas: AM, FM, TV HP & CP, communica-  
tions, tuning units. Transmission line: rigid,  
coaxial, power dividers, RF connectors.  
Tower masts, rigging, hardware, lighting.

#### LECTROTECH

5810 N. Western Ave., Chicago, IL 60659  
312 769-6262

Color picture monitors. Vectorscopes. Fre-  
quency monitors & counters. Oscilloscopes.

#### LEE LIGHTING AMERICA, LTD.

534 W. 25 St., New York, NY 10001  
212 691-1910

Lamps, CSI fixtures, quartz fixtures, cyc  
lighting, diffusion & efx material, lighting  
stands & rigging, lighting control boards,  
dimmer packs. Generators, power dividers,  
converters, inverters. Camera dollies,  
cranes.

#### LEITCH VIDEO LTD.

10 Dyas Rd., Don Mills, Ont., Canada M3B  
1V5

416 445-9640

Video sync, black burst, color bar, safe title  
area generators. Video delay lines, video/  
cable equalizers. Proc amps, video DAs,  
pulse amps, subcarrier amps. Vertical inter-  
val processor. Video test signal generators,  
SCH phase monitors.

Field Office:

VA 825K Greenbrier Cir., Chesapeake  
23320 ..... 804 424-7920

#### LEMO USA

Box 11006, Santa Rosa, CA 95406  
707 578-8811

Connectors, jackfields.

#### LENCO, ELECTRONICS DIV.

300 N. Maryland St., Jackson, MO 63755  
314 243-3147

RS-178 sync, black burst, color bar,  
multiburst & staircase ramp generators.  
NTSC encoders & decoders, video delay  
amps. Proc amps, video DAs, pulse amps,  
subcarrier amps. Monitors: monochrome,  
NTSC, RGB. Video noise meters.

See ad on pg. 99

#### LERRO ELECTRICAL CORP.

3125 N. Broad St., Philadelphia, PA 19132  
215 223-8200

Facilities design & engineering services; mo-  
bile van construction.

#### LEXICON

60 Turner St., Waltham MA 02154

 **MEANS  
IT'S VERIFIED**

617 891-6790

Audio/video sync delay. Audio digital efx &  
reverb, digital delay, time  
compression/expansion.

See ad on pg. 105

#### LIBRA PROGRAMMING

1945 E. 7000 South, Salt Lake City, UT  
84121

800 453-3827

Radio broadcast computer software  
applications.

#### LIGHTING METHODS INC.

Box 1411, Rochester, NY 14603  
716 546-8710

Designer, Idea Concept lighting control  
boards; SD (analog) & RD (digital) dimmer  
packs.

#### LINE ONE VIDEO

220 E. 23 St., New York, NY 10010  
212 696-5440

Video production & post-production  
facilities.

#### LIPSNER-SMITH CO., SUBSIDIARY RTI

4700 Chase Ave., Lincolnwood, IL 60646  
312 675-8473

Ultrasonic film cleaners for film-to-tape trans-  
fers; high speed film rewinders.

#### LISTEC TV EQUIPMENT CORP.

39 Cain Dr., Plainview NY 11803  
516 694-8963

Electrohome video monitors: monochrome,  
NTSC, RGB, high resolution, video projec-  
tors. Vinten tripods, heads, pedestals, dol-  
lies, cranes, jibs, remote pan/tilt systems.  
Teleprompters: monitor-based, scroll entry,  
keyboard entry, ENG/EPF portable.

See ad on pg. 138

Field Office:

CA 1619 Cosmic Way, Glendale 91201

..... 818 247-9247

#### LNR COMMUNICATIONS

180 Marcus Blvd., Hauppauge, NY 11787  
516 273-7111

Satellite earth stations, transmitters; LNRs &  
frequency converters.

#### LODES/PETERSON PRODUCTIONS

10125 J St., Omaha, NB 68127  
402 592-7230

Video production & post-production facili-  
ties; mobile production facilities rental.

#### LOGICA

666 Third Ave., New York, NY 10017  
212 599-0828

Teletext hardware & software.

#### LOGITEK

3320 Bering Dr., Houston, TX 77057

800 231-5870/in TX, AK, HI 713 782-4592  
Audiobook portable & mono studio consoles;  
Perfectionist stereo studio & audio for TV  
consoles. Pyramid monitor speakers.  
Preamps, line amps, monitor/power amps,  
amp power supplies. Bright-VU LED  
displays. Timers.

#### LONG COMMUNICATIONS GROUP

961 Burke St., Winston-Salem, NC 27101  
919 725-2306

Facilities design & engineering services.  
Deltronix custom mixers & consoles, inter-  
com systems & transformers.

#### LORAL MICROWAVE COMM.

9020 Balboa Ave., San Diego, CA 92123  
619 278-4100

FM transmitters. Microwave systems:  
intercity, portable ENG, airborne, central re-  
ceivers. Microwave & telco STLs. Microwave  
antennas.

#### LOUISVILLE PRODUCTIONS

520 W. Chestnut St., Louisville, KY 40202  
502 582-7744

Video production & post-production facili-  
ties; mobile production facilities rental.

#### LOWEL-LIGHT MFG.

475 Tenth Ave., New York, NY 10018  
212 947-0950

Quartz lighting fixtures; lighting stands,  
rigging.

#### LPB

28 Bacton Hill Rd., Frazer, PA 19355  
215 644-1123

Consoles: mic mixers, mono & stereo studio,  
audio for TV. Turntables, pickup arms. AM &  
FM compressor/limiters. Audio DAs. High-  
way & travelers information broadcast  
systems.

See ad on pg. 133

Field Office:

CA Richard Burden, 20944 Sherman Way,  
Canoga Park 91303 ..... 213 340-4590

#### LRP

311 E. 47 St., New York, NY 10017  
212 759-0822

Video production & post-production facili-  
ties; mobile production facilities rental; film-  
to-tape transfers.

#### L.T.M. CORP. OF AMERICA

1160 N. Las Palmas Ave., Hollywood, CA  
90038

213 460-6166

HMI & CSI fixtures, quartz fixtures, cyc light-  
ing, lighting stands & rigging.

#### L-W INTERNATIONAL

50 W. Easy St., Simi Valley, CA 91367  
805 522-3284

Athena 16/35 mm telecine projectors.

#### LYON LAMB VIDEO ANIMATION

4531 Empire Ave., Burbank, CA 91505  
213 843-4831

Video animation controllers. Single-frame  
video editors. Camera/VTR digitizers.



# Q8 challenges the imagination

with... 2 Independent or Interactive Channels of  
Hundreds of Fonts... and Millions of Colors...  
and Automatic Keystroke Sequencing... and  
"Unlimited" Roll & Crawl... and Pop-On Animation  
...and Fade, Matte & Key ...and Full Studio Timing  
...the possibilities are endless.

**Q8 QUANTAFONT®** Face-Loadable  
Teleproduction Graphic Titling System.

a decade of commitment

**QUANTA®**

Quanta Corporation • 2440 So. Progress Drive, Salt Lake City, Utah 84119 • (801) 974-0992 TWX 910-925-5684

Circle 163 on Reader Service Card

### 3M BROADCASTING & RELATED PRODUCTS DIV. ✓

3M Center, Bldg. 225-3S, St. Paul, MN 55144  
612 733-9073

Titlers, subtitles, character/generator graphics systems, digital art-paint systems, camera/VTR digitizers. Parallel & serial interface video routing switchers. Parallel & serial interface machine control/technical automation, vertical interval systems. Sync, black burst, color bar generators. Proc amps, video DAs.

#### Field Offices:

AK 5331 Minnesota Dr., Anchorage 99502  
907 276-2383  
CA 6023 S. Garfield Ave., Los Angeles  
90040 213 726-6338  
CA 320 Shaw Rd. S., San Francisco 94080  
415 761-1155  
DC 1101 15 St. N.W. #1100, 20005  
202 331-6930  
GA 2860 Bankers Ind. Dr., Atlanta 30360  
404 447-7088  
HI Box 30048, Honolulu 96820  
808 422-2721  
IL 6850 S. Harlem Ave., Bedford Park,  
Argo 60501 312 496-6619  
MA 155 Fourth Ave., Needham Heights  
02194 617 449-619  
MI 23923 Research Dr., Farmington 48024  
313 477-5000  
MO Box 510, St. Louis 63166  
314 997-8522  
NC Box 2047, High Point 27261  
919 889-7181  
NJ Box 2076, W. Caldwell 07006  
201 575-2007  
OH 4835 Para Dr., Cincinnati 45237  
513 482-3128  
OH 12200 Brookpark Rd., Cleveland 44130  
216 362-3217  
PA 5698 Rising Sun Ave., Philadelphia  
19120 215 728-5325  
TX Box 28158, Dallas 75228  
214 324-8171  
WA 100 Andover Park W., Andover Ind. Pk.,  
Seattle 98188 206 241-2270

### 3M MAGNETIC A/V PRODUCTS DIV. ✓

Box 33600, St. Paul, MN 55144  
612 733-6905

Videotape: Scotch two-inch, one-inch, ¾-inch & half-inch cassettes. Scotch film stock, empty reels, carts & cassettes, tape loaders, timers, rewinders, tape cleaners & evaluators.

See ad on pgs. 20-21, 68-69

### MacKENZIE LABORATORIES

5507 N. Peck Rd., Arcadia, CA 91006  
213 579-0440

Audio cart player/recorders: single-deck, dual/triple deck, multideck.

### M/A-COM DCC ✓

11717 Exploration Ln., Germantown, MD  
20874

301 428-5500

NTSC encoders/decoders (digital TV codec). DATE modulators. TDMA & SCPC transmit/receive satellite earth stations; M/AESTRO receive-only earth stations.

#### Field Office:

CANDigital Telecommunications, 1290  
Aimco Blvd., Mississauga Ont., L4W

1B2 ..... 416 624-1810

### M/A-COM MVS ✓

63 Third Ave., Burlington, MA 01803  
617 272-3000

Receive-only satellite earth stations. Microwave systems: intercity, portable ENG, airborne, central receivers & relay systems. Transmitter remote control systems. Remote pickup equipment. Microwave & fiberoptic STLs. Fiberoptic systems.

### MAGNASYNC/MOVIOLA ✓

5539 Riverton Ave., N. Hollywood, CA 91603  
818 763-8441

Videola film-to-tape transfer system. Multitrack tape-based logging recorders/reproducers.

### MAGNA-TECH ELECTRONIC ✓

630 Ninth Ave., New York, NY 10036  
212 586-7240

Sprocketed magnetic film transports, cassettes. Film/video synchronizers. Time code generator/readers.

See ad on pg. 127

### MAGNAVOX ✓

Box 6950, Knoxville, TN 37914  
615 521-4316

PMX AM stereo system.

### MAGNECRAFT ELECTRIC CO. ✓

5575 N. Lynch Ave., Chicago, IL 60630  
312 282-5500

Coaxial & RF switches/relays.

### MAGNICOM SYSTEMS

1177 High Ridge Rd., Stamford, CT 06905  
203 968-0088

Radio & TV business computer systems.

### MAGNUM TOWERS

9370 Elder Creek Rd., Sacramento, CA  
95829

916 381-5053

Tower masts, rigging, hardware, lighting.

### THE MANAGEMENT ✓

Box T, Aledo, TX 76008  
817 441-8532

Radio & TV business automation software.

### MARATHON PRODUCTS ✓

334 W. Boylston St., W. Boylston, MA 01583  
617 853-0988

ATR head cleaners, degaussers; alignment, tension gauges. Audio carts, empty reels & carts.

### MARCOM

Box 66507, Scotts Valley, CA 95066  
408 438-4273

Road extended bandwidth telephone transmission system. Audio monitor/switcher. Distributor of full line audio, video, RF & T&M equipment. Facilities design & engineering services; engineering consultants.

### MARCONI INSTRUMENTS ✓

100 Stonehurst Ct., Northvale, NJ 07647  
201 767-7250

TV blanking interval timer; insertion signal analyzer.

### MARK ELECTRONICS ✓

4324 S.W. 35 Terrace, Box 1475,  
Gainesville, FL 32602  
904 375-4434

Equipment racks, studio consoles.

### MARSHALL CLAUDE MICHAEL

9674 Telstar Ave., El Monte, CA 91731  
213 443-3234

Oscilloscopes, voltmeters, multimeters, logic analyzers. Tool kits.

### MARSHALL ELECTRONIC ✓

1205 York Rd. #14, Lutherville, MD 21093  
301 484-2220

Quantec digital efx, reverb; digital delays, time compression/expansion, analog efx, reverb.

### MARTI ELECTRONICS ✓

1501 N. Main, Box 661, Cleburne, TX 76031  
817 645-9163

ALC & AGC amps, AM & FM compressor/limiters. Dynamic & RF mics. Line amps, monitor/power amps. Audio DAs. VHF & UHF transmitters. Microwave systems: intercity, portable ENG, airborne, central receivers. Communications antennas. Transmission line: foam dielectric, power dividers, RF connectors. Transmitter remote control systems; STLs, TSLs; FM & TV SCA equipment; two-way radio communications; remote pickup equipment.

### MATCO CONTROL PRODUCTS ✓

427 Perrymont Ave., San Jose, CA 95125  
408 998-1655

STC-2 System serial interface machine control/technical automation.

### MATRIX SYSTEMS CORP.

5177 N. Douglas Fir Rd., Calabasas, CA  
91302

818 992-6776

Video interface for consoles. Automatic satellite switchers. Audio routing switchers. Production switchers: portable, compact studio/mobile, large automated systems, post-production. Master control switchers: manual, automated, business automation interfaced. RF attenuators & RF switches. Transmission line: coaxial, power dividers. Jackfields, patch panels. Engineering consultants.

### MATRIX VIDEO SERVICES

727 11 Ave., New York, NY 10019  
212 265-8500

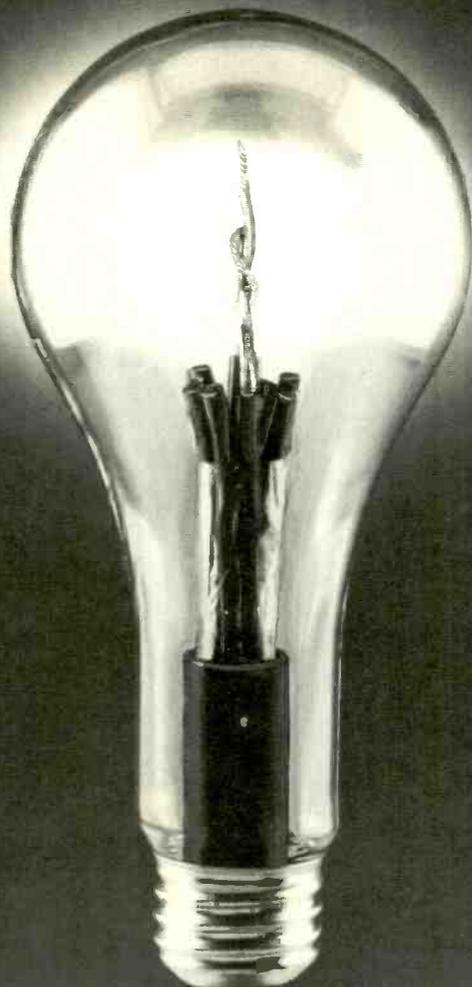
Video production & post-production facilities; mobile audio/video production facilities rental.

### MATTHEWS STUDIO EQUIPMENT ✓

2405 Empire Ave., Burbank, CA 91504  
818 843-6715

Diffusion, efx material; lighting stands, rigging. Dollies, cranes, jibs, remote pan/tilt systems.

# Chester puts your ideas on cable.



Chester's been doing it since 1945. Making sure your genius works by providing high quality cable that conforms to your designs. As a result of your challenges, Chester is fast becoming known as the most flexible and reliable source for high quality cable. With service that always measures up to your high standards. And with all the tools and manufacturing capabilities to give you quick and efficient turn-around time.

Thanks to your inventive minds, we can continue to cultivate our growing line of products. Whether it's standard, custom-made, audio, video, coaxial, triaxial, multi-conductor, whether it's medical, military,

broadcast — or "breakthrough." We've got the cable creativity for just about anything that comes to light. And all at a much better value!

So call for a design consultation. And ask for the new Chester Cable Broadcast Products Catalog. Call Chester Cable today — and keep your ideas flowing!



**CHESTER CABLE**

P.O. Drawer D  
Chester, New York 10918  
(914) 469-2141

**Meeting the challenge.**

A unit of Chester Cablewave Systems Corporation

# Your studio is unique. That's why there's a family of Electro-Voice® Sentry® Studio Monitors. Meet the new addition!

Electro-Voice is proud to announce the addition of a fourth member to the SENTRY family of studio monitors. The new MODEL 100EL combines the superb audio reproduction of the SENTRY 100A with an integral 50 watt power amplifier. The SENTRY family now includes a model to meet the requirements of every professional studio.

## SENTRY 100EL—with an integral power amplifier

The SENTRY 100EL adds a 50 watt power amplifier to the SENTRY 100A. The internal amplifier has both balanced and unbalanced line-level inputs, an infrasonic filter to reduce distortion and a torroidal transformer—but nothing to get in the way of the trusted SENTRY performance. The SENTRY 100EL is a solution to problems like limited rack space, equipment transport on remotes, or cramped spaces in video editing booths.

## SENTRY 100A—for tight spaces

The compact 8-inch, two-way SENTRY 100A is the ideal choice where space is limited but sonic accuracy cannot be compromised. Flat 45-18kHz frequency response, excellent imaging, true rack-mountability, high efficiency and incredible power handling are some of the features that have made the SENTRY 100A the standard of respected studios everywhere.

## SENTRY 500—for wider coverage

The Constant Directivity SENTRY 500 broadens the "sweet spot," allowing more than one person to hear the same accurate sound without "beamy" high frequency problems. The 12-inch, two-way SENTRY 500 will produce 96dB at one meter with only a one



watt signal, yet can handle 100 watts of continuous power with 6dB of headroom—400 watts on peaks.

## SENTRY 505—for "quarter-space" environments

The SENTRY 505 is the acoustical equivalent of the SENTRY 500 when mounted in a "quarter-space" environment such as the intersection of a wall and ceiling. The front baffle angles downward at either a 30° or 60° angle making this a large monitor that can be easily used in some of the tightest control room and production environments.

## "Test equipment philosophy" of design.

Each of the four SENTRY monitors is a consistent, dependable audio reference combining high efficiency, high power handling

and low distortion. All deliver the linear response and uniform polar patterns that are mandatory for stringent quality control.

## Greg Silsby talks about the SENTRY monitor family:

"Consistent quality audio requires the test equipment accuracy we've built in to every SENTRY Studio Monitor. If you need quality you need SENTRY."

"Accept the Sentry challenge. Write to me today for the complete SENTRY family story: Greg Silsby, Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107."



*Greg Silsby*

Market Development Manager, Professional Markets



**EV** Electro-Voice®  
a gulton company

When quality really counts, professionals count on Electro-Voice.™

**MAXELL CORP. OF AMERICA**  
60 Oxford Dr., Moonachie, NJ 07074  
201 440-8020  
Audio & video tape, cassettes.

**MBB HELICOPTER CORP.**  
Box 2349, W. Chester, PA 19380  
215 431-4150  
ENG-equipped helicopters.

**MBI/AHB**  
5 Connair Rd., Orange, CT 06477  
203 795-3594  
Consoles: portable, mono studio, stereo studio, audio-for-TV.

**McCURDY RADIO**  
108 Carnforth, Toronto, Ont., Canada M4A 2L4  
416 751-6262  
Consoles: mic mixers, mono & stereo studio, audio for TV. AM compressor/limiters, parametric equalizers & filters. Turntables. Hardwired intercom systems. Line amps, monitor/power amps, amp power supplies. Audio DAs, patch panels. Low frequency extenders. PPM meters. Digital clocks, master & slave clocks. Audio post-production services; radio & TV studio design.

**MCG ELECTRONICS**  
12 Burt Dr., Deer Park, NY 11729  
516 586-5125  
Surge-Master surge protectors.  
See ad on pg. 58

**MCI, DIV. SONY CORP. OF AMERICA**  
See **SONY PROFESSIONAL AUDIO**

**McINNIS SKINNER & ASSOC.**  
See **BESTON**

**MCI/QUANTEL**  
3290 W. Bayshore Rd., Palo Alto, CA 94303  
415 856-6226  
Paint Box digital art/paint system, Cypher character generator/graphics system, Mirage 3D modeling & manipulation. DPE & Encore digital efx generators. Henry video animation controller, DLS digital still store. TBCs, field & frame synchronizers, TBC/framestores, DSC & Silk standards converters.  
Field Offices:  
CA David Diels, Box 6098, Canyon Lake 92380 . . . . . 714 679-7870  
CT David Dever, 300 Broad St. #500, Stamford 06901 . . . . . 203 348-4101  
GA Paul Fletcher, 2971 Flowers Rd. S. #106, Atlanta 30341 . . . . . 404 457-1266  
MI Larry Biehl, 33701 Oak Point Cir., Farmington Hills 48018 . . . . . 313 553-2360  
TX Greg Gambill, 4001 Airport Frwy. #500K, Bedford 76021 . . . . . 817 283-8944  
See ad on pg. 35

**McKAY DYMEK**  
111 S. College, Claremont, CA 91711  
714 626-5063  
Monitor speakers. AM & communications antennas.

**MCMANUS ENTERPRISES**  
Box 6530, San Diego, CA 92106  
619 223-1730  
Audio post-production facilities, facilities design & engineering services, engineering consultants, broadcast equipment repair.

**McMARTIN INDUSTRIES**  
4500 S. 76 St., Omaha, NE 68127  
402 331-2000  
Accu-Five mic mixers, mono studio & stereo studio consoles. Complete disc playing consoles. ALC & AGC amps, AM & FM compressor/limiters. Royalcom RF intercom systems. Preamps, line amps, monitor/power amps. Rotary & slide attenuators, EBS two-tone systems. Transmitters: AM, FM, VHF & UHF. AM & FM exciters, stereo generators, modulators. RF amps, filters. Modulation monitors, field intensity meters.

**McMICHAEL, LTD.**  
Sefton Pk., Bells Hill, Stoke Poges, Slough, U.K. SL2 4HD  
Standards converters. Broadcast color monitors. Clock & logo generators.

**MEAD DATA CENTRAL**  
9393 Springboro Pike, Dayton, OH 45401  
800 227-9597  
Computer-accessed library of wire service stories, newspapers, magazines.

**MEADOWLANDS COMMUNICATIONS INC.**  
320 Veterans Blvd., Rutherford, NJ 07070  
201 460-3555  
Satellite time brokers, audio & video uplinking & downlinking services.

**MEDIA CONCEPTS**  
559 49 St. S., St. Petersburg, FL 33707  
813 321-2122  
Professional VHS VCRs. Videocassette automation systems. Foam insert transportation cases.

**MEDIA GENERAL BROADCAST SERVICE**  
2714 Union Ave. Ext., Memphis, TN 38112  
901 320-4212  
Radio program & commercial production services; station IDs; music libraries.

**MERLIN ENGINEERING WORKS**  
1880 Embarcadero Rd., Palo Alto, CA 94303  
415 856-0900  
VTR, VCR modifications: one-inch B, one-inch C, 3/4-inch U-Matic, M-format, VHS.  
See ad on pg. 64

**METROTAPE**  
5746 Sunset Blvd., Hollywood, CA 90028  
213 856-1000  
Video production & post-production facilities.

**MICMIX AUDIO PRODUCTS**  
2995 Ladybird Lane, Dallas, TX 75220  
214 352-3811  
Audio noise reduction. Analog efx, reverb.

**MICRO COMMUNICATIONS**  
Box 4365, Manchester, NH 03108

603 624-4351  
Antennas: FM, TV HP & CP, communications. Diplexers, multiplexers. RF filters, loads, & switches. Transmission line: rigid, coaxial, power dividers, RF connectors. Engineering consultants.

**MICRO CONTROLS**  
Box 728, Burleson, TX 76028  
817 295-0965  
STLs & TSLs. FM SCA equipment, FM repeaters. Uniphase FM exciter. Switching units. Power amps.

**MICRODYNE CORP.**  
Box 7213, Ocala, FL 32672  
904 687-4633  
Satellite antennas, receivers & TV modulators. Remote control systems.  
See ad on pg. 151

**MICROFLECT CO.**  
Box 12985 Salem, OR 97309  
503 363-9267  
Tower masts, rigging, hardware, lighting. Tower installation.

**MICRON AUDIO PRODUCTS**  
210 Westlake Dr., Valhalla, NY 10595  
914 761-6520  
Microphones: RF, lavalier, modular capsule systems, mic booms, dollies.

**MICROPROBE ELECTRONICS/MEI**  
910 Sherwood Dr., Unit 19, Lake Bluff, IL 60044  
312 295-2606  
Computer automation controllers, Satmaster automatic satellite switchers, complete program automation. Satellite network controllers. Complete clock/timing systems.

**MICROTIME**  
1280 Blue Hills Ave., Bloomfield, CT 06074  
203 242-4242  
TBCs, frame synchronizers, TBC/framestores, video noise reducers, image enhancers. A/B-roll effects systems.  
Field Offices:  
CA Gary Armour, El Cajon 92021 . . . . . 619 569-1344  
GA Jerry Rankin, Liburn 30247 . . . . . 404 979-4437  
IL Dave Everett, Hoffman Est. 60195 . . . . . 312 934-9191  
NJ Ray Bouchard, Lawrenceville 08648 . . . . . 609 896-3176  
TX Steve Krant, Richardson 75080 . . . . . 214 644-0232  
See ad on pgs. 112-113

**MICRO-TRAK CORP.**  
620 Race St., Holyoke, MA 01040  
413 536-3551  
Consoles: mic mixers, portable, mono & stereo studio, audio for TV. Turntables, pick-up arms, complete disc playing consoles. Monitor speakers. Preamps, line amps, monitor/power amps. Audio DAs. Studio furniture, cart/tape storage racks.

**MICROTRAN CO.**  
145 E. Mineola Ave., Box 236, Valley Stream, NY 11582

516 561-6050

Audio bulk tape erasers & head degaussers.  
Full line transformers.

**MICROWAVE FILTER CO.** ✓  
6743 Kinne St., E. Syracuse, NY 13057  
800 448-1666/315 437-3953

Diplexers, multiplexers. RF filters. Interference suppression filters. Coaxial transmission line. Equipment rental services; engineering consultants; earth station site selection; seminars & handbook on avoiding & suppressing terrestrial interference.

**MICROWAVE MOBILE SYSTEMS** ✓  
15693 Chemical Ln., Huntington Beach, CA 92649

714 891-2232/213 271-9644

Terrestrial microwave facilities for point-to-point video transmission, satellite interconnect.

**MICROWAVE TECHNIQUES** ✓  
Box 97, Rte. 302, Raymond, ME 04077  
207 655-3881

RF attenuators, filters, loads, switches. Transmission line: rigid, coaxial, power dividers, RF connectors. Coaxial & waveguide components. Design engineering.

**MIDWEST CORP.** ✓  
1 Sperti Dr., Edgewood, KY 41017  
606 331-8990

Mobile vehicle construction. Distributor of video equipment.

**Field Offices:**

FL Lloyd Hicks, 3331 N.W. 82 Ave., Miami 33122 ..... 305 592-5355

FL Bob Monacelli, 6302 Benjamin Rd. #403, Tampa 33614 . . . 813 885-9308

GA Ron Bradley, 522 Armour Cir. N.E., Atlanta 30324 ..... 404 875-3753

IN Al Rerko, 8455 Keystone Crossing #101, Indianapolis 46240 ..... 317 251-5750

KY Jeff Gray, 2035 Regency Rd., Lexington 40503 ..... 606 277-4994

KY John Loughmiller, 1804 Cargo Ct., Louisville 40299 ..... 502 491-2888

MD John Handley, 4720B Boston Way, Lanham 20801 ..... 301 577-4903

MI Ed Ziemba, 1328 Wheaton Ave., Troy 48084 ..... 313 689-9730

MI Mel Clouse, 12621 160 Ave., Big Rapids 49307 ..... 616 796-5238

MO Larry Mason, 1 Cottage Mill Ct., Manchester 63011 ..... 314 225-4655

NC Marsha Pleasants, 2848 #E., Interstate 85 S., Charlotte 28208 . 704 399-6336

OH Fred Higbie, 4410 Westerville Rd., Columbus 43229 ..... 614 476-2800

OH Brad Nogar, 7500 Wall St., Cleveland 44125 ..... 216 447-9745

OH John Shriner, Dayton . . . 513 298-0421

PA John Humphrey, 535 Rochester Rd., Pittsburgh 15237 ..... 412 364-6780

TN Lonnie Lindsey, 2405 Windsor Ave., Bristol 37621 ..... 615 968-2289

TN Fred McCoy, A7-156 Space Pk. S., Antioch Pike, Nashville 37211 ..... 615 331-5791

VA Elijah Midkill, 1395 Air Rail Ave., Virginia Beach 23445 ..... 804 464-6256

WV Jack Crouse, 307 Sandy Blvd., Clarksburg 26301 ..... 304 624-5459



WV David Foglesong, 300 First Ave., Nitro 25143 ..... 304 722-2921

See ad on pgs. 10-11, 43

**MIKROLAB** ✓  
21815 Providencia St., Woodland Hills, CA 91364

213 884-5690

Monitor speakers. Monitor/power amps. VU meters.

See ad on pg. 160

**L. MATTHEW MILLER ASSOC.** ✓

48 W. 21 St., New York, NY 10010

212 741-8011

Equipment rental services; facilities design & engineering services; engineering consultants.

**MILAM AUDIO CO.**  
1470 Valle Vista St., Pekin, IL 61554  
309 346-3161

Audio studio design services. Audio DAs.

**MILLER PROFESSIONAL EQUIPMENT**

10816 Burbank Blvd., N. Hollywood, CA 91601

818 766-9451

Camera tripods, heads, dollies.

**MINNEAPOLIS MAGNETICS**  
9969 Valley View Rd., Eden Prairie, MN 55344

612 944-7660

Replacement audio & video heads; VTR rebuilding service.

**MINOLTA CORP.** ✓  
101 Williams Dr., Ramsey, NJ 07446  
201 825-4000

Light meters, illuminance meters, luminance meters, color temperature meters, chroma meters, TV monitor analyzers.

**MITSUBISHI ELECTRIC SALES AMERICA** ✓

110 New England Ave. W., Piscataway, NJ 08854

800 631-5377

Digital audio recorder sales & rentals.

**MOBILE-CAM PRODUCTS** ✓  
Box A82103, San Diego, CA 92130  
619 692-3208

Mobile vehicle construction. Audio & video DAs. Hardwired IFB/intercom systems. Multi-Box battery-powered device for multiple audio & video ENG feeds. Vehicle cabinets, equipment racks, roof racks, antenna mounts, electric reels, alternators, engine speed controls. Camera cradles, quick-release camera/VTR cables, padded nylon VTR & accessory bags.

See ad on pg. 157

**MOBILE VIDEO PRODUCTIONS**  
888 Post St., San Francisco, CA 94109  
415 474-0202

Video production & post-production facilities; mobile production facilities rental.

**MOBILE VIDEO SERVICES** ✓  
2139 Wisconsin Ave. NW, Washington, DC 20007

202 944-2800

Video production facilities; mobile production facilities rental; video post-production facilities; local microwave common carrier.

**MODERN TELECOMMUNICATIONS**

1 Dag Hammarskjold Plaza, New York, NY 10017

212 355-0510

Video production & post-production facilities; mobile production facilities rental.

**MODULAR AUDIO PRODUCTS**  
50 Orville Dr., Bohemia, NY 11716  
516 567-9620

AM compressor/limiters, graphic equalizers. Audio preamps, line amps, monitor/power amps, amp power supplies. Audio DAs, audio routing switchers. VU, PPM, LED level displays. Audio test signal generators. Frames.

**MODULATION ASSOCIATES** ✓

897 Independence Ave., Mountain View, CA 94043

415 962-8000

Diplexers, multiplexers, modulators. Satellite earth stations: transmit/receive, receive-only, transportable; upconverters, downconverters; satellite network controllers. Video subcarrier equipment.

**MODULATION SCIENCES** ✓  
115 Myrtle Ave., Brooklyn, NY 11201  
212 625-7333

FM compressor/limiters. Wired STLs. Sidekick FM SCA equipment; TV-Sidekick TV SCA; SAP equipment. TV aural demodulators.

See ad on pg. 163

**MOLE-RICHARDSON CO.** ✓  
937 N. Sycamore Ave., Hollywood, CA 90038  
213 851-0111

Lamps, HMI & CSI fixtures, quartz fixtures, cyc lighting, diffusion & efx material, lighting stands & rigging, lighting control boards, dimmer packs. Power generators, HMI ballasts, ac/dc converters & inverters. Lighting/ac cable, cable connectors. Transformers. Equipment rental services.

**KEITH MONKS AUDIO**  
652 Glenbrook Rd., Stamford, CT 06906  
203 348-4969

Record cleaning, care. Mic booms & dollies. Impedance bridges, phase meters.

**MONROE ELECTRONICS** ✓  
100 House Ave., Lyndonville, NY 14098  
716 778-7175

Automatic satellite switchers. Transmitter re-

# If you know what you want in Video Equipment... We can save you a bundle of money!

By your paying in advance, we are able to offer the most competitive prices you have ever seen. And your tax savings will more than cover the freight. We are a 36 year old company offering the best savings imaginable. And at our special prices we can't even afford an 800 number. Call 312/433-6010; ask for the Industrial Video Dept., too cheap to buy an 800 number.

## 3/4" Recorders, Players, Acc.

<u>Sony</u>	
VP-5000 Player	1,344.
VO-5600 Recorder	1,690.
VO-5800 Source Recorder	3,245.
VO-5850 Edit Recorder	5,222.
Edit System 1/5800 1/5850 1/RM440 2RCC5F 1VDC5	9,590.
VO-4800 Portable	2,340.
RM-440 Controller	1,290.
RFK-634 RF Mod.	78.
<u>Panasonic</u>	
NV-9100A Player	1,083.
NV-9200A Recorder	1,785.
NV-9300A Rec.w/tuner	1,579.
NV-9240 Source Rec.	3,034.
NV-9600 Edit Recorder	4,641.
AU-700 Pro Edit Recorder	5,825.
Edit System A with 9240/ 9600/A500	8,500.
Edit System C; professional 2/AU-700/AU-A70	15,600.
NV-9400 Portable	2,060.
NV-9450 Portable	3,193.

## JVC

CP-5000U Player	873.
CP-5500U Player	2,288.
CR-6060U Recorder	1,268.
CR-6650U Recorder	2,912.
CR-8250U Editor	4,680.
CR-4900U Portable	3,224.

## 1/2" Recorders, Players

### VHS

Panasonic NV-8110 Player	515.
Pana. AG-6100 Player	1,024.
Pana. AG-2200 Recorder	633.
Pana. NV-8350 Recorder	1,006.
Pana. AG-6200 Recorder	1,280.
Pana. NV-8950 Recorder	1,439.
Pana. AG-6300 Edit. Rec.	1,378.
Pana. NV-8500 Edit Rec.	2,366.
Edit System D: 6300/8500 NV-A500	4,840.
Edit System E; 2/NV-8500 1/NV-A500	5,820.
Pana. NV-8420 Portable	699.
JVC BP-5100U Player	475.
JVC BP-5300U Player	1,069.
JVC BR-7110U Recorder	572.
JVC HR-C3U Mini C Rec.	624.
JVC BR-6400U Recorder	1,312.
JVC BR-6200U Portable	884.
JVC BR-8600U Editor	2,030.
JVC RM-86U Edit Control	936.
Edit System F: 5300/8600 RM-86U	3,999.
Edit System G: 2/8600 RM-86U	4,990.

## BETA

Sony SLP-305 Player	905.
Sony SLO-325 Recorder	1,235.
Sony SLO-383 Editor	1,820.
Edit System 2/SLO-383 1/RM-440 2/RCC-5F 1/VDC-5	4,300.
Sony SLO-340 Portable	1,010.
Sony SLO-420 Recorder	1,045.

## Color Cameras

### Panasonic

WV-3180/6xNewvicon 6:1	789.
WV-3230/8AFNew.Auto 8:1	954.
WV-3230/12xNew. 12:1	1,009.
WV-3890B Saticon, 6:1	1,836.
WV-3990B Saticon 12:1	2,284.
WV-3990 BEN Studio	3,183.

### JVC

BY-110 3-Sat. 10:1	3,115.
KY-1900UPL 10:3-Sat.10:1	3,854.
KY-210 3-Sat. 10:1	6,215.
KY-310 3-Sat. 12:1	6,703.

## Color Displays

### Sony

PVM-4000 3.7" Monitor	725.
PVM-5300 Triple 5" mon.	1,675.
PVM-8000 8" mon./audio	579.
PVM-8200MB 8" Dual	1,160.
CVM-1270 12" mon/rec.	600.
PVM-1270Q RGB mon.	667.
PVM-1220 12" super fine	1,595.
PVM-1900 19" mon/audio	728.
CVM-1900 19" mon/rec.	840.
PVM-1960 19" super fine	2,410.
CVM-2560 25" mon/rec.	1,250.
CVM-3000 30" mon/rec.	5,680.
RVP-460 45" rear proj.	3,285.
VPH-722Q Projector	4,260.
VPH-1020Q Projector	4,260.
KX-1211HG 12" Profeel	651.
KX-1901 19" Profeel	583.
KX-2501A 25" Profeel	947.

### Panasonic

CT-300VT 2.6" mon/rec.	428.
CT-500V 5" mon/rec.	354.
CT-1010M 10" monitor	298.
CT-1020M 10" monitor	287.
CT-110MA 10" monitor	354.
CT-1330M 13" monitor	369.
CT-1330V 13" mon/rec.	442.
CT-1350MG 13" RGB mon.	435.
CT-1920M 19" monitor	480.
CT-1930V 19" mon/rec.	603.
CT-2000M 19" tri standard	755.
BT-S701N 7" monitor	392.
BT-S702N 7" dual rack	821.
BT-S1300N 13" monitor	464.
BT-S1900N 19" monitor	567.
BT-S700N 7" mon.AC/DC	446.

## JVC

TMP-3U 3" monitor	275.
TM-22U 5" mon/AC-DC	297.
TM-90U 9" mon/RGB	364.
TMR-9U 9" pro. mon.	510.
C1483UM 13" mon/rec.	457.
C2082UM 19" mon/rec.	650.

## Accessories

JVC KM-2000U S.E.G.	3,860.
Pana. WJ-4600B S.E.G.	1,525.
Pana. WJ-5500B S.E.G.	2,875.
Shintron 370 S.E.G.	2,035.
Sony 2000A S.E.G.	3,604.
Videotek Waveform Mon.	1,700.
Videotek Vectorscope	1,950.
Shintron 640 SMPTE Gen.	775.
Shi. 646 SMPTE Reader	1,165.
For-A 410 TBC	6,425.
Knox K50 Char. Gen.	930.
Lowel Softlite S2-91 Kit	370.
Shure M67 Mike Mixer	267.
VAC Black Burst Gen.Kit	82.
Set of Test Charts	89.
Sony RX-303 Autosearch	265.
Sony RX-353 Control	300.
Pana. WV-J10 Titler	515.

## Tape Sony & Eastman

<u>Min. 12 per item</u>	
L-125V Beta	4.54
L-250V Beta	5.14
L-500V Beta	6.69
L-500HG Hi Grade	7.29
L-750V Beta	7.93
L-750HG Hi Grade	8.85
L-830V Beta	9.45
KCS-10 U-Matic;mini	10.84
KCS-10BR Brdst;mini	13.28
KCS-20 U-Matic;mini	12.44
KCS-20BR Brdst;mini	14.00
KCA-30 U-Matic	14.30
KCA-30BR Broadcast	16.79
KCA-60 U-Matic	20.95
KCA-60BR Broadcast	23.61

## Eastman min. 10 per item

T-30 Pro	7.33
T-60 Pro	8.25
T-120 Pro	8.50
T-120X Broadcast	11.65

### We also sell:

Dynair, Videotek, Vicon, Smith-Victor, EV, Cine 60, Canon and many others.

If what you want is not listed, please call 312/433-6010 for quote.

TERMS: Certified Check, COD, Bank Transfer. FOB: Highland Park, IL. Some quantities limited. Prices subject to change.

# COLUMBIA VIDEO SYSTEMS

The Columbia Building • Laurel and Second • Highland Park, IL 60035 • 312 433-6010

mote control systems.

**MONTAGE COMPUTER** ✓  
52 Domino Dr., W. Concord, MA 01742  
617 371-0485  
Multisource video editors.

**MOOG MUSIC** ✓  
2500 Walden Ave., Buffalo, NY 14225  
716 681-7200  
Music synthesizers.

**TOMMY MOORE, INC.**  
Box 8597, Fort Worth, TX 76124  
817 457-3060  
Receive-only & transportable satellite earth stations. Towers.

**MOSELEY ASSOCIATES** ✓  
111 Castilian Dr., Goleta, CA 93117  
805 968-9621  
Transmitter remote control systems. STLs, TSLs. FM & AM SCA equipment. Remote pickup equipment. Stereo generators. AM & FM compressor/limiters.  
[See ad on pg. 19](#)

**MOTOROLA C&E** ✓  
17-22 Whitestone Expy., Whitestone, NY 11357  
212 746-1100  
AM stereo exciters. Two-way radio communications transmitters, receivers & antennas. Portable base repeaters. Remote pickup equipment; outside broadcast communications systems. Transmission line: rigid, foam dielectric, coaxial. Spectrum analyzers. RF power meters & wattmeters, frequency monitors & controllers. RF test signal generators. Oscilloscopes, delayed sweepscopes, voltmeters, multimeters, dB meters, logic analyzers. RF cable, connectors. Tools; vacuum tubes; solid state components; rectifiers; capacitors; transformers; surge protectors; quartz crystals. Nicad batteries, chargers.  
[See ad on pg. 17](#)

**MPB TECHNOLOGIES**  
1725 N. Service Rd., Transcan., Dorval, Que., Canada H9P 1J1  
514 457-2035  
Video animation controllers. Character generators.

**MPCS VIDEO INDUSTRIES** ✓  
514 W. 57 St., New York, NY 10019  
212 586-3690  
Video production & post-production facilities; equipment rental services; facilities design & engineering services; studio design services; engineering consultants.

**MU-DEL ELECTRONICS**  
2426 Linden Ln., Silver Spring, MD 20910  
301 587-6087  
Rf amps, attenuators, converters, filters. Diplexers.

**MULTIDYNE ELECTRONICS**  
Box 528, Locust Valley, NY 11560  
516 671-7278  
Preamps, line amps. Audio DAs. Character generators. Downstream keyers. Time code synchronizers, SMPTE time code generator/

readers, proprietary time code systems. Sync, black burst, color bar, multiburst, staircase ramp, source ID & countdown generators. Video slate board. Video/cable equalizers. Video DAs, pulse amps, subcarrier amps. Video test signal generators.

**MULTI-TRACK MAGNETICS** ✓  
3 Industrial Ave., Upper Saddle River, NJ 07458  
201 327-9400  
Magnetic film dubbers & recorders. Solid state telecine systems, 16/35 mm telecine projectors. Time code synchronizers, two-machine editor/controllers, SMPTE time code generator/readers. Facilities design & engineering services.

**MULTIVISION**  
161 Highland Ave., Needham, MA 02194  
617 449-5830  
Mobile production facilities rental; video post-production facilities; audio post-production facilities; video equipment rental services; location ENG production.

**MUSIC DIRECTOR PROGRAMMING SERVICE** ✓  
Box 103, Indian Orchard, MA 10151  
413 783-4626  
Music libraries; syndicated radio programming.

**MXR INNOVATIONS** ✓  
740 Driving Park Ave., Rochester, NY 14613  
716 254-2910  
FM compressor/limiters, graphic equalizers. Digital special efx, reverb; digital audio delay, analog special efx, audio pitch shifter. Preamps.

**MYCRO-TEK** ✓  
Box 47068, Wichita, KS 67212  
316 945-5087  
Mycro-Vision character generator/graphics systems.

**MZB & ASSOCIATES** ✓  
4203 Beltway, Dallas, TX 75234  
214 233-5535  
Mobile vehicle construction.

**NADY SYSTEMS** ✓  
1145 65 St., Oakland, CA 94608  
415 652-2411  
RF intercom systems. RF & lavalier mics.

**NAGRA MAGNETIC RECORDERS** ✓  
19 W. 44 St. #715, New York, NY 10036  
212 840-0999  
Portable ATRs. Replacement ATR heads. MRL test tapes, leaders. Tape-based loggers.  
Field Office:  
CA 1147 N. Vine St., Hollywood 90038 ...  
213 469-6391

**NALPAK VIDEO SALES** ✓  
3928 S. Sepulveda Blvd., Culver City, CA 90230  
213 391-0491  
Nicad batteries, chargers. Tripod cases, dollies. CP scroll-entry teleprompters. Foam in-

sert & rack configuration transportation cases. Magnum Ear-Mic audio accessory. Test charts & slides. Cable reels.

**NATIONAL VIDEO CENTER** ✓  
460 W. 42 St., New York, NY 10036  
212 279-2000  
Video production & post-production facilities; mobile production facilities rental; recording studios.

**NATIONAL VIDEO INDUSTRIES**  
15 W. 17 St., New York, NY 10011  
212 691-1300  
Video post-production facilities.

**NAUTICAL ELECTRONIC LABS.**  
RR #1, Pantallon, NS, Canada B0J 3J0  
902 823-2233  
AM transmitters. AM & AM stereo exciters, stereo generators, modulators. RF amps.  
Field Office:  
ME Nautel Maine Inc., 201 Target Ind. Cir., Bangor 04401 ..... 207 947-8200

**NAUTILUS TELEVISION NETWORK** ✓  
Box 1783, DeLand, FL 32720  
904 228-2884  
Video production & post-production facilities; production equipment rentals; tape duplication; film-to-tape transfers.

**NEC AMERICA, BROADCAST EQUIPMENT DIV.** ✓  
130 Martin Ln., Elk Grove Village, IL 60007  
312 640-3792  
CCD color cameras, recorder/cameras. E-FLEX digital efx generators, compressor/positioners, combiner w/keyer. TBCs, field synchronizers, frame synchronizers, video/audio sync delays. Transmitters: FM, VHF, UHF. FM exciters, stereo generators, multiplexers. Portable ENG microwave systems. Slow-scan transmitters/receivers.  
Field Offices:  
CA Frank Stoltz, 1012 Stewart Dr., Sunnyvale 94086 ..... 408 737-7711  
NJ Lawrence Litchfield, 21 Brandywine Terr., Morristown 07690 .....  
201 540-0819

[See ad on pgs. 13, 152](#)

**NEI** ✓  
934 N.E. 25 Ave., Portland, OR 97232  
503 232-4445  
Consoles: mic mixers, portable, mono & stereo studio. Parametric & graphic equalizers. Analog efx, reverb. Monitor/power amps. Real time analyzers.

**NET ENTERPRISES**  
3200 Eisenhower Pkwy #Q, Ann Arbor, MI 48104  
313 971-3600  
Video production & post-production facilities; mobile production facilities rental.

**NETCOM** ✓  
1702 Union St., San Francisco, CA 94123  
415 921-1441  
Video production facilities; equipment rental services; engineering consultants; mobile



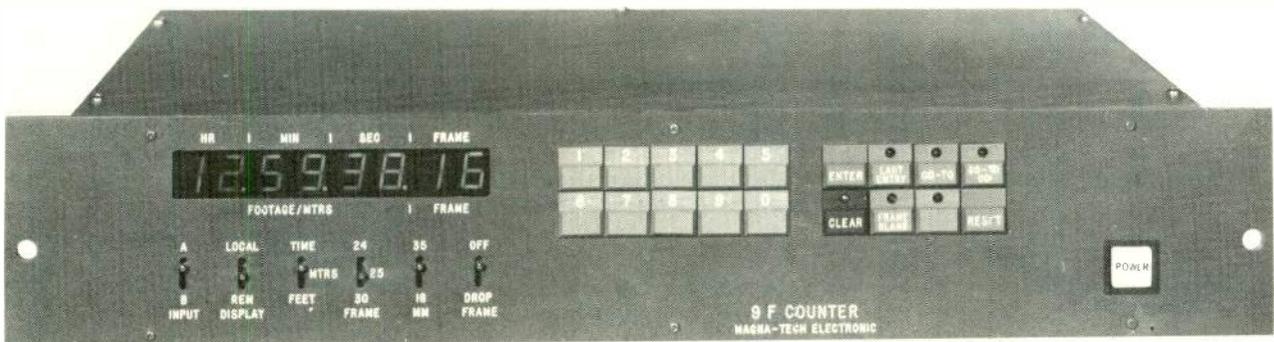
# MAGNA-TECH

THE SOUND  
HEARD AROUND THE WORLD

Magnetic Film  
Recorders and Reproducers  
for Television and Film  
Sound Post-Production

## TYPE 9-F

MICRO PROCESSOR  
BASED DIGITAL  
COUNTER  
AND  
SMPTE/EBU EDIT TIME CODE  
GENERATOR AND READER



Frame rates of 24, 25 and 30 frames are selectable from the front panel with the 30 frame dropframe and non-dropframe selectable.

Counter automatically converts from footage/frames to meters to Hours/Minutes/Seconds/Frames.

Input either 2-phase TTL level with 90 degree phase shift or TTL level pulses and FWD/REV signal.

Tach pulse generated series time code in SMPTE/EBU format.

Selectable frame rate 24, 25, 30 frames with dropframe selection for NTSC

Time code input for jam preset or time code readings.

Output of counter is 32 bit BCD or  $\overline{\text{BCD}}$ .

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## MAGNA-TECH ELECTRONIC CO., INC.

630 Ninth Avenue, New York, N.Y. 10036

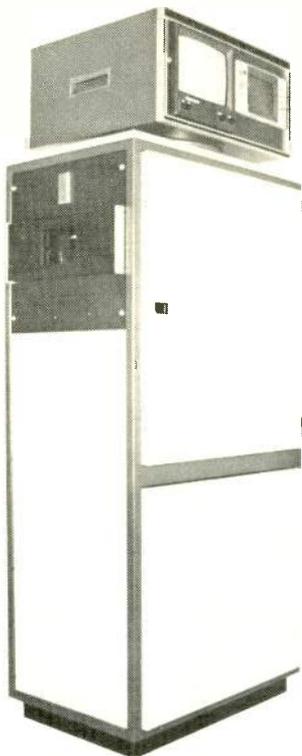
Telephone (212) 586-7240

Telex 126191

Cables "Magtech"

# HCF-ONE TELECINE CAMERA

## \$29,950



Here is the field tested, maintenance free, direct replacement for your TK-27 and TK-28, PE-240 or any of those old tired telecine cameras. Two different optical systems are available to assure direct interface with your existing film island.

Compare . . .

**FEATURES  
BENEFITS  
. . . PRICE!!**

## HUBCOM

HUBBARD COMMUNICATIONS, INC.

10383 Oak Street N.E.  
St. Petersburg, FL 33702-1894  
(813) 577-7759  
Twx: 810-863-0417

Circle 226 on Reader Service Card

vehicle construction; satellite time brokers; turnkey satellite transmission facilities.  
Field Office:  
DC 386 National Press Bldg., 20045 . . . . .  
. . . . . 202 638-6338

### NETWORK PRODUCTION MUSIC

4429 Morena Blvd., San Diego, CA 92117  
619 272-2011  
Production music library, sound effects.

### NEUMADE PRODUCTS CORP.

Box 568, Scarsdale, NY 10583  
914 725-4900  
Audio carts, sprocketed magnetic film, empty reels & carts, tape loaders, tape timers & rewinders. Film cleaning machines. Cart/tape storage.

### NEUTRIK PRODUCTS

77 Selleck St., Stamford, CT 06902  
203 348-2121  
Graph recorder. Audio test signal generators, harmonic distortion meters. Audio cable & connectors. Transformers.

### RUPERT NEVE, INC.

Berkshire Industrial Park, Bethel, CT 06801  
203 744-6230  
Consoles: portable, audio for TV, console automation. Audio DAs.  
See listings in Reps section  
Field Office:  
CA B. Morgan Martin, 7533 Sunset Blvd.,  
Hollywood 90046 . . . . . 213 874-8126

### NEW ENGLAND SATELLITE SYSTEMS

45 Drury Lane, Worcester, MA 01609  
617 757-2531  
Transportable satellite earth station rentals; site surveys; permanent installation services.

### NEXUS PRODUCTIONS

10 E. 40 St., New York, NY 10016  
212 679-2180  
Video post-production facilities.

### NIKKO AUDIO

320 Oser Ave., Hauppauge, NY 11788  
516 231-8181  
Mono & stereo studio consoles. Audio cassette player/recorders. Turntables. Graphic & parametric equalizers. Time delay synthesizers. Preamps, monitor/power amps, integrated amps.

### FRED A. NILES COMMUNICATIONS

1058 W. Washington Blvd., Chicago, IL 60607  
312 738-4181  
Video production & post-production facilities; mobile production facilities rental.

### NORDIC SOFTWARE

4910 Dudley St., Lincoln, NE 68504  
402 466-6502  
Media Master radio business automation software.  
See listings in Reps section

### NORTHEAST PRODUCTIONS/ NEP

Wilkes-Barre/Scranton Airport, Avoca, PA 18641  
800 233-4777/in PA 717 824-6666  
Mobile production facilities rental; video post-production facilities; satellite uplinking & downlinking facilities.  
Field Offices:  
NY Erick Thomas, NEP Sharpshooters, Inc., 56 W. 47 St., New York 10036 . . . . .  
. . . . . 212 823-1100  
PA Chester Sawicki, Northeast Satellites Div., Scranton . . . . . 717 826-1616

### NORTHWEST COMMUNICATIONS

5381 48 Ave., Delta, BC, Canada V4K 1W7  
604 946-1146  
Video production & post-production facilities; mobile production facilities rental.

### NORTHWEST TELEPRODUCTIONS

4455 W. 77 St., Minneapolis, MN 55435  
612 835-4455  
Video production & post-production facilities; mobile production facilities rental.

### NORTH WIND POWER CO.

Box 556, Moretown, VT 05660  
802 496-2955  
Wind energy systems. Lead-acid batteries & chargers, generators, inverters & converters. Towers.

### NORTRONICS CO.

8101 10 Ave. N., Minneapolis, MN 55427  
612 545-0401  
Replacement audio heads; alignment, tension gauges. Audio tape erasers, degaussers. Audio & video head cleaners & degaussers.

### N.O.V.A. CORP.

5801 Uplander Way, Culver City, CA 90230  
213 641-2046  
Videotape cleaners, evaluators.

### N-PRO

10022 Hazelwood Dr., Oregon City, OR 97045  
503 656-5500  
Hydraulic ENG vehicle masts.

### NTI AMERICA

1680 N. Vine St. #202, Los Angeles, CA 90028  
213 462-8945  
Digital video test signal generators. Video color time coder. Digital still store.

### FRED A. NUDD CORP.

1743 Rte. 104, Ontario, NY 14519  
315 524-2531  
Tower masts, rigging, hardware; Hughey/Phillips tower lighting.

### NURAD, INC.

2165 Druid Park Dr., Baltimore, MD 21211  
301 462-1700  
Microwave systems: intercity, portable ENG, Super Pod airborne, central receivers. TVCP antennas. STLs, TSLs. Remote pickup equipment. Turnkey installations.

**NYTONE ELECTRONICS** ✓  
2424 S. 900 West, Salt Lake City, UT 84119  
801 973-4090  
Flying spot scanner (slide-to-video), optical multiplexers, telecine color correctors.

**N-Z VIDEO SYSTEMS**  
513 Greer Ave., Sikeston, MO 63801  
314 471-7145  
Facilities design & engineering services; mobile vehicle construction.

**OAK COMMUNICATIONS** ✓  
16935 W. Bernardo Dr., Rancho Bernardo, CA 92127  
619 485-9300  
Decoders, converters & addressable systems for STV, PTV & CATV.

**O'CONNOR ENGINEERING LABS** ✓  
100 Kalmus Dr., Costa Mesa, CA 92643  
714 979-3993  
Tripods, heads, pedestals, dollies.

**ODETICS**  
1380 S. Anaheim Blvd., Anaheim, CA 92805  
714 774-5000  
Digital audio recorders. Cassette player/recorders, duplicators. Replacement audio heads. Cassettes. Bulk erasers. Dynamic & condenser mics, mic booms. Videocassettes. Digital clocks, master/slave clocks, timers.

**OKI ELECTRIC OVERSEAS** ✓  
1 University Pl., Hackensack, NJ 07601  
201 646-0011  
Digital standards converters. Receive-only satellite earth stations.  
[See ad on pg. 103](#)

**OKTEL CORP.** ✓  
490 Division St., Campbell CA 95008  
408 374-1811  
Digital still stores, magnetic disc recorders.

**OLD DOMINION BROADCAST ENGINEERING SVCS.**  
1101 Front St., Richmond, VA 23222  
804 321-4506  
Telco interface equipment. Antenna tuning units. Remote pickup noise reduction. Equipment rental services; facilities design & engineering services; engineering consultants.

**OLESEN**  
1535 Ivar Ave., Hollywood, CA 90028  
213 461-4631  
Lamps, lighting fixtures, diffusion & etx material, lighting stands, lighting control boards, dimmer packs. Ac cables & connectors.

**OMICRON VIDEO** ✓  
9700 Owensmouth Ave., Chatsworth, CA 91311  
818 700-0742  
Compact studio/mobile production switchers. A/B roll editors. Sync & black burst generators. SMPTE time code synchronizers. Monitor/power amps. Audio & video DAs, audio routing switchers.



Field Office:  
CA 22251 Roscoe Blvd., Canoga Park  
91304 ..... 818 884-1268

**OMNIMOUNT SYSTEMS**  
10850 Van Owen St., N. Hollywood, CA  
91605  
213 766-9000

Audio/video equipment mounting assemblies.

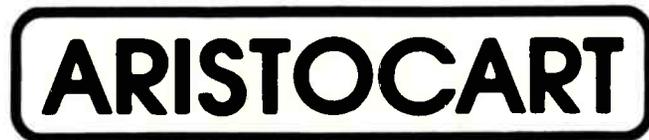
**OMNIMUSIC**  
52 Main St., Port Washington, NY 11050  
516 883-0121  
Recording studios; music libraries; original music scores.

**ONAN CORP.** ✓  
1400 73 Ave. N.W., Minneapolis, MN 55432  
612 574-5000  
Power generators.

**ONE PASS FILM & VIDEO** ✓

You'll get  
**HIGHER EFFICIENCY  
FLATTER RESPONSE  
LOWER NOISE  
LESS DISTORTION**

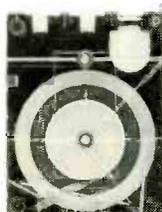
with



because

We use our own superb quality **ARISTOCART HOLN 2006** tape and we see to it that each individual unit we ship meets or exceeds current NAB specifications.

No other broadcast cartridge supplier takes this sort of time and care with their product.



**our guarantee**

If any **ARISTOCART** cartridge should fail to meet NAB AM/FM performance specifications on a properly aligned cart machine, we will replace it at our sole expense.



MANUFACTURED BY ARISTOCART DIV. WESTERN INTERNATIONAL COMMUNICATIONS LTD.  
505 BURREARD STREET, VANCOUVER, B.C., CANADA V7X 1M6 TEL: (604) 687-2844 TELEX: 04-54639

Circle 183 on Reader Service Card

# They know why...

■ "We can work around bright lights on the studio floor with far less concern about noise."

W. E. (Bill) Thompson  
KPRC TV, Houston, TX

■ "The quietest cable we have ever used."

Jim Bartel, Engineer  
Victor Duncan, Inc.  
Film & Video  
Equip. Dist.

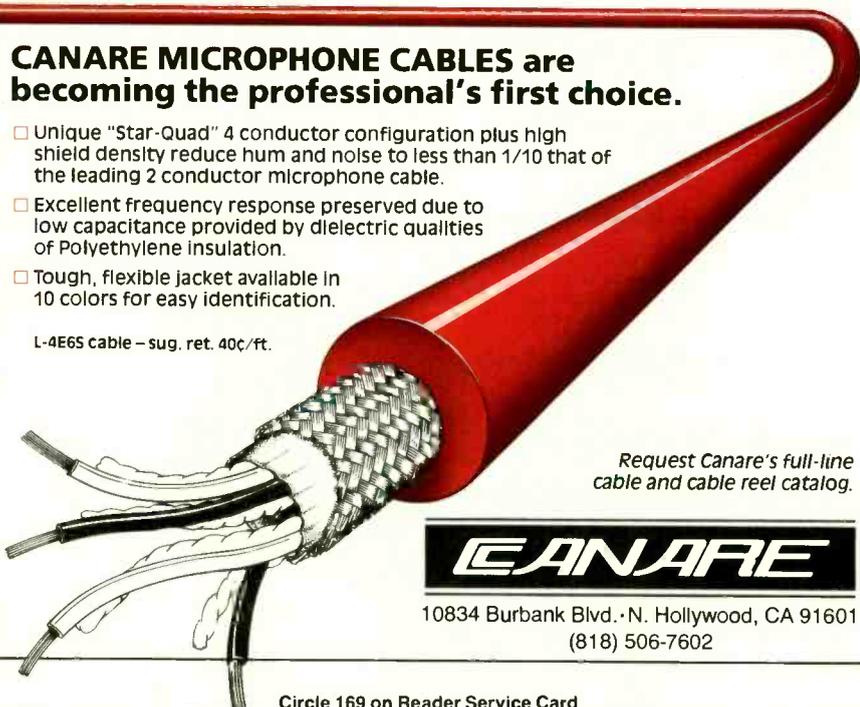
■ "The flexible, smooth surface eliminated our kinking and twisting problems."

Jim Van Waay, Pres.  
V. J. Electronics  
Sound Contractor

## CANARE MICROPHONE CABLES are becoming the professional's first choice.

- Unique "Star-Quad" 4 conductor configuration plus high shield density reduce hum and noise to less than 1/10 that of the leading 2 conductor microphone cable.
- Excellent frequency response preserved due to low capacitance provided by dielectric qualities of Polyethylene insulation.
- Tough, flexible jacket available in 10 colors for easy identification.

L-4E65 cable - sug. ret. 40¢/ft.



Request Canare's full-line cable and cable reel catalog.

# CANARE

10834 Burbank Blvd. - N. Hollywood, CA 91601  
(818) 506-7602

Circle 169 on Reader Service Card

# Squeezer

## The Video Compression System With One Feature All Others Lack: Affordability.

Everyone today is facing the budget squeeze one way or another. Networks, affiliates and independents. Cable companies. Production and post production houses. One curious thing about budget squeezes is that they have a way of making equipment purchase decisions both easier and harder. Easier when it's clear that a particular item costs too much for the times. But harder when you are looking at equipment you know you need, but can't find the bucks for.

## The Squeezer: Meeting Your Needs With A Unique Set of Special Effects Features.

The Squeezer, from Precision Echo, is a programmable video compression and positioning system that compresses an image down to four selectable sizes, places that image anywhere within the

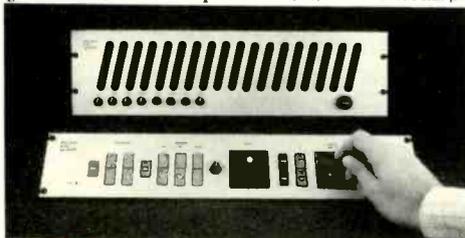
screen on command, crops any part of it to any size, and puts a variable-sized border of any color around it on request. It can even flip the image horizontally or freeze the action. Exclusive dual joy stick controls make image manipulation simple. And the utility of its design makes The Squeezer a versatile tool whether rack mounted in a production facility or used in mobile applications.

## The Squeezer: An Affordable Alternative.

There's very little that you'll find on The Squeezer that you couldn't find on an ADDA, Vital, or a Quantel system. Except the price tag. Those other systems cost anywhere from \$40,000 to \$200,000. The Squeezer costs under \$20,000. For broadcast programming, news and

sports production, cable TV, educational and industrial applications, nothing comes close to the cost efficiency of The Squeezer.

The Squeezer from Precision Echo. High on quality and cost efficiency.



## PRECISION ECHO

3105 Patrick Henry Drive • Santa Clara, CA 95054

(408) 988-0516 • TWX 910/338-2328

Circle 173 on Reader Service Card

1 China Basin Bldg., San Francisco, CA 94107

415 777-5777

Video production & post-production facilities; mobile production facilities rental; audio post-production facilities; equipment rental services.

## OPAMP LABS

1033 N. Sycamore Ave., Los Angeles, CA 90038

213 934-3566

Consoles: mic mixers, portable, mono studio. Preamps, line amps, monitor/power amps, amp power supplies. Video DAs, pulse amps. Transformers.

## OPRYLAND PRODUCTIONS

2806 Opryland Dr., Nashville, TN 37214

615 242-2483

Video production & post-production facilities; mobile production facilities rental.

## OPTIMA ENCLOSURES, DIV. SCIENTIFIC-ATLANTA

2166 Mountain Industrial Blvd., Tucker, GA 30084

404 939-6340

Racks, equipment enclosures, cabinets.

## URBAN ASSOCIATES

645 Bryant St., San Francisco, CA 94107

800 227-4498/415 957-1067

AM & FM compressor/limiters; parametric & graphic equalizers. Digital eq, reverb. De-essers, stereo synthesizers. Stereo generators for FM & TV.

See ad on pgs. 57, 70

## ALLEN OSBORNE ASSOC.

756 Lakefield Rd. Bldg. J, Westlake Village, CA 91361

805 495-8420

Hilomast telescoping microwave masts.

## OSMOND STUDIOS

1420 E. 800 North, Orem, UT 84057

801 224-4444

Scenery construction, scenery rigging, set design service. Video production & post-production facilities; recording studios; audio post-production facilities; equipment rental services; set/studio design services.

## OSRAM SALES CORP.

Box 7062, Jeanne Dr., Newburgh, NY 12550

914 564-6300

HMI lamps & lighting fixtures.

## OTARI CORP.

2 Davis Dr., Belmont CA 94002

415 592-8311

Open-reel ATRs: portable, 2/4-track studio, multitrack. Tape duplicators. SMPTE time code synchronizers. SMPTE time code generator/readers, VITC reader/generators. Videocassette loaders: Beta, VHS, 3/4-inch, 8 mm.

See listings in Repts section

## PACIFIC COAST VIDEO

635 1/2 Chapala, Santa Barbara, CA 93101

805 965-5015

# Save \$10,000 every year for 20 years with the new Harris 60 kW UHF transmitter!

The new Harris TVE-60S is the most efficient 60 kW UHF-TV transmitter on the market today. And that translates directly into improved bottom line results for your operation.

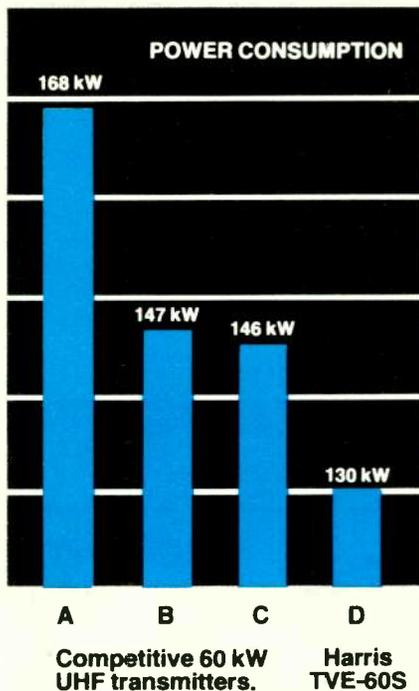
With the TVE-60S, you can actually save an average of \$10,000 annually\* on your power bills. Multiply this by the average 20-year life of a transmitter, and you come up with a \$200,000 savings! Without considering inflation.

## How We Got There

The very latest in high power UHF technology has been incorporated into the TVE-60S. For instance, a single Varian 5-cavity VKP-7550 "S" Series klystron is used for full 60 kW visual power output.

This new integral-cavity klystron is an improved, ultra-high-efficiency version of the Varian VA-950 Series that has

been field proven in hundreds of UHF transmitters worldwide.



When operated with a variable visual output coupler and a mod anode pulser—both supplied as

standard in the TVE-60S—the new klystron provides visual beam efficiencies ranging from 63% to 68%.

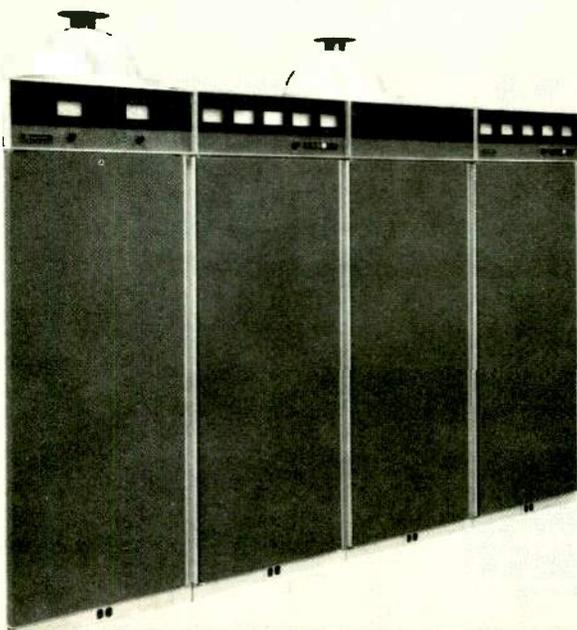
Add to this an aural klystron coupler and an efficient vapor phase heat exchanger, and you have a 60 kW transmitter with power consumption of 130 kW or less. No other UHF transmitter in this power range comes close.

## No Performance Sacrifices

There has been no sacrifice of performance for high efficiency. The MCP-2U visual exciter, with its Quadrature Corrector and unique, adjustment-free VIDEO SAW filter, provides unmatched color specifications and highest reliability. Also, the TVE-60S is designed for TV stereo, teletext and other services.

For complete information on the new TVE-60S, or the 120 kW and 240 kW versions, write or call: Harris Corporation, Broadcast Transmission Division, P.O. Box 4290, Quincy, Illinois 62305. 217/222-8200.

\*Figured from the National Average Power Cost as published in "Electric Power Monthly", based on a 20-hour broadcast day, and compared with the published power consumption specification (as of Feb., 1984) on the next closest competitive 60 kW UHF transmitter. Comparisons in chart based on published specs as of Feb., 1984.



Video production & post-production facilities.

### PACIFIC RECORDERS & ENGINEERING

2070 Las Palmas Drive, Carlsbad, CA 92008  
619 438-3911

Stereo studio consoles. Single-deck cart player/recorders; phase control matrixing. Audio DAs.

See ad on pgs. 46-47

### PACKAGED LIGHTING SYSTEMS

Box 285, Grant St., Walden, NY 12586  
914 778-3515

Lamps, quartz fixtures, cyc lighting, diffusion & efx material, lighting stands & rigging, Stage-Master lighting control boards & dimmer packs. Lighting equipment racks.

### W.A. PALMER FILMS

611 Howard St., San Francisco, CA 94105  
415 986-5961

Video & audio post-production facilities; recording studios; music libraries; film labs; tape-to-film & film-to-tape transfers.

### PALTEX

2942 Dow Ave., Tustin, CA 92680  
714 544-9970

Two-machine editor/controllers, A/B roll editors. Vanguard & Edit-Star multisource editors. Gemini TBCs, field synchronizers, field/framestores, video multiprocessors.

**✓ MEANS  
IT'S VERIFIED**

See ad on pg. 137

### PANASONIC INDUSTRIAL

1 Panasonic Way, Secaucus, NJ 07094  
201 348-7397

Consoles: mic mixers, portable, mono & stereo studio, audio for TV. Monitor speakers. Electret/condenser mics. Cameras: studio, field, ENG, single-tube color, recorder/cameras, monochrome. VCRs: 1/4-inch U, M-format, VHS. 1/4-inch videocassettes. Optical disc recorders. Production switchers: portable, compact studio/mobile. Manual master control switchers. Two-machine editor/controllers, A/B-roll editors, multi-source editors, SMPTE time code generator/readers. Sync generators. Video DAs, pulse amps. Video monitors: monochrome, NTSC, RGB, high resolution, battery-powered portable, video projectors.

See ad on pg. 83

### PARSONS MFG. CORP.

1055 O'Brien Dr., Menlo Park, CA 94025  
415 324-4726/800 221-0823

Transporter line of foam insert & rack configuration transportation cases.

### PD MAGNETICS

600 Heron Dr., Pureland Industrial Complex, Bridgeport, NJ 08014  
609 467-2500/800 922-0555  
Audio cassettes. Half-inch videocassettes.

### PEAK AUDIO

3107 Bedlington Pl., Holland, PA 18966  
215 860-0303

Timesaver audio tape loaders, timers, rewinders. Economist, Perfectionist audio preamps.

### PEIRCE-PHELPS

2000 N. 59 St., Philadelphia, PA 19131  
215 879-7171

Facilities design & engineering services; mobile vehicle construction.

### PENNY & GILES

1640 Fifth St. #224, Santa Monica, CA 90401

213 393-0014

Rotary & slide attenuators. Joysticks.

### PENTAGON INDUSTRIES

4751 N. Olcott, Chicago, IL 60656  
312 867-9200

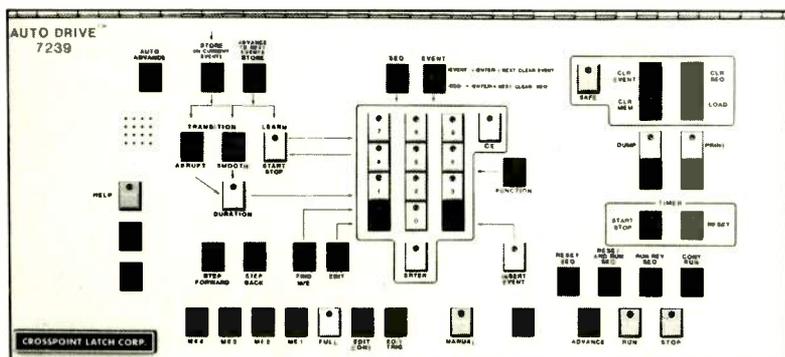
Audio cassette player/recorders, changers & duplicators. Alignment gauges, tape rewinders.

### PEP

25 W. 54 St., New York, NY 10019

## AUTO DRIVE™ 7239

## THE SWITCHER CONTROLLER OF THE FUTURE



- SIMPLE OPERATION
- 255 EVENTS
- "LEARN" FADER AND POSITIONERS
- FORWARD AND REVERSE RUN
- INSERT AND DELETE EVENTS
- EDIT STORED EVENTS
- FIND M.E. MODE
- CRT STATUS DISPLAY
- AUTO ADVANCE MODE
- PRINTER DRIVER
- EDITOR INTERFACES
- BATTERY BACK-UP

The 7239 is extremely easy to use. That is one of its most important features. Just set up the switcher the way you want it and depress the STORE button. The 7239 stores the entire control panel (EVENTS) or only selected ME systems. The entire control panel status can be stored 255 times, and these may be grouped into SEQUENCES, which can run either forwards or backwards. Recalling and changing selected portions of a stored EVENT is very simple - a unique feature of AUTO DRIVE™. The INSERT EVENT feature allows events to be inserted into a sequence, without the complexity of having to reproduce the settings of all the controls on the switcher panel - another feature no other controller has. The 7239 learns up to 90 seconds of fader arm or positioner movements. A battery back-up option retains data in memory in the event of a power failure.

The 7239 operates with all 6139 "K" switchers or with the 6112AK. It can be controlled from most editors and external computers.

**CROSSPOINT LATCH CORP.**

Basic 7239 \$12,500.

95 Progress St., Union, N.J. 07083  
(201) 688-1510 Telex 181160

212 246-2490  
Nicad batteries & chargers, ac adapters.

### PERROTT ENGINEERING LABS

7201 Lee Hwy., Falls Church, VA 22046  
703 532-0700

Nicad, silver-zinc & lead-acid batteries, chargers; ac power supplies. Lamps. Power supply repair & service.

See ad on pg. 60

### PETERS PRODUCTIONS

9590 Chesapeake Dr., San Diego, CA 92123  
619 565-8511

Audio post-production facilities; recording studios; promotions & advertising services.

### PFB CONCEPTS

Box 2222, Des Plaines, IL 60018  
312 956-7280

Studio furniture; cabinets; studio consoles; equipment racks. Equipment layout & enclosure design.

### PHILADELPHIA RESINS

Box 454, 20 Commerce Dr.,  
Montgomeryville, PA 18936  
215 855-8450

Nonmetallic, electrically transparent tower guys.

See ad on pg. 146

### PHILIPS TELEVISION SYSTEMS

900 Corporate Dr., Mahwah, NJ 07430  
201 529-1550

Cameras: studio, field, ENG, recorder/cameras, monochrome. Telecine cameras, telecine color correctors. Sync, black burst & color bar generators. Video noise reducers. Comb filter decoders. NTSC & RGB video monitors. Automatic CD player systems. Transmitters: FM, VHF, UHF. FM exciters, TV exciters, stereo generators, diplexers, multiplexers. RF amps, RF tubes. FM & TV SCA equipment. Facilities design & engineering services. Mobile vehicle construction.

#### Field Offices:

CA Michael W. Hartt, 3760 Cahuenga Blvd.  
W., N. Hollywood 91604

818 766-8184

MD Robert Mahoney, 801 Howard Grove  
Rd., Davidsonville 21035

301 956-3065/6

MN Jeffrey N. Clarine, 15611 Fish Point Rd.,  
Prior Lake 55372

612 447-6036

TX Michael J. Mackin, Rte. 2, 801 E. Wood-  
glen, Lewisville 75067

817 455-2214

See ad on pgs. 26-27

### PHILIPS TEST & MEASURING INSTRUMENTS

85 McKee Dr., Mahwah, NJ 07430  
201 529-3800

Sync & color bar generators. Waveform monitors, vectorscopes, automatic VITS analyzers. Demodulators. Oscilloscopes, logic analyzers.

#### Field Offices:

CA 12882 Valley View St. #9, Garden  
Grove 92645

213 594-8741

CA 533 Valley Way, Milpitas 95035

408 946-6722

MA 21 Olympia Ave., Woburn 01801

617 935-3972

See ad on pg. 71

### THE PHOEBUS CORP.

2800 Third St., San Francisco, CA 94107  
415 550-1177

HMI & quartz lighting fixtures.

### PHOENIX SYSTEMS

4685 Highland Dr. #208, Salt Lake City, UT  
84117

801 272-8601

Radio business automation systems.

### PHOTO AND VIDEO ELECTRONICS

1620 Hillside Ave., New Hyde Park, NY  
11040

516 328-6606

Pave Perispheric wide-angle macro lens.

### PICTURE ELEMENT LTD.

635 Waverly St., Palo Alto, CA 94301  
415 322-2141

Video Sequence Processor still store/digital recorder/special effects system.

See listings in Reps section

## Our consoles never die. They just keep fading away.

Built like a tank. Handle like a dream. Smooth, sure, responsive. And won't let you down.

That's LPB, for the air and production boards you see coast to coast—in local to network stations—from 100 watts to 100kw.

It isn't that we're all-solid-state, or that we make 5, 8 or 10 channel mixers, mono, stereo or both. It's simply because LPB consoles don't seem to break down. And that's on the record.

But features count, too. From pre-fader pushbutton cues to programmable muting logic, let's say if it's essential, we've got it!

If you're keeping current on consoles, get the specs on LPB equipment. Call 215-644-1123 or write LPB Inc., 28 Bacton Hill Road, Frazer, PA 19355. (Telex 703000.)

A lot of consoles will come and go in your time. But not if they're made by LPB.



# LPB®

Our call letters make news round the world.

Circle 176 on Reader Service Card

## PIHER

Box 947, N. Miami Beach, FL 33160  
305 931-2096

Audio DAs. Character generator/graphics systems. Compact studio/mobile production switchers. Video routing switchers. Sync generators. Pulse amps.

## PINZONE COMMUNICATIONS PRODUCTS

10142 Fairmount Rd., Newbury, OH 44065  
304 296-4493

Satellite earth stations: transmit/receive (Pinzone, Comtech, Harris, Varian, LNR), receive-only (Pinzone, Comtech, Harris,

Miralite), transportable (Pinzone, Comtech); upconverters/downconverters (Pinzone, LNR), Dexcel LNAs, Leitch encryption systems; satellite network controllers. Cablewave transmission line: rigid, foam dielectric, coaxial, RF connectors. Power dividers. Refurbished TCR-100 video cart players. Philips waveform monitors.

## PLASTIC REEL CORP. OF AMERICA

475 Boulevard, Elmwood, NJ 07407

201 796-6600

Plio-Magic empty audio & video tape reels, carts, cases. Moduline equipment racks.

## Field Offices:

CA 8140 Webb Ave., N. Hollywood 91605  
..... 213 504-0400  
IL 65 E. Illinois St., Chicago 60611  
..... 312 541-6464  
NY 240 W. 60 St., New York 10023  
..... 212 541-6464

## POLARAD ELECTRONICS

5 Delaware Dr., Lake Success, NY 11042  
516 328-1100

AM, FM, & TV field intensity meters; transceiver test set; spectrum analyzers; RF signal generators.

## POLYCOM TELEPRODUCTION

201 E. Erie St., Chicago, IL 60611  
312 337-6000

Video production & post-production facilities, mobile production facilities rental.

## PORTABLE ENERGY PRODUCTS

1875 S. Pearl St., Denver, CO 80210  
303 778-8616

Nicad & sealed lead-acid batteries, chargers.

## PORTA-BRACE/K&H PRODUCTS

Box 246, N. Bennington, VT 05257  
802 442-9118

ENG equipment carts; recorder cases; padded nylon camera cases; camera rain covers; production cases.

## PORTA-PATTERN

Box 38945, 750 N. Highland Ave., Los Angeles, CA 90038  
213 461-3561

Video test charts, slides, films, optical test media.

## THE POST GROUP

6335 Homewood Ave., Hollywood, CA 90028  
213 462-2300

Video post-production facilities.

## POTOMAC INSTRUMENTS

932 Philadelphia Ave., Silver Spring, MD 20910  
301 589-2662

Modulation & power controllers. Transmitter remote control systems. Audio test signal generators, harmonic distortion meters, IM meters, wow & flutter meters. Demodulators, antenna monitors, field intensity meters, RF test signal generators, phase meters. Data acquisition & logging system. Jackfields, patch panels.

See ad on pg. 170

## POWER PAK SYSTEMS

8717-F Forum Way, Ft. Worth, TX 76140  
817 293-1761

FM exciters, stereo generators, RF amps.

## PRECISION ECHO

3105 Patrick Henry Dr., Santa Clara, CA 95054  
408 988-0516

Video Frame Star portable still-frame videodisc recorder. Video animation controllers, compressor/positioners.

See ad on pg. 130

# THE VC-201 SYSTEM

Over 200 News Directors, Chief Engineers, Operations Managers, and Field Technicians helped us design this system. The VC-201 System lets you plan for today, and tomorrow. When the "rules" change, you can too.



As your needs change... the VC-201 System meets the challenge. It's comfortable... adaptable... efficient... affordable... durable... attractive... versatile... changeable...



# WOLF COACH

7 "B" Street—Auburn Industrial Park—Auburn, MA 01501  
Phone (617) 791-1950

### PRIME TIME POST

6410 Santa Monica Blvd., Los Angeles, CA 90038  
213 464-7151  
Video post-production facility.

### PROCART

7012 27 St. W., Tacoma, WA 98466  
206 565-4546  
Audio cartridges.

### PRODELIN

Box 100, Claremont, NC 28610  
800 438-9706  
Satellite antennas.

### PRODUCERS COLOR SERVICE

24242 Northwestern Hwy., Southfield, MI 48075  
313 352-5353  
Video production & post-production facilities; mobile production facilities rental.

### THE PRODUCTION CENTER/ ARTHUR YOUNG

1950 Roland Clarke Pl., Reston, VA 22091  
703 620-3888  
Video post-production facility.

### PROFESSIONAL PRODUCTS

4964 Fairmont Ave., Bethesda, MD 20814  
301 657-2141  
Facilities design & engineering services; equipment distributor.

### PROFESSIONAL VIDEO SERVICES

60 E. 42 St., New York, NY 10165  
212 986-9886  
Video production & post-production facilities; mobile production facilities rental.

### PROTECH AUDIO CORP.

Flowerfield Bldg. #1, St. James, NY 11780  
516 584-5855  
ALC, AGC amps. Hardwired intercom systems. Preamps, line amps, monitor/power amps. Audio DAs.

### PYRAMID VIDEO

340 Natl. Press Bldg., Washington, DC 20045  
202 783-5030  
Video production & post-production facilities; satellite & microwave transmission services, uplinks, downlinks, telco transmit & receive.

### QEI CORP.

Box D, Williamstown, NJ 08094  
609 728-2020  
FM transmitters. FM exciters, stereo generators. RF amps. Transmitter remote control systems. Modulation monitors.  
See listings in Reps section

### QSC AUDIO PRODUCTS

1926 Placentia Ave., Costa Mesa, CA 92627  
714 645-2540  
Monitor speakers.

### QSI SYSTEMS

12 Linscott Rd., Box 2176, Woburn, MA

01888

617 938-1403  
Black burst generators, video slate boards/countdown generators. Video DAs. Demodulators. Tape-based loggers.

### Q-TV

33 W. 60 St., New York, NY 10023  
212 765-4200  
Teleprompters: monitor-based, scroll entry, keyboard entry, ENG/EFP portable.

### QUAD EIGHT/WESTREX

11929 Vose St., N. Hollywood, CA 91605  
818 764-1516  
Audio consoles: mono & stereo studio, audio for TV, Compumix console automation. Magnetic film dubbers. Replacement audio heads. Test tapes, leaders. AM & FM compressor/limiters, parametric & graphic equalizers. Preamps, line amps.

### QUANTA CORP.

2440 S. Progress Dr., Salt Lake City, UT 84119  
801 974-0992  
Quantanews radio & TV newsroom computers. Microgen titlers, subtitles; Quantafont character generator/graphics systems.  
See ad on pg. 119  
Field Offices:

CA 3566 Sunnydale Ct., San Jose 95117  
408 985-8888  
CT 57 North St. #122B, Danbury 06810  
203 797-1179  
GA 3566 Old Chamblee-Tucker Rd. #2, Atlanta 30340  
404 493-3913  
OH US Sales & Int'l Office, 16006 Waterloo Rd., Cleveland 44110  
216 692-3410  
OK 1535 S. Memorial Dr. #124 Tulsa 74112  
918 627-4151

### QUANTE CORP.

3350 Scott Blvd., Bldg. 15, Santa Clara, CA 95051  
408 727-2077  
Fiberoptic systems.

### QUANTUM AUDIO LABS

1905 Riverside Dr., Glendale, CA 91201  
213 841-0970  
Consoles: mono & stereo studio, audio for TV.

### QUICKSCAN SYSTEMS LTD. (USA)

9465 Wilshire Blvd., Beverly Hills, CA 90212  
213 876-6596  
Stillframe video electronic publishing method (by licence); video post-production facilities.

### QUICK-SET

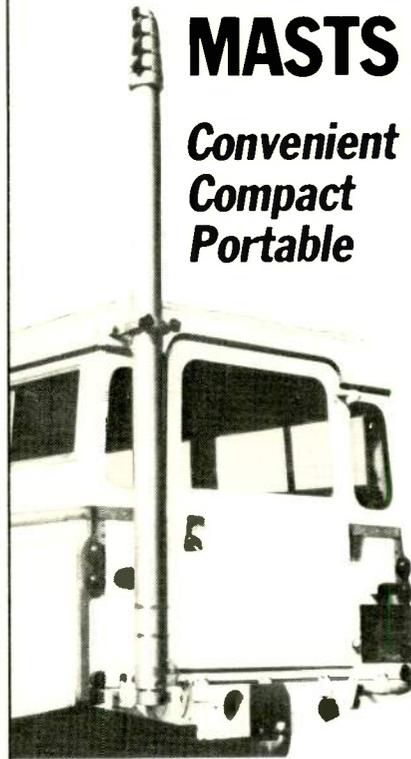
3650 Woodhead Dr., Northbrook, IL 60062  
312 498-0700  
Tripods, heads, pedestals, dollies.

### RACAL-DECCA CANADA

71 Selby Rd., Brampton, Ont., Canada L6W 1K5  
416 457-8720  
Austin tower base & guy insulators. Austin transformers.

# PNEUMATICALLY OPERATED TELESCOPIC MASTS

*Convenient  
Compact  
Portable*



- ENG
- Fixed or Mobile Radio Communications
- Field Strength Measurements
- Camera or Microphone Support
- Noise Level Measurements
- Temporary Floodlighting
- Environmental Sensors
- Sizes Available:  
Retracted 5.5 to 15 ft.  
Extended 50 to 92 ft.

**For details contact:**

**Allen Osborne Associates**  
756 Lakefield Rd., Building J  
West Lake Villa, CA 91361  
(805) 495-8420  
TWX: 910-494-1710

U.S. Distributor for  
Hilomast Ltd., Essex, England

Circle 178 on Reader Service Card

### RAD CORP.

21800 Schoenborn St. #226, Canoga Park, CA 91304  
818 347-9484

Automatic satellite switchers, complete program automation systems. Monitor speakers. RF intercom systems. Audio routing switchers; audio patch panels, jackfields. Programmable audio & video switching systems. Production switchers: portable, compact studio/mobile, large automated. Master control switchers: manual, automated, business automation interfaced. Parallel & serial interface video routing switchers. Parallel & serial interface machine control/technical automation. Multiplexers. RF amps, attenuators, switches. Jackfields, patch panels. Engineering consultants.

### RADIO ARTS INC.

210 N. Pass Ave. #104, Burbank, CA 91505  
818 841-0225  
Syndicated radio programming.

### RADIOCOM

335 E. 70 St., New York, NY 10021  
212 794-9702  
Computerized radio traffic & billing.

### RADIO COMPUTING SERVICES

177 N. Dean St., Englewood, NJ 07631  
201 567-3263  
Radio business automation software.

### RADIO SYNDICATION NETWORK

5400 S. 60 St., Greendale, WI 53129  
414 423-0100  
Syndicated radio promotions.

### RADIO SYSTEMS

5113 W. Chester Pike, Edgemont, PA 19028  
215 356-4700

Audio Metrics stereo studio, audio for TV consoles. Audio Metrics preamps, audio DAs, PPM meters, digital clocks & timers. Audio patch panels, jackfields. Custom studio furniture. AM transmitters; low power AM coupler. Turnkey installations.

See ad on pg. 137

### RADIOTECHNIQUES

402 Tenth Ave., Haddon Heights, NJ 08035  
609 546-1841  
Facilities design & engineering services; engineering consultants; earth station site selection.

### RAM BROADCAST SYSTEMS

249 N. Eric Dr., Palatine, IL 60067  
312 358-3330  
Audio facilities design and engineering; engineering consultant.

### RAMKO RESEARCH

11355A Folsom Blvd., Rancho Cordova, CA 95670  
916 635-3600/800 821-2545  
Consoles: mic mixers, portable, DC Series

mono & stereo studio. Primus, Phasemaster single-deck cart player/recorders, Phasemaster real-time phase correcting cart player. AM compressor/limiters, audio noise reduction. Preamps, line amps, monitor/power amps. Audio DAs, audio routing switchers. VU, PPM & LED audio level displays.

### RAMSA See PANASONIC

### RANK PRECISION INDUSTRIES

13340 Saticoy, Unit F, N. Hollywood, CA 91605  
818 765-7265  
Solid state telecine systems, Amigo telecine color correctors & control systems.  
See ad on pgs. 78-79  
Field Office:  
NY 260 N. Route 303, W. Nyack 10994 ...  
914 353-1914

### RCA AMERICOM

400 College Rd., Princeton, NJ 08540  
609 734-4069  
Satellite transmission services; post-production services.

### RCA BROADCAST SYSTEMS DIV.

Box 900, Gibbsboro, NJ 08026  
609 435-2800  
Cameras: studio, ENG, CCD color, recorder/cameras. One-inch C & M-format VTRs.



## FOR ALL YOU WANT A CART TO DO, THIS CART'S FOR YOU!

- ▶ For ... The best sound a cart can reproduce
- ▶ For ... The exclusive SGS-4 broadcast mastering tape.
- ▶ For ... Superb copies of CD's and digital masters
- ▶ For ... Outstanding high frequency sensitivity and headroom
- ▶ For ... Stable stereo phasing
- ▶ For ... Maximum reliability and longest life
- ▶ For ... Compatibility with all cart machines
- ▶ For ... Stations who care how they sound

## THE AUDIOPAK AA-4 IS FOR YOU

The True Blue Cart - From Capitol

© 1983 Capitol Magnetics Products, a division of Capitol Records, Inc. All Rights Reserved.

VCRs. Solid state telecine systems, telecine cameras, 16/35 mm telecine projectors, 35 mm slide projectors, optical multiplexers, telecine color correctors. TTG Series VHF transmitters; TTU & TTG Series UHF transmitters. VHF & UHF exciters, duplexers. RF amps, tubes, filters, switches. Antennas: FM, TV HP & CP. Rigid transmission line, RF connectors. Filterplexers, notch duplexers, Magic Tee, vestigial sideband filters, harmonic filters, CB multiplexed antennas. Facilities design & engineering services; mobile vehicle construction.

**Field Offices:**

- CA J. Castaneda, 4040 Vineland Ave.  
#204, Studio City 91604 ..... 213 468-4081
- CA E.L. Mehafley, 217 Chateau LaSalle,  
San Jose 95111 ..... 408 297-9197
- GA J. Kelly/P. Higginbotham, 3395  
Northeast Expy., Atlanta ..... 404 452-2340
- IN J.G. Kosiba, 9240 N. Meridan St. #102,  
Indianapolis 46260 ..... 317 267-6395
- MN D.G. Schulte, 4601 Excelsior Blvd.  
#323, Minneapolis 55416 ..... 612 920-6395
- NJ R.F. Varda/D.H. Mewhinney, 1099 Wall  
St. W., Lyndhurst 07071 ..... 201 460-5580/930-4651
- PA C. Koriwchak, 148 Brookdale Cir.,  
McMurray 15317 ..... 412 941-5570
- RI P.B. Taylor, 18 Hpe Ave., Warwick  
02889 ..... 401 738-7722
- TX B. Laughlin/R. Phillips, 17000 Dallas  
Pkwy. #102, Dallas 75248 ..... 214 931-1683
- VA C. Parkhill, 1901 N. Moore St., Arlington  
22209 ..... 703 558-4233
- WA 1818 Westlake Ave. N. #222, Seattle  
98109 ..... 206 285-2375
- WI R.R. Yokes, 612 Port Washington Rd.,  
Grafton 53024 ..... 414 377-8430

**RCA D&SPD**

2000 Clements Bridge Rd., Deptford, NJ  
08096  
609 853-2243  
RF cable, connectors; vacuum tubes; solid  
state components; surge protectors.

**RCA NEW PRODUCTS DIV.,  
TUBE OPERATIONS**

New Holland Ave., Lancaster, PA 07602  
717 295-6028

Camera pickup tubes. RF amps, RF tubes.  
Fiberoptic systems.

**Field Office:**

CA 23860 Hawthorne Blvd., Torrance  
90505 ..... 213 373-8514  
**See ad on pg. 15**

**R-COLUMBIA PRODUCTS**

2008 St. Johns Ave., Highland Park, IL 60035  
312 432-7915  
Headphones. Hardwired & RF intercom systems. Mics: dynamic, electret/condenser, lavalier. IFB/ENG telephones, telephone headphones. Two-way radio communications.

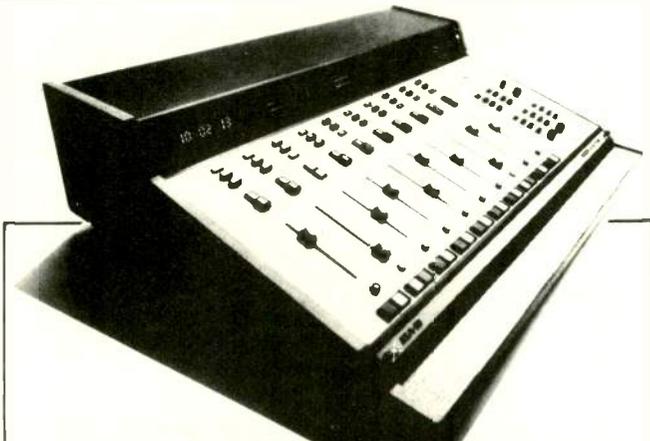
**REACH INC.**  
**See SPANTEL CORP.**

**REAL RADIO CO.**

127 Glen Summer Rd., Pasadena, CA 91105  
818 795-4900  
Syndicated radio programming.

**REAL WORLD  
TECHNOLOGIES GROUP**

3176 Pullman St. #106, Costa Mesa, CA  
92626  
714 957-1061  
VU & PPM meters, LED displays, video moni-



**THE CHOICE  
FOR '84**

The Audio-Metrics ESA-10 Broadcast Console combines elegant styling, total operator control, and superb audio specifications.

No other console provides the features and performance of the ESA-10 for under \$10,000.

Write or call today for detailed product information on radios' best console value.

**RADIO SYSTEMS**

5113 WEST CHESTER PIKE • EDMONT, PA 19028  
Call 800/523-2133 • (In PA 215/356-4700)

Circle 179 on Reader Service Card

**PALTEX**

**Editing and Production Systems**

- **VANGUARD**
- **ST-3**
- **EDIT-STAR**
- **ABR-1A**

**(714) 544-9970**

2942 Dow Avenue  
Tustin, California 92680  
TWX 910-595-1589

**THE PALTEX EDITING DECISION**

As the largest supplier of post-production systems worldwide, Paltex has specialized in developing, manufacturing and marketing the finest video editing systems in the industry. In addition to superb products we ensure after-sales support with an international team of field service engineers. Also, training is offered for your operational and technical staff.

So when it comes to editing decisions, Paltex is the best decision you can make.

Circle 181 on Reader Service Card

tor audio level displays, stereo phase energy meter. Studio furniture; cabinets; studio consoles; equipment racks. Facilities design & engineering services; set/studio design services; engineering consultants; mobile vehicle construction.

#### RECORTEC

475 Ellis St., Mountain View, CA 94043  
415 962-0220

Videotape loaders, timers, rewinders; videotape cleaners, evaluators.

#### RE:DB CO./DIV OF PIERCE IND.

3120 E. Pico Blvd., Los Angeles, CA 90023  
213 264-7855

Replacement & rebuilt audio & video heads.

#### REES ASSOCIATES

4200 Perimeter Ctr. Dr. #245, Oklahoma City, OK 73112  
405 946-9800

Facilities design & engineering services; engineering consultants; architectural & planning consultants.

See ad on pg. 162

#### REEVES TELETAPE

708 Third Avenue, New York, NY 10017  
212 573-8888

Video production & post-production facilities; mobile production facilities rental.

#### REGISTER DATA SYSTEMS

Box 1246, Perry, GA 31069

912 987-2501

Radio business automation hardware, software.

#### RE INSTRUMENTS CORP.

31029 Center Ridge Rd., Westlake, OH 44145

216 871-7617

Stereo generators, signal multiplexers. Fiberoptic systems. Harmonic distortion meters, IM meters, spectrum analyzers, wow & flutter meters. Modulation monitors, RF test signal generators.

#### RE-PLAY VIDEO CARTRIDGE SVCE.

328 Meritt Ave., Pittsburgh, PA 15227

412 881-9172/885-0959

TCR-100 two-inch video cartridges re-loaded.

#### RESEARCH TECHNOLOGY INTL./RTI

4700 Chase Ave., Lincolnwood, IL 60646

312 677-3000

Empty videotape reels, carts, cases; videotape timers, rewinders; tape cleaners, evaluators, erasers, degaussers. Solid state telecine systems. Ultrasonic film cleaners. Splicers. Cabinets; equipment racks; cart/tape storage.

#### RESTORATION

See SPRAGUE MAGNETICS

#### RF TECHNOLOGY

145 Woodward Ave., S. Norwalk, CT 06854  
203 866-4283

Microwave systems; intercity, portable ENG, airborne, central receivers. LNAs.

#### RICHARDSON ELECTRONICS LTD.

3030 N. River, Franklin Park, IL 60137

312 456-0600

Camera pickup tubes. RF tubes, RF power transistors, power semiconductors, RF power amps.

#### RICHMOND SOUND DESIGN

1234 W. Sixth Ave., Vancouver, BC, Canada V6H 1A5

604 734-1217

Consoles: mic mixers, portable, mono & stereo studio, audio for TV. ALC & AGC amps, graphic equalizers. Preamps, line amps, monitor/power amps, amp power supplies. Audio DAs, audio routing switchers.

#### RIMYTH

96 Florida Ave., Paterson, NJ 07503

212 687-1217

Mobile production facilities rental.

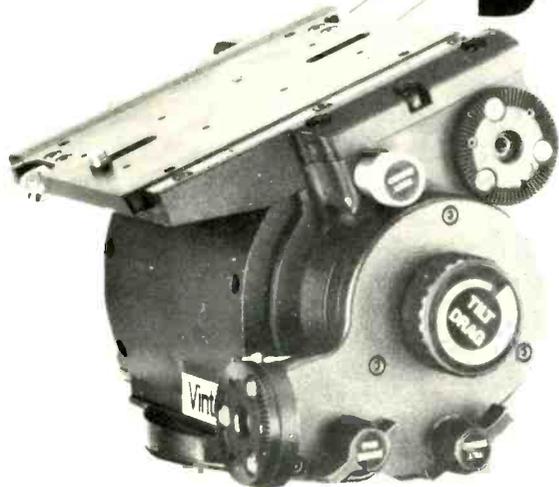
#### RKO TAPE CORP.

3 Fairfield Cres., W. Caldwell, NJ 07006

201 575-8484

Audio & computer tape duplicators. Audio cassettes.

# The Light Weight Heavy Weight



## The New Vinten Model 3259 CORMORANT

The Cormorant is the most advanced pan and tilt head that Vinten has yet devised. This high performance head covers every aspect of lightweight camera production.

Demonstrating all of Vinten's expertise in balance, feel, movement and reliability, this head allows greater flexibility in multi-camera roles.

Whether a 13:1 or 30:1 lens is used, instant adjustment for balance means the difference between a good or unusable narrow angle shot.

A tilt range of  $\pm 90^\circ$  with provision for side mounting a viewfinder means no more disappearing image as the head is tilted away.

Make sure your cameraman is ahead with the right head — the Cormorant head.

#### LISTEC TELEVISION EQUIPMENT CORPORATION

39 Cain Drive, Plainview, New York 11803 • (516) 694-8963 / Telex: 640470

#### LISTEC (WEST) CORPORATION

1619 Cosmic Way, Glendale, California 91201 • (818) 247-9247 / Telex: 182686



Circle 182 on Reader Service Card

**Field Office:**

NY 1440 Broadway, New York 10018  
212 764-6603

**ROH CORP.**

3603 Clearview Pl. N.E., Atlanta, GA 30340  
404 455-7940

Hardwired intercom systems. Preamps, line amps. Audio DAs. Rotary attenuators, mono & stereo line monitors.

**ROHDE & SCHWARZ**

13 Nevada Dr., Lake Success, NY 11042  
516 488-7300

Transmitters: AM, FM, VHF, UHF, translators. Exciters: AM, AM stereo, FM, TV. Stereo generators, modulators. RF amps, attenuators, filters. Polarad spectrum analyzers. Video test signal generators, waveform monitors, diff. gain/phase meters, video noise meters, automatic VITS analyzers, teletext analyzer. Demodulators, modulation monitors, field intensity meters, sideband analyzers, RF power meters & wattmeters, frequency monitors & controllers, RF test signal generators, impedance bridges, phase meters. Oscilloscopes, delayed sweepscopes, voltmeters, multimeters, dB meters, logic analyzers. Log printers, chart recorders, automatic TV monitors, status/alarm indicators.

See ad on pg. 16

**ROHN**

Box 2000, Peoria, IL 61656  
309 697-4400

Tower masts, rigging, hardware, lighting Equipment shelters.

**ROSCO LABORATORIES**

36 Bush Ave., Port Chester, NY 10573  
914 937-1300

Lighting diffusion material, gels & filters. Lens cleaning tissue. Set design. Chromakeyers. Camera platforms.

**ROSCOR CORP.**

6160 W. Oakton, Morton Grove, IL 60053  
312 966-3010/539-7700

Mobile vehicle construction; mobile production facilities rental; video post-production facilities; equipment rental services; facilities design & engineering services; engineering consultants.

See ad on pg. 147

**WARREN ROSENBERG VIDEO SERVICES**

308 E. 79 St., New York, NY 10021  
212 744-1111

Video production & post-production facilities; equipment rental services; standards conversions.

**MURRAY ROSENBLUM SOUND ASSOC.**

21-36 33 Rd., Long Island City, NY 11106  
212 728-2654

Audio Ltd. RF mics.

**ROSNER TELEVISION SYSTEMS**

250 W. 57 St., New York, NY 10107  
212 246-2850

Facilities design & engineering services; engineering consultants; mobile vehicle construction.

**ROSS AMERICAN LOGIC SYSTEMS**

20540 D Superior St., Chatsworth, CA 91311  
213 709-4195

Lamp-array displays for game shows, elections, telethons; computerized control light wall for theaters. Custom system design.

**ROSS VIDEO LTD.**

9 Plaza Dr., Box 220, Iroquois, Ont., Canada K0E 1K0

613 652-4889

Production switchers: portable, compact studio/mobile, large automated, post-production.

**R-SCAN CORP.**

511 11 Ave. S., Minneapolis, MN 55415  
612 333-1424

Satellite weather displays, lighting tracking systems. Lang video-to-slide printer. Zephyr weather data service.

**RTS SYSTEMS**

1100 W. Chestnut St., Burbank, CA 91506  
818 843-7022

Hardwired intercom systems. Mic mixers, portable consoles. Preamps, line amps, monitor/power amps. Audio DAs, telco interface equipment.

See ad on pg. 109

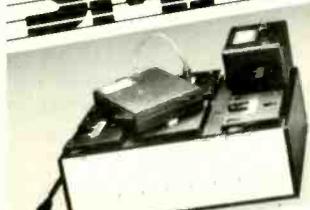
**ALEXANDER**

If You and Your Equipment Depend on Battery Power...  
**LET ALEXANDER HELP YOU**  
**BE FAST**



Attach up to three 12-14.4 volt battery packs to the Alexander Triplex Charger. The Triplex will bring them all to full charge in less than two hours — automatically... without monitoring.

**SMART, AND**



With the Alexander Smart Sequential Charger you can charge up to six packs without buttons to push or lights to monitor. The consistent 2-amp charge means you'll get fresh packs with no worry about over-charging.

**RELIABLE!**



We're so proud of the reliability of our batteries that we urge our users to analyze them on a regular basis... with the TRI-ANALYZER. The Tri-Analyzer displays remaining capacity (in MAH) in a fully automatic operation that also dememorizes the cells.

**ASK FOR THE NAME OF YOUR ALEXANDER BATTERY DISTRIBUTOR**

**ALEXANDER**  
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Studio furniture; studio consoles; equipment racks; cart/tape storage.

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516 231-0033

Camera tripods, heads.  
See ad on pg. 110

**SAKI MAGNETICS**

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213 559-6704

Replacement audio & video ferrite heads for Ampex, MCI, Otari, Revox & Scully recorders.

**SANSUI ELECTRONICS**

1250 Valley Brook Ave., Lyndhurst, NJ 07071  
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**SATCOM TECHNOLOGIES**

2912 Pacific Dr., Norcross, GA 30071  
404 448-2116

Transmit/receive & receive-only satellite earth stations. Communications antennas.

**SATELLEASE**

223 W. Erie, Chicago, IL 60610  
312 649-9339

Satellite networking services; transmission/reception services; satellite time brokers; earth station site selection; equipment rental services.

**SATELLITE MUSIC NETWORK**

11325 Pegasus #E-241, Dallas, TX 75238  
214 343-9205

Syndicated radio programming.

**SAUPPE MEDIA**

1625 Pegfair Dr., Pasadena, CA 91103  
818 792-9840

Selectroslide 35 mm slide projectors.

**SCALA ELECTRONIC CORP.**

Box 4580, Medford, OR 97501  
503 779-6500

Antennas: FM, TV HP, communications, LPTV/translator. Power dividers. VHF & UHF preamplifiers.

**SCENE THREE**

1813 Eighth Ave. S., Nashville, TN 37203  
615 385-2820

Video production & post-production facilities; mobile production facilities rental; audio post-production facilities.

**SCHAEFER WORLD COMMUNICATIONS CORP.**

Box 1279, Carpinteria, CA 93013  
805 684-7686

Consoles: portable, mono & stereo studio, audio for TV. Computer automation controllers, automatic satellite switchers, complete program automation systems, automatic time/weather announcers. Random-select & instant access machines.

**THE KEN SCHAEFER GROUP**

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212 695-1107

Digital special efx & reverb, digital delay, time compression/expansion. RF intercoms. RF mics. FM transmitters. Receive-only & transportable satellite earth stations. Slow-scan transmitters/receivers. Spectrum analyzers. Equipment rental service; earth station site selection.

**SCHNEIDER CORP. OF AMERICA**

See TELE-CINE

**SCIENTIFIC-ATLANTA**

3845 Pleasantdale Rd., Atlanta, GA 30340  
404 441-4000

Satellite earth stations: transmit/receive,

**NEW!****BIG CLAIMS FROM THE SMALLEST CONTENDER****The HME System 82 Wireless Microphone!**

Smallest professional body-pac transmitter made. Weighs only 2½ oz., without battery. Easy to conceal, stays in place.

High-impact rubber ABS plastic case with molded-in color. Color-coded dots point to wear off, keeps its new look.

Detachable, reversible belt clip — Allows antenna and microphone cables to be positioned either up or down without damage to the microphone.

Color identification dot matches transmitter to receiver, prevents confusion in multi-system applications.

Four pin microphone connector allows interchangeable use of dynamic, positive or negative-ground electret elements. No switching needed.

Dynamic Expansion II — Provides highest dynamic range of any wireless microphone today (over 115dB)

Improved RF performance reduces multi-system interference. Over 20 systems can be used interchangeably.

Easy access battery compartment is separate from electronics enclosure. Prevents moisture and unauthorized fingers from damaging PC board.



Rock-solid radio performance, sound quality that's indistinguishable from a cable and day-to-day reliability our competitors would rather not discuss. These are benefits our professional users have enjoyed for years. So how did HME improve the System 82 over the legendary System 22? We made it a delight to use. Look at the thoughtful convenience features above, starting with a transmitter package that's 9cc smaller than our closest competitor. We designed a belt clip that can quickly be added or removed, and which allows the transmitter to be mounted top-up or top-down for versatility. Color-coded dots match transmitters to receivers to prevent confusion in multiple-system applications; this is important since you can use up to twenty systems together now, thanks to advanced RF technology. Join the thousands of users who have put HME out in front in wireless microphone acceptance. The all-new HME System 82 is waiting for your evaluation... contact your nearest HME dealer or the factory for a demo.

HME also makes the world's most advanced wireless and cabled Intercom Systems.

**hme****HM ELECTRONICS, INC.**

6151 Fairmount Ave., San Diego, CA 92120 Phone (619) 280-6050 Telex: 697-122

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receive-only, transportable. Upconverters, downconverters, LNAs, DVS encryption systems & MAC systems, satellite network controllers. TV exciters, modulators. Phoenix coaxial transmission line; power dividers. Demodulators. DVS TBCs, frame synchronizers. Optima cabinets, studio consoles, equipment racks.

**Field Offices:**

GA 4311 Communications Dr., Box 105027,  
Atlanta 30348 ..... 404 441-4100  
CAN 1640 Bonhill Rd. #6, Mississauga Ont.  
L5T 1C8 ..... 416 677-6555

**SCIENTIFIC SYSTEMS** ✓

92 Westwood Dr., Toms River, NJ 08753  
201 255-2230

Audio DAs.

**Field Office:**

NJ 5 Donsen Ln., Scotch Plains 07076  
..... 201 756-0889

**SCOTT INSTRUMENT LABS,  
DIV. AEC** ✓

13 Sagamore Park Rd., Hudson, NH 03051  
603 889-5824  
dB meters.

**SCRIBE RECORDERS**

1618 Orrington, Evanston, IL 60201  
312 328-5112  
Portable ENG audio cassette recorder.

**SEA-CAM**

6080 S.W. 28 St., Miami, FL 33155



305 665-5694

Underwater ENG/EFP camera housings.

**SEARCH & COMPARE** ✓

120 W. Pichaco, Las Cruces, NM 88005  
505 524-9681  
Pro video buyers guide on floppy disk.

**SELCO PRODUCTS CO.** ✓

7580 Stage Rd., Buena Park, CA 90621  
213 921-0681  
VU & PPM meters, knobs.

**SENCORE**

3200 Sencore Dr., Sioux Falls, SD 57107  
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48 W. 38 St., New York, NY 10018  
212 944-9440  
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702 384-0993  
Mic mixers. ALC & AGC amps. Preamps, line amps, monitor/power amps, amp power supplies. Rotary & slide attenuators, audio patch panels. Transformers.

**SETCOM CORP.**

1400 Stierlin Rd., Mountain View, CA 94043  
415 965-8020  
Headphones. Hardwired intercom systems.

**SHALLCO**

Smithfield Ind. Pk., Box 1089, Smithfield, NC 27577  
919 934-3135  
Daven/Shallco rotary attenuators, Slidex slide attenuators.

**SHARP ELECTRONICS** ✓

10 Sharp Plaza, Paramus, NJ 07652  
201 265-5548  
Cameras: ENG/EFP, single-tube, monochrome. Pro VHS VCRs. NTSC color monitors. Audio cassette player/recorders & duplicators. Disc playing equipment. Monitor speakers. Preamps, line amps, monitor/power amps.  
**Field Offices:**  
CA 20600 S. Alameda St., Carson 90810  
..... 213 637-9488  
GA 6478 I. 85, Norcross 30093  
..... 404 448-5230

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Two Audio  
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12 x 1 Video  
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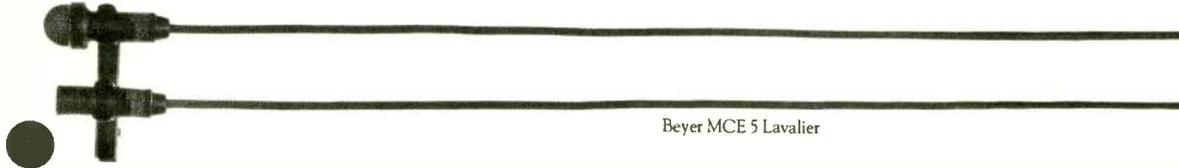
# A DESIGN FOR THE FUTURE™

© 1984—Videotek, Inc.

# Why Beyer mics represent a viable alternative to the usual choices in Broadcast.



Beyer MCM Condenser System



Beyer MCE 5 Lavalier



Beyer M 260

## Now there's another high-tech German condenser system.



Until recently, film and broadcast engineers thought only Sennheiser and Neumann made high-quality condenser microphone systems. Now the Beyer MCM Series offers the same German excellence in design and construction, the same kinds of accessories (windscreens, pistol grips, shock mounts) and facilities for 12V and 48V "phantom" powering.

And since the MCM Series studio condenser mic is part of a system which combines power modules and different mic capsules (long shotgun, short shotgun, unidirectional, omnidirectional and figure eight), you get more microphone potential for dollar output.

Like all Beyer microphones, the MCM Series is a truly professional instrument system suited to the widest range of applications in Broadcast/Film and Video post-production.

## With lavalier mics, small is not enough.



Electret condenser lavalier mics like SONY's ECM-50 have proven useful for on-camera miking situations because of their reduced size. And while many of these mics offer good performance in a compact size, the Beyer MCE5 also provides extended frequency response (20 to 20,000 Hz) and durability in an even smaller format (diameter: 7 mm / length: 23 mm).

To optimize its compatibility with a variety of broadcast and film applications, the tiny black MCE5 is available in different configurations for powering interface and includes a system with accessories like windscreens, expansion mounts etc.

At Beyer Dynamic's ultra-modern manufacturing facility in West Germany, we hand-build virtually all of our microphones in the most evolved state of fine German engineering.

## There's more than one way to bring out the warmth in an announcer's voice.



Broadcast engineers choose the E-V RE20 for many vocal announcing situations because of its wide frequency response (45-18,000 Hz)\* and smooth sound. Beyer Dynamic's M 260 also provides the extended frequency response (50-18,000 Hz) and warmth required for critical vocal applications with one distinct advantage: its reduced size. Its compact and efficient ribbon element captures the warmth traditionally provided by this type of mic. And because it is considerably smaller than a mic with a large moving-coil diaphragm, the M 260 provides a natural, balanced sound image in a portable format that won't obscure copy or take up valuable space in the studio.

The Beyer M 260 has its own custom-designed ribbon element to optimize the mic's performance based on its Broadcast applications.

The Dynamic Decision

beyerdynamic

\*Extracted from competitive promotional literature or advertising.

\*Documentation supporting specific comparative claims available upon request.

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60525 312 432-9292

### SHINTRON CO.

144 Rogers St., Cambridge, MA 02142  
617 491-8700

Titlers, subtitlers, character generators. Production switchers: portable, compact studio/mobile, large automated, post-production. RGB & encoded chromakeyers, title keyers, downstream keyers. Parallel & serial interface video routing switchers, audio routing switchers. SMPTE time code synchronizers, SMPTE generator/readers, VITC reader/generators. Frame synchronizers. NTSC encoders, decoders, video/cable equalizers. Audio & video DAs, pulse amps, subcarrier amps. Video post-production facilities; recording studios.

### SHIVELY LABS, DIV. HOWELL LABS

85 Harrison Rd., Bridgton, ME 04009  
207 647-3327

Diplexers, multiplexers. RF filters, loads, switches. Antennas: FM, TV HP & CP, antenna tuning units. Rigid & coaxial transmission line, power dividers, RF connectors. Directional couplers, AM/FM isocouplers, reflectometer display units.

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512 653-6761  
Mobile vehicle construction.

### SHURE BROS.

222 Hartrey Ave., Evanston, IL 60204  
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Mics: dynamic, electret/condenser, lavailer, modular & capsule systems, mic booms. Headsets. Mic mixers, portable consoles. Phono cartridges. Preamps, line amps, monitor/power supplies. Audio cable.

### SIECOR/OPTICAL CABLE

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704 324-3801  
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### SIEGEL ELECTRONICS

Box 33421, San Diego, CA 92103  
619 234-6789

Image enhancers, color correctors. Comb filter decoders. Proc amps.

### SIGMA ELECTRONICS

1830 State St., E. Petersburg, PA 17520  
717 569-2681

Titlers, subtitlers, character generator/graphics systems, digital art/paint systems, draw on screen systems. Sync, black burst & color bar generators. Proc amps, audio & video DAs, pulse amps, subcarrier amps. Video cable, cable connectors.

### SINGER BROADCAST PRODUCTS

875 Merrick Ave., Westbury, NY 11590  
516 334-4210

AM & FM stereo generators. FM exciters.

SCA generators.

### SITCO ANTENNAS

Box 20456, Portland, OR 97220  
503 253-2000

Receiving & transmitting antennas: UHF, VHF, LPTV, CATV, MATV.

### SKAGGS TELECOMMUNICATIONS SERVICE

5181 Amelia Earhart Dr., Box 27477, Salt Lake City, UT 84127  
801 539-1427

Video production & post-production facilities; mobile production facilities rental.

### SKOTEL CORP.

1445 Provencher, Brossard, Que., Canada J4W 1Z3

514 465-8990/in US 800 361-4999

SMPTE time code generator/readers, VITC reader/generators. Digital metronome for film & video.

### SMITH-VICTOR CORP.

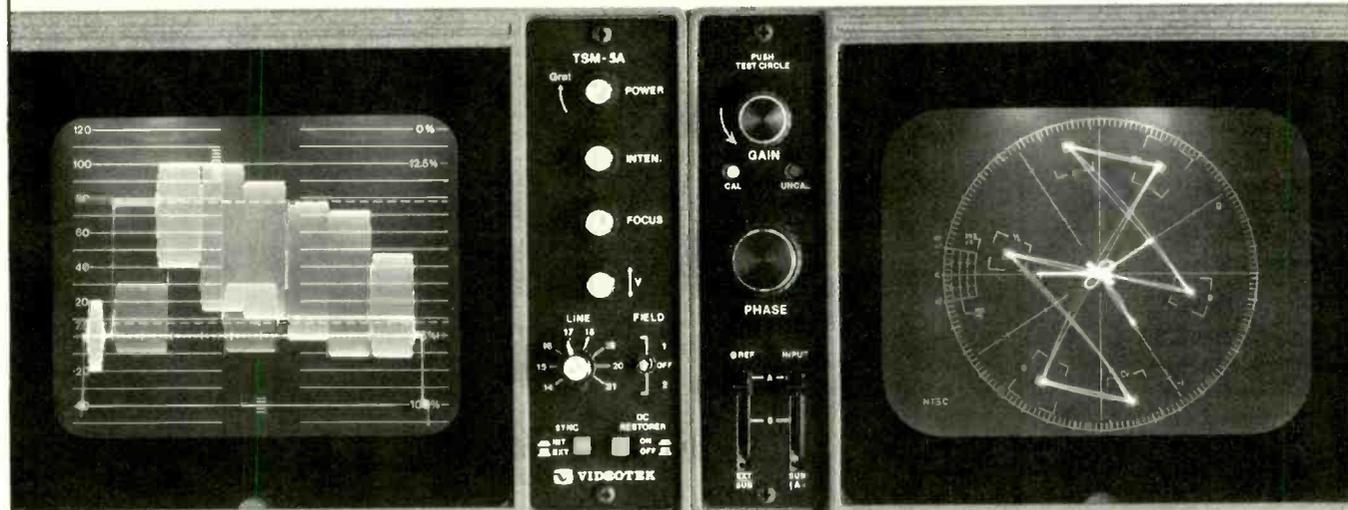
301 N. Colfax, Griffith, IN 46319  
219 924-6136

Audio cassettes. Half-inch videocassettes. Lamps, quartz lighting fixtures, lighting stands & rigging, diffusion & efx material. Kenlock tripods.

### WARREN R. SMITH, INC.

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Line Select and 1H/2H Mode highlight the 1984 refinements to the ever-popular TSM-5A Waveform Monitor and VSM-5A Vectorscope.



As we enter our second decade, our commitment to offer the best products, prices, delivery, and service remains an uncompromised goal.

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Snorkel & telecine lenses. Animatics stands, servo slide positioners, title positioners.

**SNARR COMMUNICATIONS**

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801 532-7259

Downlink services for broadcast & communications.

**SOLID ELECTRONICS LABS**

220 Brookthorpe Cir., Broomall, PA 19008  
215 353-9449

Equipment rental services; video production facilities.

See ad on pg. 160

**SOLID STATE LOGIC**

200 W. 57 St. #1210, New York, NY 10019  
212 315-1111

Consoles: stereo studio, audio for TV, console automation, video interface for consoles. Audio/video synchronizing & machine control.

Field Office:

DC 2633 15 St. N.W., Washington 20009  
202 333-1500

**SOLL, INC.**

401 E. 74 St., New York, NY 10021  
212 988-0290

Cat remote control systems. Facilities design & engineering services; engineering consultants.

**H.A. SOLUTECH LTD.**

4360 D'Iberville St., Montreal, Que., Canada

H2H 2L8

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Videoraser videotape erasers, degaussers. Video production & post-production facilities; recording studios; equipment rental services; tape duplication; film-to-tape transfer.

**SONO-MAG CORP.**

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309 452-5313

Complete automation systems for radio. Carousel multiple-play cart reproducers.

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1 Sony Dr., Park Ridge, NJ 07656  
201 930-1000

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See ad on pg. 49

Field Offices:

CA 700 W. Artesia Blvd., Compton 90220  
213 537-4300

IL 500 Park Blvd., Hamilton Lakes, Itasca  
312 773-6000

NJ 15 Essex Rd., Paramus 07652

201 368-5185  
TN Royal Elm Office Pk., 2603 Elm Hill Pike  
#N, Nashville 37214 615 366-0333

**SONY BROADCAST PRODUCTS**

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Cameras: field, ENG, lightweight, single-tube color, Betacam recorder/cameras, HDTV. Lenses, standalone CCUs. VTRs. VCRs: one-inch C, 3/4-inch U, Betacam. Videotape: one-inch, 3/4-inch & half-inch cassettes. VTR slow-mo systems. Time code synchronizers, two-machine editor/controllers, A/B roll editors, multisource editors, SMPTE time code generator/readers, VITC reader/generators. TBCs, digital video multiprocessors. Monitors: NTSC, RGB, HDVS wide aspect ratio, HDVS projection system.

See ad on pgs. 4-5

Field Offices:

CA Robert Manahan, 2820 W. Olive Ave.,  
Burbank 91505 213 841-8711

GA William Powers, 2300 Peachford Rd.,  
Atlanta 30338 404 457-7669

IL Andy Kryworuchenko, 500 Park Blvd.,  
Hamilton Lakes, Itasca 312 773-6000

CAN L. Beal, 411 Gordon Baker Rd.,  
Willowdale Ont. M2H 2S6 416 499-5111

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**Affordable Random Access Video Cart Systems**

Cost effective, modular, and expandable



**Component Switching and Processing**

Modified 3/4" U-Matic Players with

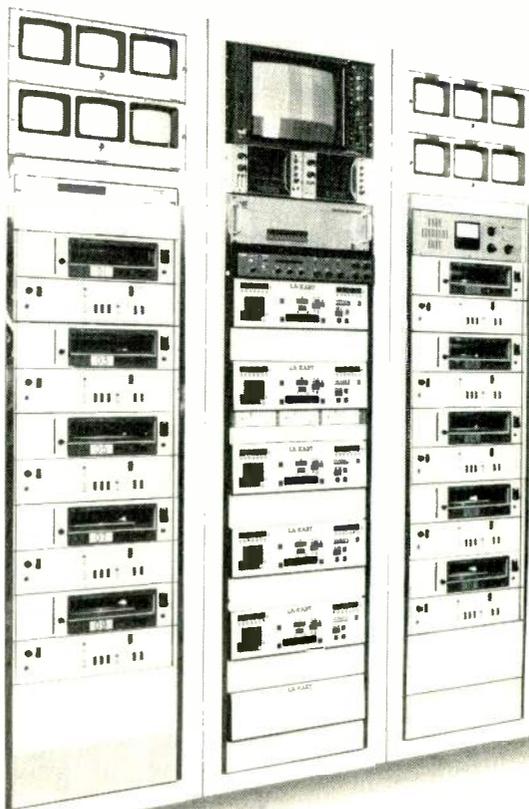
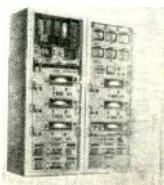
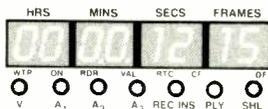
Y-C/DOC outputs or 1/2" Type M with YIQ outputs are switched through our vertical interval Matrix Switcher into a component TBC.

**Automatic Directory Reading**

Cassettes are loaded randomly into any empty deck. They rewind automatically to the head and the directory, containing a 4-digit reel ID number with precise start and finish times of each segment according to their location with reference to SMPTE time code is read into memory. The status indicating ID found and VTR location is displayed on the terminal.

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**Any Tape Format**

Choose from 1" Type C, 3/4" U-Matic, 1/2" Type M, or any combination.

**1000 EVENTS**

Or more with 68K Multi-Event Programmer and Disc Drive.

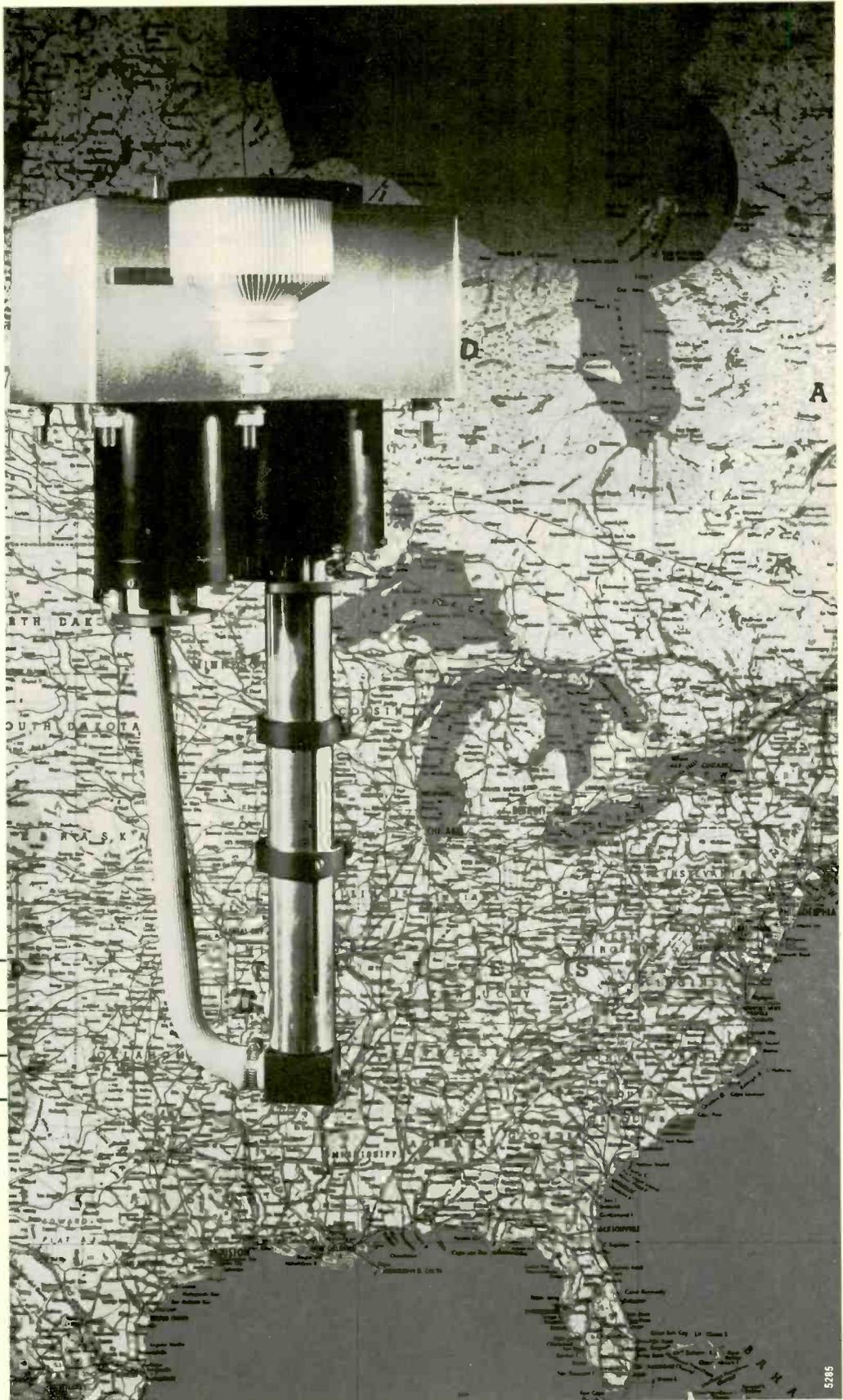
The computer identifies, searches out, and activates tape segments to be cued and aired in the order scheduled.

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LAKE SYSTEMS CORPORATION

Prices Start at \$89,900

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1J6 . . . . . 514 685-1610

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PROGRAMMING SERVICE**  
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402 489-0351  
Paging terminals, long distance switchers, voice messaging systems.

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801 392-7531  
Mic mixers, mono studio consoles. AM & FM compressor/limiters, graphic equalizers. Monitor speakers. Preamps, line amps, monitor/power amps, amp power supplies. Audio DAs. Slide attenuators, VU meters, noise measurement. Audio test signal generators. Audio cable.

**SPECTRUM PLANNING, INC.**  
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214 361-2126  
Facilities design & engineering services; engineering consultants; earth station site selection; RFI measurements.

**SPHERE ELECTRONICS**  
20201A Prairie St., Chatsworth, CA 91311  
213 349-4747  
Eclipse consoles: portable, stereo & mono studio, automated, TV audio. Satellite mixers.

**SPIN PHYSICS, DIV. EASTMAN  
KODAK** ✓  
3099 Science Park Rd., San Diego, CA 92121  
714 453-5410

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**SPINDLER & SAUPPE**  
See SAUPPE MEDIA

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818 994-6602  
AMB, Woelke replacement audio & video heads; SMI rebuilt audio & video heads. RCA, Sony replacement & rebuilt video heads. Nortronics head cleaners, degaussers, alignment & tension gauges, audio & video tape cleaners & evaluators, tape erasers & degaussers. BASF audio cassettes, test tapes, leaders. VTR refurbishing, rebuilding. Time code heads. Audio head stack rentals.

**STAGE LIGHTING  
DISTRIBUTORS** ✓  
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212 489-1370  
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Third St., N. Wales, PA 19486  
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Antenna towers; Verda lightning deterrent.  
See ad on pg. 22

**STANCIL CORP.** ✓  
921 N. Highland Ave., Hollywood, CA 90038  
213 464-7461  
Tape-based loggers.

**STANDARD  
COMMUNICATION CORP.** ✓  
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213 532-5300  
Receive-only satellite earth stations, downconverters, LNAs.

**STANTON MAGNETICS** ✓  
200 Terminal Dr., Plainview, NY 11803  
212 445-0063  
Phono cartridges; record cleaning, care. Headphones. Preamps. Announcers ear-phone, pre-preamps.

**STANTRON, DIV. WYCO  
METAL PRODS.** ✓  
6900-6918 Beck Ave., N. Hollywood, CA 91605  
213 875-0800  
Studio furniture, modular video-centered desks, consoles, cabinets & equipment racks.  
See ad on pg. 62

**STAR CASE MFG. CO.**  
15525 S. 70 Ct., Orland Park, IL 60462  
312 429-6200  
Superstar transportation cases: foam insert, padded nylon, rack configuration. Equipment racks.

**STARFAX**  
8157 Lankershim Blvd., N. Hollywood, CA 91605  
818 768-2905  
Video post-production facilities; mobile production facilities rental.

**STEENBECK** ✓  
9554 Vassar Ave., Chatsworth, CA 91311



# Think Small.

**W**hen ROSCOR perceived the need for a small, functional news gathering vehicle, the result was the Mini-ENG. This, the smallest member of ROSCOR's Elite Fleet® of television remote trucks, was the product of years of experience in remote communications, proven concepts and innovative ideas.

The Mini-ENG is built on a Dodge Mini-Ram Van Royal chassis and is equipped with all the

necessary utility of larger news vehicles. Other advantages of the Mini-ENG include increased mobility for inner-city news gathering applications, improved all-weather performance afforded by front-wheel drive and better fuel economy.

Like the Mini-ENG, all of the vehicles in ROSCOR's Elite Fleet are designed and engineered, to your specifications, by thinking big ... one small step at a time.

## And big things can happen.

# ROSCOR

VIDEO SYSTEMS ENGINEERING



ROSCOR CORPORATION 6160 W. Oakton St. • Morton Grove, IL 60053 Phone (Chicago) 312/539-7700

Circle 191 on Reader Service Card

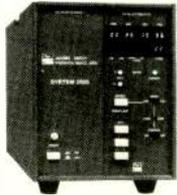
# TAPE SYNCHRONIZERS!

SYSTEM 2600  
"Building Blocks"



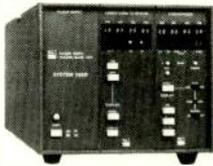
## PLAY-SPEED SYNCHRONIZING

- lock ATRs together
- lock ATRs to video sync
- lock ATRs to projectors
- lay back audio to video



## CHASE SYNCHRONIZING

- sweeten audio-for-video
- add ATRs to video editing systems
- synchronize to automated mixers
- slave VCRs for digital audio



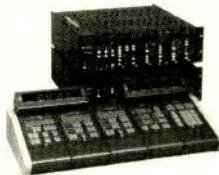
## REMOTE TRANSPORT CONTROL

- ours, yours or theirs\*
  - our modular remote (to 500') control panels
  - your computer, terminal or keyboard
  - their\* edit controllers or mixers
- \* CMX, Solid State Logic, Calaway, others



## FULL-FUNCTION AUDIO-FOR-VIDEO EDITING CONTROL SYSTEMS

- cueing, trimming, looping, displaying, jogging, rehearsing, recording, audio event editing, and lots more



FOR DETAILS ABOUT  
SYSTEM 2600 BUILDING BLOCKS,  
CALL, WRITE OR WIRE:

## ADAMS•SMITH



34 Tower Street  
Hudson, MA 07149 USA  
Tel.: 617-562-3801  
NYC.: 516-352-2341  
TWX: 710-347-0096

Circle 192 on Reader Service Card

818 998-4033

Flatbed film editors; flatbed table with U-Matic transport for video sound editing; united state telecine system.

## STEPHENS ELECTRONICS

2925 Lincoln Ave., Burbank, CA 91504  
818 842-5116

ATRs: portable, studio, multitrack. Two-inch splicing blocks & tape. SMPTE time code synchronizers.

## STOREEL CORP.

2050-C Carroll Ave. #2, Box 80523, Atlanta, GA 30341

404 458-3280

Stor-Max & Railriders high-density storage cabinets; mobile & static audio cart cabinets.

See ad on pg. 150

## STRAIGHT WIRE AUDIO

2611 Wilson Blvd., Arlington, VA 22201  
703 522-7780

Consoles: mic mixers, portable, mono & stereo studio, audio for TV, console automation. Audio carts. Telefunken audio noise reduction. Audio DAs. Preamps. LED level displays.

## STRAND CENTURY

Box 9004, Rancho Dominguez, CA 90224  
213 637-7500

Sirio Ianiro Fresnels, Iris cyc lights, Light Palette & Mantrix lighting control boards, dimmer packs. Solid state HMI ballasts.

Field Offices:

NJ 20 Bushes Ln., Elmwood Park 07407

..... 201 791-7000

CAN 6520 Northam Dr., Mississauga Ont.  
L4V 1H9

..... 416 677-7130

## STUDER REVOX AMERICA

1425 Elm Hill Pike, Nashville, TN 37210  
615 254-5651

Consoles: portable, mono & stereo studio, audio for TV. Audio cassette player/recorders. Open-reel ATRs: portable, 2/4-track studio, multitrack. Digital audio recorders. CD/DAD players. Monitor speakers. Monitor/power amps. Telco interface equipment. Time code synchronizers.

See ad on pg. 39

Field Offices:

CA Thomas Jenny/Vencil Wells, 14046  
Burbank Blvd., Van Nuys 91401

..... 213 780-4234

CA Fred Layn, 954 Hawthorne Dr., Walnut  
Creek 94596

..... 415 930-9866

IL Brian Tucker, 111 South Dr., Tower  
Lake, Barrington 60010

..... 312 526-1660

NY Nick Balsamo/Nancy Byers, 155 Ave. of  
the Americas, New York 10013

..... 212 255-4462

TN Joe Bean, 1425 Elm Hill Pike, Nashville  
37212

..... 615 254-5651

TX Chris Ware, 831 Woodlawn Ave., Dallas  
75208

..... 214 943-2239

## STUDIO FILM & TAPE

6670 Santa Monica Blvd., Hollywood, CA  
90038

213 466-8101

Kodak, Agfa, Ampex, TDK videotape & film.

## JOHN M. SULLIVAN ASSOC.

880 Commonwealth Ave., Boston, MA 02215  
617 277-1710

Video production & post-production facilities; remote production facilities rental; audio post-production facilities.

## SUMMIT SOFTWARE SYSTEMS

2111-M 30 St. #1126, Boulder, CO 80301  
303 494-3103

Radio & TV business automation software.

## SUNDANCE PRODUCTIONS

7141 Envy Ct., Dallas, TX 75247  
214 688-0081

Video production & post-production facilities; remote production facilities rental.

## SUNRISE CANYON VIDEO

727 N. Victory, Burbank, CA 91502  
818 845-7473

Video production & post-production facilities; remote production facilities rental.

## SUPERIOR ELECTRIC

383 Middle St., Bristol, CT 06010  
203 582-9561

Stabiline transformers, surge protectors, power line conditioners.

See listings in Repts section

## SUPEREX INTERNATIONAL

151 Ludlow St., Yonkers, NY 10705  
914 964-5200

Headphones. Bulk erasers. Video filters, image enhancers, video multiprocessors.

## SUPERSCOPE

20525 Northoff, Chatsworth, CA 91311  
213 998-9333

Electret/condenser mics. Portable cassette recorders.

## SURCOM ASSOCIATES

305 Wisconsin Ave., Oceanside, CA 92054  
619 722-6162

ITT Jennings & Cornell Dubilier capacitors.

See ad on pg. 163

## SWAGER TOWER CORP.

Box 656, Fremont, IN 46737  
219 495-5165

Tower masts, hardware & lighting.

## SWIDERSKI ELECTRONICS

1200 Greenleaf Ave., Elk Grove Village, IL  
60007

312 364-1900

Distributor of full line video equipment.

## SWINTEK ENTERPRISES

1180 Aster Ave. #J, Sunnyvale, CA 94086  
408 249-5594

RF intercom systems. RF mics. Transmitters: FM, VHF, UHF.

See ad on pg. 161

See listings in Repts section

## SWITCHCRAFT

5555 N. Elston Ave., Chicago, IL 60630  
312 792-2700

Cable connectors, jackfields, patch panels.

## SWR, INC.

Box 215, Goffstown, NH 03045  
603 668-0404

RF switches. Antennas: FM, TV HP & CP. Rigid transmission line.

## SYLVANIA

See GTE

## SYMETRIX

109 Bell St., Seattle, WA 98121  
206 624-5012

ALC & AGC amps, AM compressor/limiters,

parametric equalizers, audio noise reduction. Monitor/power amps. Audio patch panels, jackfields.

**SYMTEC**

15933 W. Eight Mile Rd., Detroit, MI 48235  
313 272-2950

Titlers, subtitles, character generator/graphics systems, digital art/paint systems, bit pad digitizers, camera/VTR digitizers.

**SYSTEM ASSOCIATES**

5801 Uplander Way, Culver City, CA 90230  
213 641-2042

Used broadcast equipment broker.

**SYSTRON DONNER,  
INSTRUMENT DIV.**

2727 Systron Dr., Concord, CA 94518  
415 682-6161

Frequency counters, RF generators.

**TABER MANUFACTURING &  
ENGINEERING CO.**

2468 Embarcadero Way, Palo Alto, CA  
94303

415 493-3811

Replacement audio & video heads, lapping service. Taberaser head degaussers, audio & video tape cleaners & degaussers. Power amps.

**TAMRON INDUSTRIES**

24 Valley Rd., Port Washington, NY 11050  
516 883-8800

Video camera lenses.

**TANDBERG OF AMERICA**

Labriola Ct., Armonk, NY 10504  
914 273-9150

Open-reel & cassette recorder/players. FM monitor/tuners, audio monitors. Preamps, power amps.

**TANGENT**

8206 N. Dreamy Draw Dr., Phoenix, AZ  
85020

602 997-4308

Consoles: mic mixers, portable, stereo studio.

**WILLIAM B. TANNER CO.**

2714 Union Ext., Memphis, TN 38112  
901 320-4212

Music library; radio & TV audio production.

**TASCAM PRODUCTION  
PRODUCTS**

7733 Telegraph Road, Montebello, CA  
90640

213 726-0303

Stereo studio consoles. Open-reel ATRs. Cassette player/recorders. Head degaussers. Graphic equalizers. Dynamic & electret/condenser mics. Preamps, amp power supplies.

**TAU-TRON**

27 Industrial Ave., Chelmsford, MA 01824  
617 256-9013

Intraplex multiplexers. Multimode optical bandwidth fiberoptic system.

**TAYLOR VIDEO CORP.**

1208 W. Isabel St., Burbank, CA 91506  
818 843-1781

Image HiFi half-inch videocassettes, Tayloreel empty reels, carts, cases.

**TDK ELECTRONICS CORP.**

12 Harbor Park Dr., Port Washington, NY  
11050

516 625-0100

Audio & video cassettes; audio open-reel, bulk & test tapes; tape cleaner/evaluators.

**TEATRONICS**

101-D Suburban Rd., San Luis Obispo, CA  
93401

805 544-3555

Lighting control boards, dimmer packs.

**TECH ELECTRONICS**

6000 Peachtree Rd. N.E., Atlanta, GA 30341  
404 455-7626

Programmable videotape controllers; custom remote control for A/V systems.

**TECH LABORATORIES**

Bergen & Edsall Blvds., Palisades Pk., NJ  
07650

201 944-2221

Rotary & slide attenuators.

**TECHNOLOGY SERVICE**

2950 31 St., Santa Monica, CA 90405  
213 450-9755

Weather radar displays.

**TECHTRAN INTERNATIONAL**

Box 2245, Appleton, WI 54913  
414 731-8679

Portable VCR packages.

**TEKTRONIX**

Box 500, Beaverton, OR 97077  
503 627-2230

Video sync generators. Frame synchronizers. Comb filter decoders. Video monitors: NTSC, RGB, high resolution. Photometer. Audio test signal generators, harmonic distortion meters, spectrum analyzers. oscillator, programmable audio test system. Video test signal generators, waveform monitors, vectorscopes, combination waveform/vectorscopes, automatic video measurement set. Demodulators. Oscilloscopes, multi-meters, logic analyzers.

Field Offices:

- AL Jim Edwards, 3322 S. Memorial Pkwy. #203, Huntsville 35801 . . . . . 205 881-2912
- CA Bill Montgomery, Box 19523, Irvine 92713 . . . . . 714 660-8080
- CA Rich Lyons, Box 8500, Woodland Hills 91365 . . . . . 818 999-1711
- CA John Nielsen, 3003 Bunker Hill Ln., Santa Clara 95050 . . . . . 408 496-0800
- CO John Kelley/Tom Moore, 393 Inverness Dr. S., Englewood 80112 . . . . . 303 799-1000
- FL Dave Walters, 3657 Maguire Blvd. #100, Orlando 32803 . . . . . 305 894-3911
- GA Paul Hogan, Box 6500, Norcross 30091 . . . . . 404 449-4770
- IL Mel Infanzon, 5350 Keystone Ct., Rolling Meadows 60008 . . . . . 312 259-7580
- IN Steve Brant, 6121 E. 30 St., Indianapolis 46219 . . . . . 317 545-2351
- MD Jim Capps, Box 6026, Gaithersburg 20877 . . . . . 301 948-7151
- MA Tom Christenson, 482 Bedford St., Lexington 02173 . . . . . 617 861-6800
- NJ Jim Quinn, 40 Gill Ln., Woodbridge 07095 . . . . . 201 636-8616
- NY Bhaskar Pant/Bob Ginsberg, 100 Crossways Park W., Woodbury 11797 . . . . . 516 364-9060
- NY 1 Northern Concourse, N. Syracuse

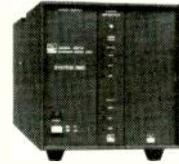
**Time-code-based  
EVENT/EDIT CONTROL  
for audio-for-video**



two more  
**SYSTEM 2600**  
building blocks

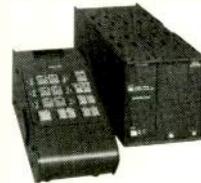
Two new complementary products which expand **SYSTEM 2600** to full television sound editing capability.

Use them to both rehearse and record audio-for-video edits. Save audio tracks. Reduce cut-and-try time. Synchronize audio and video cues with sub-millisecond precision. Turn "wild" sources on and off. Cue talent. Cue automated switchers and mixers. And more!



**EVENT EXECUTIVE MODULE**

SMPT/E/BU time-code-based with LTC reader and six user-settable event commands. Pre-sets each event to 1/100 of a TV frame, with ten pairs of time code addresses — 120 on-off commands in all. Compensates for erase head offset and record command delays with sub-millisecond-adjustable advance operation of each output. Uses your computer, terminal or keyboard for control, or our new Event/Edit Controller.



**EVENT/EDIT CONTROLLER**

Modular remote control panel. Sets, trims and controls events. Captures addresses from incoming time code. Use to both rehearse and record edits.



Building-block design. Use EE and E/EC alone, or to add precision audio-for-video event editing to any **SYSTEM 2600** synchronizing configuration.

FOR DETAILS ABOUT  
**SYSTEM 2600 BUILDING BLOCKS,**  
CALL, WRITE OR WIRE:

**ADAMS•SMITH**

34 Tower Street  
Hudson, MA 07149 USA  
Tel.: 617-562-3801  
NYC.: 516-352-2341  
TWX: 710-347-0096

Circle 193 on Reader Service Card

# STORAGE FOR THE 80's AND BEYOND.



STOR-MAX



RAILRIDER

Engineered exclusively for the broadcast industry, STOREEL's modular, high density storage systems are the practical solution for all of your film and tape storage needs.

Designed specifically to your requirements, STOREEL's STOR-MAX and RAILRIDER systems offer maximum flexibility. Built on a patented track system, any unit may be expanded or reconfigured as your storage needs change. Built rugged to withstand active daily use, STOREEL offers dependability instead of high replacement costs in the years ahead. Call or write:



**STOREEL**  
2050-C Carroll Avenue,  
P.O. Box 80523  
Atlanta, GA 30341  
**(404) 458-3280**

# STOREEL

CORP.

Circle 194 on Reader Service Card

13212 ..... 315 455-6661  
OR Warren Beals, 10220 W.W. Nimbus Dr.,  
Portland 97223 ..... 503 620-9100  
PA David Hackney, 450 Sentry Pkwy., Blue  
Bell 19422 ..... 215 825-6400  
PA Ken Kinman, 1051 Brinton Rd. #300,  
Pittsburgh 15221 ..... 412 244-9800  
TX Russ Thalacker, Box 165027, Irving  
75016 ..... 214 258-0525

See ad on pgs. 36-37

## TELCOM RESEARCH

1163 King Road, Burlington, Ont., Canada  
L7R 3X5  
416 681-2450  
Time code equipment.

## TELEASE

1875 Century Pk. E. #930, Los Angeles, CA  
90067  
213 552-1055  
NTSC encoders, decoders. Audio & video  
modulators. MAAST encryption systems.  
Scrambling/descrambling systems for pay  
TV, DBS, CATV.

See listings in Reps section

## TELE-CINE CORP

See SCHNEIDER CORP.

## TELECTRO SYSTEMS CORP.

96-18 43 Ave., Corona, NY 11368  
212 651-8900  
Single & multiple audio cart player/recorder.  
Tape duplicators. Monitor speakers.

## TELEDYNE BIG BEAM

Box 518, Crystal Lake, IL 60014  
815 459-6100  
Lead-acid batteries, chargers.

## TELEDYNE CAMERA SYSTEMS

131 N. Fifth Ave., Arcadia, CA 91006  
818 359-6691  
Cameras: CCD color, monochrome, cine.  
Video to 16 & 35 mm film transfer systems.

## TELEDYNE ENERGY SYSTEMS

110 W. Timonium Rd., Timonium, MD 21093  
301 252-8220  
Telan power generators.

## TELE-IMAGE

2225 Beltline Rd. #321, Carrollton, TX 75006  
214 245-3561  
Video production & post-production facilities;  
mobile production facilities rental.

## TELEMATION PRODUCTIONS/ DENVER

7700 E. Iliff, Denver, CO 80231  
303 751-6000  
Video production & post-production facilities;  
mobile production facilities; equipment  
rental services.  
Field Offices:  
AZ 834 N. Seventh Ave., Phoenix 85007  
..... 602 254-1600  
WA 1200 Steward St., Seattle 98112  
..... 206 623-5934

## TELE-MEASUREMENTS

145 Main Ave., Clifton, NJ 07014  
201 473-8822/800 473-8822  
Facilities design & engineering services;  
engineering consultants; mobile vehicle construction;  
studio design.

## TELEMET, DIV. GEOTEL

185 Dixon Ave., Amityville, NY 11701  
516 842-2300  
RGB & encoded chromakeyers. Parallel &  
serial interface routing switchers. Sync, color  
bar, multiburst & staircase ramp generators.  
Comb filter decoders. Video & audio DAs,  
pulse amps. Audio monitor & power amps.  
VU meters. Modulators. Telco & fiberoptic  
STLs. Video test signal generators. De-  
modulators.

## TELESCRIPT

445 Livingston St., Norwood, NJ 07648  
201 767-6733  
Teleprompters: monitor-based, scroll entry,  
keyboard entry. Foam insert transportation  
cases for teleprompters.

## TELESOURCE COMMUNICATION SERVICES

730 E. Highland Ave., Phoenix, AZ 85014  
602 265-1232  
Radio & TV newsroom computers.

## TELEVISION ASSOCIATES

2410 Charleston Rd., Mountain View, CA  
94043  
415 967-6040  
Video production & post-production facilities;  
mobile production facilities rental;  
equipment rental services; facilities design &  
engineering services.

## TELEVISION ENGINEERING

580 Goddard Ave., Chesterfield, MO 63017  
314 532-4700  
Mobile vehicle construction; facilities design  
& engineering services; set/studio design  
services; engineering consultants.  
Field Office:  
TN 112 21 Ave. #106, Nashville 37203  
..... 615 320-0099

## TELEVISION EQUIPMENT ASSOCIATES

Box 393, S. Salem, NY 10590  
914 763-8893  
Dynamic & electret/condenser mics. Line  
amps, monitor/power amps. Videotape  
cleaners, evaluators. Video delay lines, filters,  
video/cable equalizers. Audio & video  
DAs, pulse amps. Monitor calibrators.  
Field Office:  
CA ..... 213 271-9570

## TELEVISION TECHNOLOGY CORP.

2360 Industrial Ln., Broomfield, CO 80020  
303 465-4141  
Transmitters: VHF, UHF, LPTV, translators.

## TELEX COMMUNICATIONS

9600 Aldrich Ave. S., Minneapolis, MN 55420  
800 328-3771/in MN 612 887-5550  
Cart player/recorders. Magnecord 2/4-track  
studio ATRs; ATR preamps. Tape duplicators.  
Test tapes. Headphones and boom mic  
headsets. Audiocom hardwired, closed-  
circuit intercoms; wireless mics. Mics: dynamic,  
electret/condenser, lavalier. 16 mm  
teletines, 35 mm slide projectors. Communication  
antennas. Towers & masts. Tape-based  
loggers.  
See ad on pgs. 6, 25

## TELFAX COMMUNICATIONS



## Microdyne's Multiple Satellite Feed System lets you add to your programming instead of your debt

### Saves the cost of a new dish

With new programming constantly being added, you may want to pick up programs from several satellites. Previously, this would involve the expense of another dish. Now with Microdyne's multi-feed system you may be able to add programming from additional satellites at about 1/5 the cost of a new dish.

The Multiple Satellite Feed System can receive up to five satellites on the same parabolic reflector when the satellites are located in close proximity. In a TVRO system designed with adequate margins, the MSF will provide quality pictures on all feeds.

### Easily retrofitted

Existing Microdyne antennas can be easily retrofitted to accommodate this new system. Only the struts and brackets of the feed support hardware

must be changed—no other antenna changes are required. This simple modification can be done by the user or by Microdyne field service personnel.

Even if you purchased your existing antenna from another manufacturer, it may still be possible to modify it for use with the Microdyne Multiple Satellite Feed System. Please give us a call.

### Increases Capability

So, whether you are planning a new system or expanding an existing installation, the MSF can provide increased capability while saving both the cost and the real estate required by a second dish.



*When installed on a 5-meter antenna, isolation between beams is better than 20 dB, with a loss of about 1 dB at 4° off boresight.*

### Free Information

If you would like more information on our Multiple Satellite Feed System, contact your nearest Microdyne distributor, or give us a call at (904) 687-4633.



**Microdyne Corporation**

P.O. Box 7213 • Ocala, FL 32672 • (904) 687-4633 • TWX: 810-858-0307

Circle 168 on Reader Service Card

Box 31, Webster City, IA 50595  
515 832-1263  
Telephone remote units. Mic mixers, portable consoles.

**TELONIC BERKELEY**  
Box 277, Laguna Beach, CA 92652  
714 494-4901  
RF attenuators, filters. Microwave systems. Sweep generators, impedance bridges.

**TENNAPLEX SYSTEMS**  
21 Concourse Gate, Ottawa, Ont., Canada K2E 7S4  
613 226-5870  
Kathrein antennas: FM, TV HP & CP, communications, antenna tuning units. Kathrein TV & FM combiners.

**TENTEL CORP.**  
1506 Dell Ave., Campbell, CA 95008  
408 379-1881  
Tentelometer audio alignment, tension gauges. Head tip protrusion gauge, spindle height gauges.

**TEPCO CORP.**  
Box 680, Rapid City, SD 57709  
605 343-7200  
Jones FM translators; VHF translators. RF amps, filters.

**TERMINAL SYSTEMS CORP.**  
901 Columbia Circle, Merrimack, NH 03054  
603 424-5033  
Acorn radio & TV newsroom computers.

See listings in Reps section

**TEXAS ELECTRONICS**  
Box 7225, Dallas, TX 75209  
214 631-2490  
Weather instruments.

**TEXSCAN CORP.**  
3102 N. 29 Ave., Phoenix, AZ 85076  
602 252-5021  
Flexicaster time insertion sequencers, complete program automation systems, automatic time/weather announcers. SpectraGen titlers, subtitles, Flexicaster character generators. Satellite displays, Weatherview weather radar displays. RF attenuators, converters, filters. SMATV systems. Spectrum analyzers. Video test signal generators. Field intensity meters, RF test signal generators, impedance bridges. Oscilloscopes, voltmeters.  
Field Office:  
IN 3169 N. Shadeland Ave., Indianapolis 46226 . . . . . 317 545-4196

**TEXWIPE**  
650 Crescent Ave., Upper Saddle River, NJ 07458  
201 327-5577  
Audio & video head cleaners.

**TFT**  
3090 Oakmead Village Dr., Santa Clara, CA 95051  
408 727-7272  
EBS two-tone systems. AM stereo exciters. Modulators. Satellite network controllers.

Intercity microwave systems, central receivers. Transmitter remote control systems. STLs, TSLs. SCA equipment: FM, AM, TV. Demodulators, modulation monitors. Log printers, status/alarm indicators.  
See listings in Reps section  
See ad on pg. 89

**THALNER ELECTRONIC LABORATORIES**  
7235 Jackson Rd., Ann Arbor, MI 48103  
313 761-4506  
Character generators. Countdown generators, counters, timers, screen splitters, time/date generators.

**THEATRE SERVICE & SUPPLY**  
1792 Union Ave., Baltimore, MD 21211  
301 467-1225  
Cyc lighting, lighting stands & rigging, lighting control boards. Scenery rigging, props materials.

**THEATRE TECHNIQUES**  
60 Connolly Pkwy., Hamden, CT 06514  
203 281-6111  
Hardwired intercoms. Manual & automatic light dimmer controls. Patch panels.

**THEATRE VISION**  
5426 Fair Ave., N. Hollywood, CA 91601  
818 769-1928  
Sales, rentals & installations of lighting & power equipment.

**THEATRICAL SERVICES**  
128 S. Washington, Wichita, KS 67202  
316 263-4415  
Modularized connector strips for stage, studio lighting.

**THERMODYNE INTERNATIONAL**  
10850 S. Alameda St., Long Beach, CA 90810  
213 603-1976  
Foam insert & rack configuration transportation cases.

**THIRD COAST VIDEO**  
501 North I. H. 35, Austin, TX 78702  
512 473-2020  
Video production & post-production facilities; mobile production facilities rental.

**THOMSON-CSF BROADCAST**  
37 Brownhouse Rd., Stamford, CT 06902  
203 965-7000  
Cameras: field, ENG, recorder/cameras. Betacam VCRs. 35 mm slide projectors, telecine color correctors. Vidifont titlers, subtitles, character generator/graphics systems, weather-based art/paint systems. Graphic Store digital art/paint system, Vidifex 3D modeling & manipulation; bit pad digitizers. Digital efx generators, encoded chromakeyers. Image enhancers, color correctors. Vidiplex multiplexer encoder/decoder; contrast corrector. Audimax ALC, AGC amps, Volumax AM & FM compressor/limiters.  
Field Offices:  
CA Michael W. Clayton, 2091 Queensberry Rd., Pasadena 91104 . . . 213 849-2188

## **Frame Synchronization with Optional TBC And 10-Bit Transparency?**

**Call NEC Toll-Free  
1-800-323-6656.**

*FS-18 and FS-19 from NEC.  
Modular frame synchronizers with 4-fields  
and 8- or 10-bit transparency. Just call  
NEC toll-free. For everything but  
the kitchen sync.*

# **NEC**

**IMAGINE WHAT WE'LL DO FOR YOU**  
NEC America, Inc., Broadcast Equipment Division  
130 Martin Lane, Elk Grove Village, IL 60007  
In Illinois 312-640-3792.

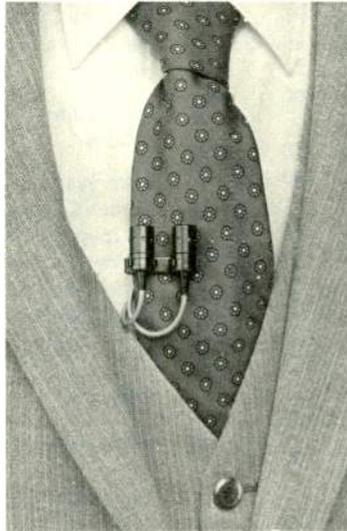
650-845

Circle 196 on Reader Service Card

# Hypercardioid Lavalier Microphone with Vibration Isolation

For TV news, remotes, lectures, documentaries, and live productions, there has never been anything like the Isomax TVH from Countryman.

Its superior side rejection allows it to go where no lavalier has gone before. For live stage and television productions, the TVH offers at least 6 dB more gain before feedback compared to other lavaliers. For news work, it brings in usable audio from even the noisiest remotes.



The Isomax TVH is the only hypercardioid lavalier microphone available today. And the TVH has something no other lavalier has: Vibration Isolation. Normally, directional microphones are 20 or 30 dB more sensitive to handling noise. Not the hypercardioid TVH. With its exclusive electronic vibration isolation it's even quieter than an omni!

Call or write for a free brochure or to arrange a demonstration.



**COUNTRYMAN ASSOCIATES INC.**

417 Stanford Avenue, Redwood City, California 94063 • (415) 364-9988

Circle 197 on Reader Service Card

- GA Frank D. Benson, 107 Tuliptree Terr., Peachtree City 30269 ... 404 487-6756
- IL Thomas D. Lorenzen, 18474 W. Rae Ln., Gurnee 60031 ... 312 356-5575
- NJ George E. Guiette, 255 Gregory Rd., Franklin Lakes 07417 ... 201 891-8689
- NY Thomas Oliviero, 128 Singingwood Dr., Holbrook 11741 ... 516 472-3752
- TX Mike Richardson, 4721 Spring Creek Rd., Arlington 76017 ... 817 572-4145
- CAN Alain Delaye, 1000 Sherbrooke W. #2105, Montreal Que. H3A 3G4 ... 514 288-4148

See ad on pg. Cover 3

## THOMSON-CSF COMPONENTS

301 Rte. 17 N., Rutherford, NJ 07070  
201 438-2300

Camera pickup tubes. Vacuum tubes.  
See ad on pg. 145

## THOR ELECTRONICS CORP.

321 Pennsylvania Ave., Box 707, Linden, NJ 07036

201 486-3300

Vacuum tubes; solid state components; rectifiers; surge protectors.

## TIFFEN MFG. CO.

90 Oser Ave., Hauppauge, NY 11788  
516 273-2500

Lens shades, adapter rings, step-up & step-down rings, cases & pouches. Viewing filters, light conversion filters, video filter kits, filter holders, glass gelatins. Rezinar resin filters. Master Control magnetic filter systems. Special efx & color correction filters for cine & video cameras. Pro-Corder A/V slide sync machines. Pro-Dissolve slide dissolve machines. Pro-Sound A/V amps, A/V cases. Memorizer computer controller for A/V machines. Audio cassette player/recorders.

## TIMES FIBER COMMUNICATIONS

358 Hall Ave., Box 384, Wallingford, CT 06492

800 243-6904

Fiber optic transmission & interconnect systems. Coaxial transmission line & connectors.

## TM SYSTEMS

25 Allen St., Bridgeport, CT 06604  
203 366-4571

Line amps, amp power supplies. VU meters. dB meters. Conditioning equipment.

## TOA ELECTRONICS

48 Carleton Ct. S., San Francisco, CA 94080  
415 588-2538

Portable recording consoles.

Field Office:

CAN 10712-181 St., Edmonton, Alb. T5S 1K8  
408 489-5511

## TODAY VIDEO

45 W. 45 St., New York, NY 10036  
212 391-1020

Video production & post-production facilities.

## TOPAZ, INC.

9192 Topaz Way, San Diego, CA 92123  
619 279-0111

Power conditioners; transformers; surge protectors; uninterruptible power systems.

## BELAR IS THE BEST ... SUPERIOR PERFORMANCE AT A LOWER PRICE

For instance, our FM Stereo Monitors provide a signal to noise ratio of 90 dB, 0.01% distortion and 70 dB separation for 25% to 45% less money than our competition.

And they are reliable!

Call or write for more information on Belar AM, FM, Stereo, SCA and TV monitors.



**BELAR ELECTRONICS LABORATORY, INC.**

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Where Accuracy Counts . . . Count on Belar

Circle 198 on Reader Service Card

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## SALES OFFICES

# BM/E

### Broadcast Management/Engineering

295 Madison Ave.  
New York, New York 10017  
Telex: 64-4001  
William McGorry, Publisher

### Eastern & Central States

295 Madison Avenue  
New York, New York 10017  
212-685-5320  
James C. Maywalt  
Gene Kinsella

### Western States

5015 Birch Street, Office One  
Newport Beach, CA 92660  
714-851-1461  
408-720-0222  
Neal Wilder

### United Kingdom/Europe

28 Eaton Row  
London SW1W 0JA, England  
Telephone: 01 235 8431  
Bronwyn Holmes  
Derek Hopkins  
Ruben Veksner

### Japan/Far East

Eiraku Building  
1-13-9, Ginza  
Chuo-Ku, Tokyo 104 Japan  
03 562 4781  
S. Yasui  
K. Yamamoto  
Y. Yozaki



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416 298-7788

Digital clocks, timers, complete clock/timing systems. Video message generator.

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714 730-5000

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**TOWNSEND ASSOCIATES**

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413 568-9581

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See listing in Repts section

Field Office:

CA 1080 Los Molinos Way, Sacramento 95825 ..... 916 972-9969

**TPC COMMUNICATIONS**

Production Plaza, Sewickley, PA 15143  
412 771-4700

Video production & post-production facilities; mobile production facilities rental.

**TRANS-AMERICAN VIDEO/TAV**

1541 N. Vine St., Hollywood, CA 90028  
213 466-2141

Video production & post-production facilities.

**TRIDENT USA**

280 Mill St. Ext., Lancaster, MA 01523  
617 365-2130

Mono & stereo studio consoles, console automation.

**TRI-EX TOWER CORP.**

Box 5009, Visalia, CA 93278  
209 651-2171

Tower masts, rigging, hardware, lighting. Lighting/ac cable.

**TRITRONICS**

703 N. Victory Blvd., Burbank, CA 91502  
800 232-2141

Video production & post-production facilities; mobile production facilities rental; equipment rental services.

**TROIKA PRODUCTIONS**

888 Seventh Ave. #4500, New York, NY 10106

212 799-0875

Video post-production facilities; production services.

**TROMPETER ELECTRONICS**

8936 Comanche Ave., Chatsworth, CA 91311

213 882-1020

Audio patch panels, jackfields. Video patch fields. Coaxial transmission line, RF connectors. Video cable, cable connectors

**TRUE TIME INSTRUMENTS**  
See KINEMATRICS

**TTC/WILKINSON**  
See WILKINSON

**TTE, INC.**

11650 W. Olympic Blvd., Los Angeles, CA 90064

213 478-8224

Video filters. Audio noise reduction.

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404 827-1717

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5426 Fair Ave., N. Hollywood, CA 91601

818 769-0928

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SUBURBANS  
VANS

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EQUIPMENT RACKS  
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VTR BAGS  
ACCESSORY BAGS

**REPRESENTED BY**

**BILL BLACK & ASSOCIATES**  
SAN DIEGO, CA  
619-692-3208

Circle 199 on Reader Service Card

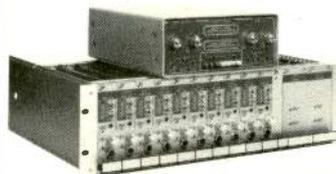
Micro Amp Series™  
by



**AUDIO TECHNOLOGIES INCORPORATED**

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Horsham, PA. 19044  
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Free Detailed Brochures



Audio Processors  
Modular Distribution Amplifiers



Distribution Amplifiers



Phono Preamplifiers

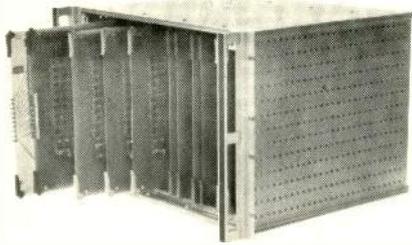


Dual Mike,  
Line, & Power  
Amplifiers  
Rack Mounting



Circle 200 on Reader Service Card

# SUPER SWITCHER



## Super Features Super Performance Super Reliability

BSM makes Routing Switchers for every situation. Audio, Video, and Audio Follows Video with one, two three or more levels of audio. From replacing a patch bay to setting up a master control system, BSM has the right configuration for you. Control the units with ease-from fingertip pushbuttons to the magic of computer control. You can even control a switcher with a telephone! Remote control operation possible on many units and some can be programmed against a time clock for automatic future switching. All are active switchers and all are complete with power supply.

Performance reliability is guaranteed. The signal integrity is maintained with no source loading, no RF, no crosstalk and no distortion, in fact, the actual specifications will amaze you. We further insure reliability with a 7 year warranty.

### Configurations:

- 10 x 1 and 10 x 10
- Series 5000 —
- 10 x 10 expandable to 150 x 250

For Audio/Video  
Routing Switchers  
Distribution Amplifiers  
Call (509) 448-0697

### BSM Systems

Manufacturers of Quality  
Broadcast Equipment Since 1978

Box 8081  
Spokane, WA 99203

Circle 201 on Reader Service Card

compact studio/mobile, large automated, post-production. Manual & automated master control switchers.

### UAB PRODUCTIONS

8443 Day Dr., Cleveland, OH 44129  
216 845-6043

Video production & post-production facilities; mobile production facilities rental.

### UHER OF AMERICA

7067 Vineland Ave., N. Hollywood, CA 91605  
818 764-1120

Audio cassette player/recorders. Portable open-reel ATRs.

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5625 State Farm Dr. #4, Rohnert Park, CA 94928  
707 584-7844

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### ULTIMATE CORP.

18607 Topham St., Reseda, CA 91335  
818 345-5525

Ultimate, Newsmatte RGB chromakeyers. See listings in Reps section

See ad on pg. 168

### ULTIMATE SUPPORT SYSTEMS

1331 Red Cedar Cir., Ft. Collins, CO 80524  
303 493-4488

Mic booms, dollies. Lighting stands, rigging. Studio furniture.

### ULTRA AUDIO PIXTEC, DIV. AUDIO INT'L

Box 921, Beverly Hills, CA 90213  
213 651-5563

Consoles: mic mixers, portable, studio, audio for TV. Single & multiple cart player/recorders. Phase control matrixing. Replacement audio heads. Alignment & tension gauges. Bulk erasers, splice finders. Complete program automation systems.

### UMC ELECTRONICS CO.

460 Sackett Point Rd., North Haven, CT 06473

203 288-7731

Stereo studio consoles. Single-deck, dual/triple deck cart player/recorders. Beau replacement audio heads. Head cleaners, degaussers. Beaucart alignment, tension gauges.

See ad on pg. 161

### UNION CONNECTOR CO.

149 Babylon Tpk., Box H, Roosevelt, NY 11575

516 623-7461

Lighting control boards, dimmer packs. Lighting/ac cable, cable connectors, jackfields, patch panels.

### UNI-SET CORP.

449 Ave. A, Rochester, NY 14621  
716 544-3820

Modular studio/set design.

### UNITED MEDIA

4075 Leaverton Ct., Anaheim, CA 92806  
714 630-8020

Video editor/controllers, multisource editors.

ADR looping controller. Parallel & serial interface routing switchers. SMPTE time code generator/readers, proprietary time code systems. Time distribution. Engineering consultants; financial services.

### UNITED PRESS INTERNATIONAL

220 E. 42 St., New York, NY 10017  
212 850-8600

Wire services, radio news networks, photo services.

### UNITED RESEARCH LAB

16 E. 52 St., New York, NY 10022  
212 751-4663

2/4-track studio ATRs. Replacement audio heads. Distributor of audio products & test equipment.

### UNITEL VIDEO

515 W. 57 St., New York, NY 10019  
212 265-3600

Video production & post-production facilities; mobile production facilities rental; recording studios; teleconferencing services.

### UREI

See JBL/UREI

### URSA MAJOR

50 Trapelo Rd., Box 18, Belmont, MA 02178  
617 489-0303

Digital audio efx, reverb; digital delay.

### UTAH SCIENTIFIC

1685 W. 2200 S., Salt Lake City, UT 84119  
801 453-8782/801 973-6840

Master control switchers. Serial interface routing switchers & machine control/technical automation. Audio & video DAs.

### UTILITY TOWER CO.

3200 N.W. 38, Box 12369, Oklahoma City, OK 73157

405 946-5551

Towers, masts, hardware & construction equipment; tower lighting.

### VALENTINO MUSIC LIBRARY

151 W. 46 St., New York, NY 10036  
212 869-5210/800 223-6278

Production music library.

### VALLEY PEOPLE

Box 40306, 2817 Erica Pl., Nashville, TN 37204

615 383-4737

Dyna-Mic mic mixers. Dyna-Mite ALC & AGC amps, AM & FM compressor/limiters; Gain Brain compressor/limiter/ducker, Maxi-Q parametric equalizers, Kepex audio noise reduction. Trans-Amp preamps. Level matching interfaces. Audio noise & level meters. Voltage-controlled gain cells & VCAs.

### VALTEC

99 Hartwell St., W. Boylston, MA 01583  
617 835-6082

Fiberoptic cable & hardware.

### VAMCO ENGINEERING

7033 E. 40, Tulsa, OK 74145  
918 627-1920

Audio & video DAs. Parallel & serial interface routing switchers, machine control/technical

automation. Remote control systems. Engineering consultants.

**VAMP**

6753 Selma Ave., Los Angeles, CA 90028  
213 466-5533

Opto-Link fiberoptic systems. Transformers, hum bucking coils. Video & audio post-production facilities.

**VANNER**

745 Harrison Dr., Columbus, OH 43204  
614 272-6263

Ac/dc converters, inverters

**VARIAN/EIMAC**

1678 S. Pioneer Rd., Salt Lake City, UT 84104

801 972-5000

Triodes, switch tubes, transmitter tubes.

Field Offices:

- AL 500 Wynn Dr., N.W. #302, Huntsville 35805 ..... 205 837-9225
- AZ 2750 S. Hardy Dr. #1, Tempe 85282 .. 602 966-4440
- CA 3200 Patrick Henry Dr., Santa Clara 95050 ..... 408 988-6772
- CA 2901 Wilshire Blvd. #205, Santa Monica 90403 ..... 213 828-5588
- FL 314 S. Missouri #311, Clearwater 33516 ..... 813 446-8513
- GA 106 Olympia Dr. #D, Warner Robins 31093 ..... 912 922-6686
- IL 205 W. Touhy Ave., Park Ridge 60068 ..... 312 825-6686
- MA 83 Second Ave., Burlington 01803 .... 617 272-8532
- MD 4701 Lydell Rd., Cheverly 20781 ..... 301 773-7010
- NJ 25 Commerce Dr., Cranford 07016 .... 201 276-9050
- NJ 304 Harper Dr., Moorestown 08057 ... 609 235-6800
- NY 6489 Ridings Rd., Syracuse 13206 .... 315 437-2568
- OH 4130 Linden Ave. #255, Dayton 45432 ..... 513 258-3930
- TX 13531 N. Central Expy. #2343, Dallas 75243 ..... 214 235-2385

**VARIAN MICROWAVE EQUIPMENT DIV.**

3200 Patrick Henry Dr., Santa Clara, CA 95050

408 496-6273

Klystrons; high power amplifier klystrons.

**VARIAN, MICROWAVE TUBE DIV.**

611 Hansen Way, Palo Alto, CA 94303  
415 493-4000

UHF-TV klystrons, satellite uplink klystrons, studio transmitter communications reflex klystrons.

**VARITEL VIDEO**

350 Townsend St., San Francisco, CA 94107  
415 365-3328

Video post-production facilities; mobile production facilities rental.

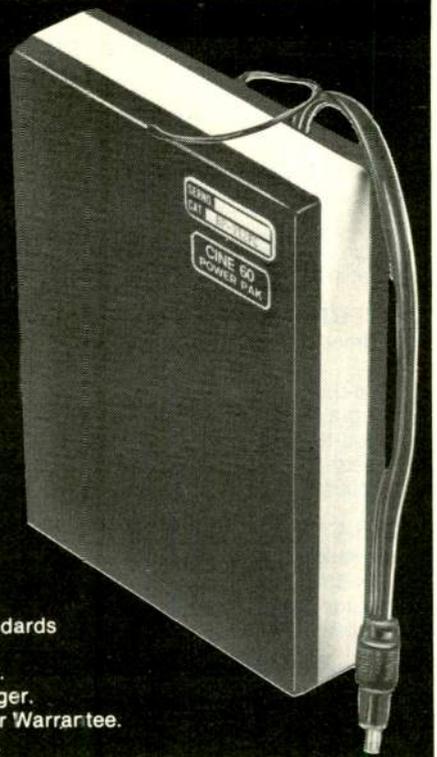
**VCA TELETRONICS**

231 E. 55 St., New York, NY 10022  
212 355-1600

Video production & post-production facilities; mobile production facilities rental; audio

**NOW FROM CINE 60**

**BP-90 POWER**



- Higher Cine 60 performance via premium grade nickel-cadmium cells.
- Delivers more running time, longer life with minimal maintenance
- Built to the identical professional standards of Cine 60 Powerbelts
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- Compatible with Sony's BC-210 Charger.
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There's Always Something New From Cine 60



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(212) 586-7782  
TWX: 710-581; TELEX: 645-647

6430 Sunset Blvd.  
Hollywood, Ca. 90028  
(213) 461-3046

**New Cine 60 Lifeguard 4-Position Fast Charge . . .**  
for VTR and Clip-on Batteries. Charges one BP-90 in 1 hour and four BP-90's in 4 hours. Keep batteries fully charged, ready for use.

Circle 202 on Reader Service Card

**BRYSTON**



**Bryston's 2B-LP**

Bryston has been known and respected for years as the manufacturer of a line of amplifiers which combine the transparency and near-perfect musical accuracy of the finest audiophile equipment, with the ruggedness, reliability and useful features of the best professional gear. Thus, Bryston amplifiers (and preamplifiers) can be considered a statement of purpose to represent the best of both worlds - musical accuracy and professional reliability to the absolute best of our more than 20 years' experience in the manufacture of high-quality electronics.

The 2B-LP is the newest model in Bryston's line, and delivers 50 watts of continuous power per channel from a package designed to save space in such applications as broadcast monitor, mobile sound trucks, headphone feed, cue, and any installation where quality must not be limited by size constraints. As with all Bryston amplifiers, heatsinking is substantial, eliminating the requirement for forced-air cooling in the great majority of installations. This is backed up by very high peak current capability (24 amperes per channel) and low distortion without limiting, regardless of type and phase angle of load. In short, the 2B-LP is more than the functional equivalent of our original 2B in spite of the fact that it occupies only half the volume, and will fit into a single 1.75" rack-space.

The usefulness of the 2B-LP is extended by a long list of standard features, including: Balanced inputs; female XLR input jacks; dual level-controls; isolated headphone jack; and individual two-colour pilot-light/clipping indicator LEDs for each channel. In addition, the channels may be withdrawn from the front of the amplifier while it is in the rack, vastly facilitating any requirement for field-service, including fuse-replacement.

Of course, in keeping with Bryston's tradition of providing for special requirements, the 2B-LP can be modified or adapted to your wishes on reasonably short notice, and at nominal cost.

Best of all, however, the 2B-LP is a Bryston. Thus the sonic quality is unsurpassed. The difference is immediately obvious, even to the uninitiated.

Other amplifiers in Bryston's line include the model 3B at 100 watts per channel and the model 4B at 200 watts per channel. All ratings continuous power at 8 ohms at less than 0.1% IM or THD

IN THE UNITED STATES

100 VERMONT  
RFD#4, Berlin, Montpelier, Vermont 05602

IN CANADA

MARKETING LTD  
57 Westmore Dr. Rexdale, Ontario, Canada M9V 3Y6

Circle 203 on Reader Service Card

post-production facilities; facilities design & engineering services; engineering consultants.

### VDO-PAK PRODUCTS

Box 67, Port Orange, FL 32029  
904 767-3400

VDO-Lite quartz camera light. Nicad & lead-acid batteries, chargers.

### VECTRIX CORP.

2606 Branchwood Dr., Greensboro, NC 27408  
919 288-0520

Color graphics frame buffers. Weather graphics & imagery systems. Color Card two-board graphics package for IBM PC & XT computers.

### VERSATILE VIDEO

151 Gibraltar Ct., Sunnyvale, CA 94089  
408 734-5550

Video production & post-production facilities; mobile production facilities rental.

### VIA VIDEO

5155 Old Ironsides Dr., Santa Clara, CA 95054  
408 980-8009

Character generator/graphics systems, System I & II digital art/paint systems, draw on screen systems, bit pad digitizers, camera/VTR digitizers, high-resolution screen cameras.

### VIDAIRE ELECTRONICS MFG.

150 Buffalo Ave., Box 788, Freeport, NY

11520

516 623-6696

Vecor headphones, RF intercom systems, dynamic & electret/condenser mics.

### VIDCOM TELECOMMUNICATIONS SERVICES

2426 Townsgate Rd., Westlake Village, CA 91361

213 991-1974

Video production & post-production facilities; mobile production facilities rental; equipment rental services; mobile vehicle construction.

### VIDEO ASSOCIATES LABS

3933 Steck Ave. #B109, Austin, TX 78759  
512 346-5781

Microkey add-on board giving NTSC output from Apple & IBM computers for graphics applications.

### VIDEO AIDS OF COLORADO

2450 Central Ave. #H, Boulder, CO 80301  
303 443-4950

Hardwired intercom systems. Character generator/graphics systems. Sync, black burst, color bar generators. Image enhancers. Audio & video DAs, pulse amps. Video squelchers, video & audio alarms. RF amps. Burst phase meters.

### VIDEOCOM

502 Sprague Dt., Dedham, MA 02026  
617 329-4080

Video production & post-production facilities; mobile production facilities rental. Transportable uplink facilities rental; videoconferencing services.

### VIDEO DATA SYSTEMS

205 Oser Ave., Hauppauge, NY 11787  
516 231-4400

Microsystem II message display system. Teletext decoding equipment. Vital Communication data communications systems.

### VIDEO INTERNATIONAL

1280 Sunrise Hwy., Copiague, NY 11726  
516 842-1815

Portable, digital TV standards converters.

### VIDEO MAGNETICS

3515 Edison Way, Menlo Park, CA 94025  
408 737-8300

Half-inch & 3/4-inch video cart/cassette changers.

### VIDEOMEDIA

211 Weddell Dr., Sunnyvale, CA 94089  
408 745-1700

Two-machine editor/controllers, A/B-roll editors, multisource editors, SMPTE time code generator/readers. Video animation controllers. Automated master control switchers. Machine control/technical automation: parallel interface, serial interface, vertical interval systems. TV newsroom computers.

### VIDEO ONE

10625 Chandler Blvd., N. Hollywood, CA 91601  
213 980-0704

Mobile production facilities rental.

### VIDEO POST & TRANSFER

Box 53, Love Field Terminal, Dallas, TX 75235

214 350-2676

Video & audio post-production facilities; engineering consultants.

### VIDEOSTAR CONNECTIONS

3390 Peachtree Rd., Atlanta, GA 30326  
404 262-1555

Transportable uplink/downlink services; video projection services; earth station site selection; satellite time brokers.

### VIDEOSMITH

2006 Chancellor St., Philadelphia, PA 19103  
215 864-0658

Video production & post-production facilities; mobile production facilities rental.

### THE VIDEO TAPE CO.

10545 Burbank Blvd., N. Hollywood, CA 91601

818 985-1666

Video post-production facilities; video duplication & distribution services; satellite delivery of syndicated programs.

### VIDEOTEK

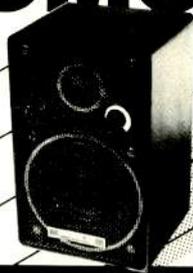
125 N. York St., Pottstown, PA 19464  
215 327-2292

Video monitors: NTSC, RGB, battery-powered portable. Routing switchers. Distribution amps. Sync generators. Demodulators. Waveform monitors & vectorscopes.

See ad on pgs. 141, 143

# MIKROMONITOR

- Built-In 20 Watt Amplifier
- Balanced Input XLR and Post
- 110-220 VAC Operation
- 2-Way High-Fidelity
- Die-Cast Aluminum Case
- Rack-Mount Optional
- \$169.00



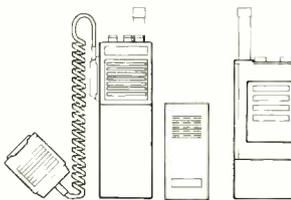
**MIKROLAB** ELECTRONIC MOTION PICTURE EQUIPMENT  
21815 Providencia Street, Woodland Hills, California 91364 / (818) 884-5690

Circle 204 on Reader Service Card

## Portable Communications Systems RENTALS-SALES-SERVICE

SPECIALIZED COMMUNICATIONS SYSTEMS  
FOR SECURITY-CONCERTS-RADIO AND TV PRODUCTIONS

PORTABLE RADIOS • BASES • REPEATERS



**STEVE HEMPHILL**  
220 BROOKTHORPE CIRCLE  
BROOMALL • PENNA. 19008  
**(215) 353-9449**

 **SOLID ELECTRONICS LABS**

Circle 205 on Reader Service Card

## VIDEOTEX/AMERICA

2050 Center Ave. #200, Fort Lee, NJ 07024  
201 461-0217  
Videotex hardware & software.

## VIDEO TRANSITIONS

910 N. Citrus Ave., Hollywood, CA 90038  
213 465-3333  
Video post-production facilities.

## VIDEO WEST

Broadcast House, 5 Triad Center, Salt Lake City, UT 84180  
801 575-7400  
Video production & post-production facilities, mobile production facilities rental.

## VIDEOWORKS

24 W. 40 St., New York, NY 10018  
212 869-2500  
Video post-production facilities.

## VIF INTERNATIONAL

Box 1555, Mountain View, CA 94042  
408 739-9740  
Audio head cleaners, degaussers, alignment & tension gauges. Test tapes, leaders. Relay sequencers. Monitor/power amps. Tape recorder motor remanufacturing.

## VIKING CASES

10480 Oak St. N.E., St. Petersburg, FL 33702  
813 577-1216  
Viking, CarryLite foam insert & rack configuration transportation cases. Editing/production consoles. Rack-Mount, Shock-Mount equipment racks.

## VISCOUNT INDUSTRIES

105 E. 69 Ave., Vancouver, BC, Canada V5X 2W9  
604 327-9446  
Manual master control switchers. Compact studio/mobile production switchers. Special effects generators.

## VISUAL INFORMATION INSTITUTE

719 Lower Bellbrook Rd., Box 33, Xenia, OH 45385  
513 376-4361  
Sync generators. Video test signal generators, test charts.  
See listings in Repts section

## VITAL INDUSTRIES

3700 N.E. 53 Ave., Gainesville, FL 32601  
904 378-1581  
Production switchers: compact studio/mobile, large automated. Standalone efx generators, chromakeyers, title keyers. Digital efx processors. Master control/technical automation: manual, automated, business automation interfaced. Serial interface routing switchers. SMPTE time code generator/readers, time code synchronizers. Pulse amps, video & audio DAs.

## VJ ELECTRONICS/ANCHOR SYSTEMS

913 W. 223 St., Torrance, CA 90502  
213 533-5980  
Monitor speakers, powered speakers.

## WALLACH & ASSOC.

Box 18167, Cleveland, OH 44118  
216 575-0765

## WIRELESS COMMUNICATION SYSTEMS

- **Continuous hands-free communications.**
- **Full duplex operation (talk and listen simultaneously).**
- **Unlimited system configurations with easy operation.**
- **VHF/UHF high band operation for less interference and noise, more reliable operation.**
- **Safe for hazardous environments.**
- **Interfaces to wired intercom systems and TELCO lines.**
- **Meets applicable government standards—NASA proven on the space shuttle.**

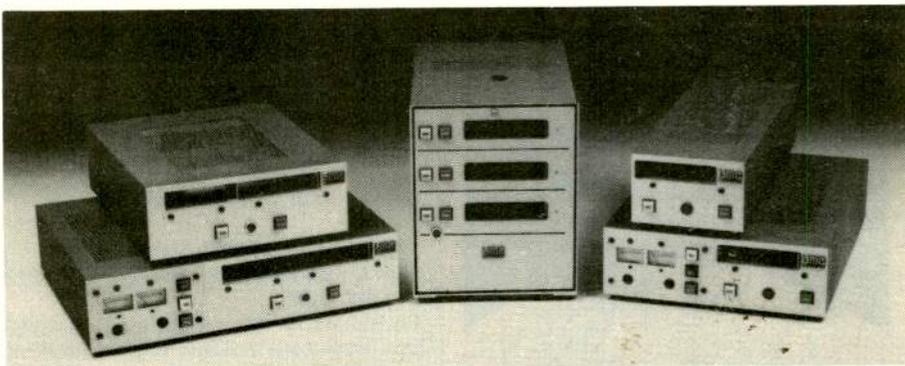
The Swintek Mark 200 is the world's finest and most reliable wireless intercom system. It's simple to operate and exceptionally dependable utilizing the same technology as our systems used on the Space Shuttle. Each system is designed to meet your specific requirements using standard, fully tested, precision Swintek electronic components that are protected by rugged, industrial grade, all metal cases.

**Swintek**  
TELECOMMUNICATIONS DIVISION

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(408) 249-5594 / TELEX 172-150 SWINTEK SUVL  
CANADA—Toronto, Ontario: Cinequip  
Vancouver, BC: Commercial Electronic Ltd.



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Built-in extra features are becoming “standard features” on Beaucart equipment, without the extra features cost. The Beaucart Recorder/Reproducers offer simple and reliable drive with the capability to stay in-phase during tape changes. Our versatile SFE-100 Slice Finder and Bulk Eraser is engineered to be the best in its field. In fact, all Beaucart equipment is engineered to maximize audio performance with dependable service and ease of operation.

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Phone (203) 288-7731

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Ceco Communications is the largest franchised distributor stocking a full line of transmitting tubes, industrial tubes, camera tubes, receiving tubes and CRT tubes. Ceco is the one source for all your electronic needs. We offer off-the-shelf, overnight delivery on most items.



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4CX5000A/8170

Please call for quotes on all semi-conductors, integrated circuits & connectors. A full line of broadcast supplies such as microphones & headsets are available.

Please call for your video needs!  
We are also a large distributor of video equipment.

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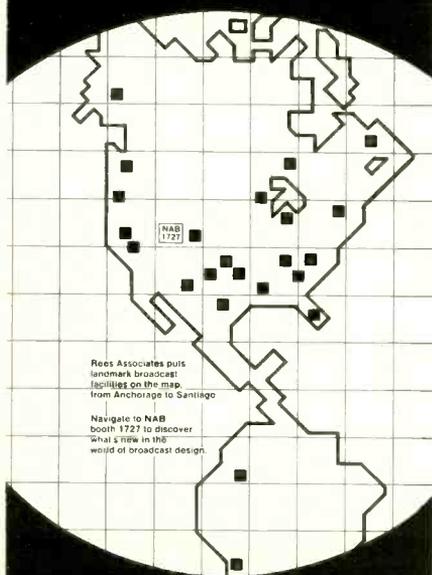
**COMMUNICATIONS, INC.**  
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BROOKLYN, N.Y. 11235

Call 24 hours for your price quotes.  
**Toll Free (800) 221-0860**  
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(way down there, they think we're great, too.)



Rees Associates puts landmark broadcast facilities on the map from Anchorage to Santiago

Navigate to NAB booth 1727 to discover what's new in the world of broadcast design

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Inc Engineers**

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(405) 946-9800

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Cabinets; equipment racks; cart/tape storage.

## WARD-BECK SYSTEMS

841 Progress Ave., Scarborough, Ont.,  
Canada M1H 2X4  
416 438-6550

Consoles: portable, mono & stereo studio, audio for TV, console automation. Hardwired intercoms. Amp power supplies. Audio DAs, audio routing switchers, audio patch panels, jackfields. VU & PPM meters. Audio test signal generators.

Field Offices:

MA William McFadden, 755 Washington St., Annisquam 01930 617 283-7507  
TX Duke McLane, 4012 Mendenhall Dr., Dallas 75234 214 241-5999

See ad on pg. Cover 4

## WAVETEK INDIANA

5808 Churchman, Box 190, Beech Grove, IN 46107

317 787-3332

Two-way communications equipment. RF attenuators, filters. Microwave signal generators. Sweep generators. Video test signal generators. Oscilloscopes.

## WAVETEK ROCKLAND

Rockleigh Ind. Ctr., Rockleigh, NJ 07647  
201 767-7900

Active equalizers & filters. Audio & RF sideband analyzers. Spectrum analyzers, frequency synthesizers.

## WEGENER COMMUNICATIONS

150 Technology Park/Atlanta, Norcross, GA 30092

404 448-7288

Stereo generators. Satellite systems: transmit/receive & receive-only earth stations, upconverters, downconverters, encryption systems, satellite network controllers. FM SCA equipment.

## WESTEC AUDIO VIDEO

1841 Broadway #1203, New York, NY 10023  
212 586-1662

Equipment rental service; audio & video post-production facilities; recording studios; engineering consultant; distributor of TV audio equipment.

## WESTERN BROADCASTING See ARISTOCART

## WESTERN TELE-COMMUNICATIONS

5455 S. Valentia Way, Englewood, CO 80111

303 771-8200

Satellite communication service; microwave & fiberoptic systems.

## WESTERN UNION

1 Lake St., Upper Saddle River, NJ 07658  
201 825-5000

Digital & analog video & audio transmission via satellite.

## WESTINGHOUSE ELECTRIC, IGT DIV.

Westinghouse Circle, Horseheads, NY 14845  
607 796-3211

Single-tube & monochrome video cameras. Vacuum tubes.

## WESTLAKE AUDIO

2696 Lavery Ct. Bldg. 18, Newbury Park, CA 91320

805 499-3686

Monitor speakers. Recording studios; audio post-production facilities; equipment rental services.

## WGN CONTINENTAL PRODUCTIONS CO.

2501 W. Bradley Pl., Chicago, IL 60618  
312 883-3411

Video production & post-production facilities; mobile production facilities rental.

## WHEATSTONE CORP.

5 Collins Rd., Betheny, CT 06525  
203 393-0887

Consoles: mic mixers, portable, mono & stereo studio, audio for TV. AM & FM compressor/limiters, parametric & graphic equalizers. Feedback compressor; tunable electric crossover.

See ad on pg. 80

## WHIRLWIND

100 Boxart St., Rochester, NY 14603  
716 865-4415

Direct & breakout boxes. Multiline mic cables & patch panels.

## WICKERWORKS VIDEO PRODUCTIONS

7342 S. Alton Way, Englewood, CO 80112  
303 741-3400

Video production & post-production facilities; mobile production facilities rental.

## WIDE BAND ENGINEERING

Box 21652, Phoenix, AZ 85036  
602 254-1570

RF amps, filters, switches. Power dividers, direction couplers, RF terminations. Impedance bridges, RF detectors, RF sweep amplifiers, RF analyzers, RF comparators.

## WIDE RANGE ELECTRONICS

2119 Schuetz Rd, St. Louis, MO 63146  
314 567-5366

Magnetic film dubbers. Audio head cleaners, degaussers. Sprocketed mag film, audio & video tape cleaners & degaussers. SMPTE time code synchronizers.

## WILKINSON RADIO, DIV. TTC

2360 Industrial Ln., Broomfield, CO 80020  
303 465-4141

AM & FM transmitters. AM & FM exciters, stereo generators. RF amps. FM SCA equipment. Solid state replacement rectifiers. Surge protectors.

## WILK POWER & VIDEO

16255 Ventura Blvd. #1001, Encino, CA 91436

818 788-2338

Audio DAs, audio routing switchers. Titlers, subtitlers, character generator/graphics systems. Parallel & serial interface video routing switchers. Sync, black burst, color bar & SID generators. Video DAs, subcarrier amps.

**Field Office:**

NJ 12 Terhune St., Oakland 07436 .....  
..... 201 337-8158

**WILL-BURT TMD DIV.**

169 S. Main St., Orrville, OH 44667  
216 682-7105

Sky-Hi telescoping masts; mast lighting.

**WINDSOR TOTAL VIDEO**

565 Fifth Ave., New York, NY 10017  
212 725-8080

Video production & post-production facilities; mobile production facilities rental; recording studios; audio post-production facilities; equipment rental services; set/studio design services; engineering consultants; music libraries; standards conversion.

**WINEGARD CO., CATV DIV.**

Box 329, Montgomeryville, PA 18936  
800 523-2529/in PA 215 822-6131  
MATV equipment. Complete CATV distribution electronics. Receive-only earth stations.

**WINSTED CORP.**

9801 James Circle, Minneapolis, MN 55431  
800 328-2962

Cabinets; studio consoles; equipment racks; cart/tape storage.

See ad on pg. 171

**WIREWORKS CORP.**

380 Hillside Ave., Hillside, NJ 07205  
201 686-7400

Audio & video cable, connectors, jackfields; mic cables, mic splitting systems; Multicable cable components.

**WKYT-TV**

Box 5037, Lexington, KY 40555  
606 299-0411

Video production & post-production facilities; mobile production facilities rental; equipment rental services.

**WOLD COMMUNICATIONS**

10880 Wilshire Blvd. #2204, Los Angeles, CA 90024  
213 474-3500

Satellite time brokers; videoconferencing uplink & downlink services; syndicated program delivery; news & sports program delivery; video production facilities; mobile production facilities rental.

**WOLF COACH**

7 B St., Auburn, MA 01501  
617 791-1950

Mobile vehicle construction.

See ad on pg. 134

**FRANK WOOLLEY & CO.**

529 Franklin St., Reading, PA 19602  
215 374-8335

Polarization polarized graphics effects system, Motionmaster video animation system.

**WORLD TOWER CO.**

Box 405, Mayfield, KY 42066  
502 247-3642

Tower masts.

**WORLD VIDEO**

27 N. Washington St., Box 117, Boyertown, PA 19512

215 367-6055

NTSC & RGB video monitors. Monitor speakers. Monitor/power amps. SCH verification module.

**WPHL PRODUCTIONS**

5001 Wynnefield Ave., Philadelphia, PA 19131

215 878-1700

Video production & post-production facilities; mobile production facilities rental.

**WSI, INC.**

41 North Rd., Bedford, MA 01730  
617 275-5300

SuperSat satellite weather displays. SuperRadar weather radar displays. Real-time weather & sports information & graphics.

See listings in Reps section

**XEDIT CORP.**

133 S. Terrace Ave., Mt. Vernon, NY 10550  
914 668-0388

Splicing blocks, tape. Wow & flutter meters.

**XIPHIAS**

13470 Washington Blvd., Marina del Rey, CA 90292

213 821-0074

Videograph digital art/paint systems, camera/VTR digitizers.

**YAMAHA INTERNATIONAL, COMBO DIV.**

6600 Orangethorpe Ave., Buena Park, CA 90620

714 522-9011

Consoles: mic mixers, portable, stereo studio, audio for TV. Graphic equalizers. Digital efx & reverb, digital delay, music synthesizers. Monitor speakers, headphones. Monitor/power amps.

**YES PRODUCTIONS**

916 Navarre, New Orleans, LA 70124  
504 486-5511

Video production & post-production facilities; mobile production facilities rental.

**ARTHUR YOUNG & ASSOC. See PRODUCTION CENTER**

**THE ZEL-MARK CORP.**

Box 182, Brookfield Center, CT 06805  
203 355-0008

16/35 mm telecine projectors, 35 mm slide projectors, optical multiplexers, telecine control systems. Telecine lenses, neutral density filters. Automatic light controls, telecine lap-dissolves.

**ZELLAN ENTERPRISES**

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800 221-3349/212 245-1598

Stellavox ATRs. Aaton cine cameras. Cooke, Angenieux Zeiss lenses.

Field Office:

CA 905 N. Cole Ave., Hollywood 90038  
..... 213 463-8151

**ZENITH ELECTRONICS CORP.**

699 Wheeling Rd., Mt. Prospect, IL 60056  
312 699-2100

STV encoders & decoders.

# Multichannel Television Sound

TSG™  
Stereo Generator

TV SIDEKICK™  
SAP

Pro Channel

Call or write:

Modulation Sciences, Inc.  
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Brooklyn, NY 11201  
(212) 625-7333

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## Mica Capacitors

LARGE
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## VACUUM CAPACITORS

ITT JENNINGS

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Oceanside, California 92054  
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*If make-goods have become a fact of life at your station, it's probably time to talk to someone from Utah Scientific about automating your on-air operation.*

*Here are some important facts about our Station Automation Systems:*

*Built around the Utah Scientific MC-500 Series Master Control Switcher—the only switcher specifically designed for automation.*

*Distributed processing throughout—where hardware failures are an inconvenience, not a catastrophe.*

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Doug Howland  
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213 703-0381  
Representing: *TFT*  
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Martin Jackson/Ted Tripp  
Scotts Valley  
408 438-4273  
Representing: *TFT*  
n.CA;HI;NV  
Andy Thompson  
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206 743-1161  
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213 876-9164  
Representing: *Otari*

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Bailey, CO 80421  
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Representing: *Visual Information*  
*Inst.*  
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Representing: *Connectronics*  
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Representing: *Superior*  
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Derek Allen  
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Toluca Lake, CA 91602  
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Prior Lake, MN 55372  
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Herb & Steve Didier  
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Representing: *TFT(video)*  
CO;ID;MT;NM;UT

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16301 N.E. Eighth #106  
Bellevue, WA 98008  
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Carroll Cunningham  
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Representing: *For-A*  
w.ID;w.MT

**Hall Electronics**

Larry Hall  
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Representing: *TFT(audio)*  
CO;ID;MT;UT

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Representing: *TFT*  
AZ

**Marketing Specialists, Inc.**

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213 341-1471  
Representing: *For-A*  
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303 320-5521  
Jack Daniels  
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Representing: *Broadcast*  
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Representing: *Visual Information*  
*Inst.*

**Chuck Stieff**

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Representing: *Beyer*  
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Orange, CA 92665  
714 921-1245  
Representing: *Connectronics*  
AZ

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Representing: *Anritsu*

**Mid-Western States:****Audio Broadcast Group, Inc.**

Dave Veldsma  
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616 452-1596  
Representing: *QEI*  
IN;MI;OH

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313 663-9733  
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MI

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317 846-1034  
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*Calzone*  
*Connectronics*  
IN, KY

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Representing: *Broadcast*  
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513 294-5477  
Representing: *Anritsu*

### Allan Brillman & Assoc.

Al Brillman  
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n.IL, WI

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Creve Coeur, MO  
314 878-6117  
Representing: *Swintek*

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Ballwin, MO 63011  
314 227-7222  
Representing: *Otari*

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Representing: *Calzone*  
*Otari*

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Prior Lake, MN 55372  
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Representing: *Digital Services*  
*Corp. (DSC)*  
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MO

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Representing: *Calzone*

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Detroit, MI 48219  
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Representing: *Beyer*  
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Bruce Dawson  
Central American Term.,  
Bowman Field  
Louisville, KY 40205  
502 456-6666  
Representing: *For-A*  
IN, s.OH

### Didier/Denver

Herb & Steve Didier  
303 674-6000  
Representing: *TFT*  
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Arlington Hts., IL 60004  
312 394-3380

Representing: *Anritsu*

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312 588-4535  
Representing: *Bally*

### Emmons Assoc.

Keith Emmons  
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Wayzata, MN 55391  
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Lake Forest, IL 60045  
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Representing: *Calzone*  
*Excalibur*  
n.IL, WI  
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Automatic Video Cart Machine

**SIMPLICITY ■ PERFORMANCE**  
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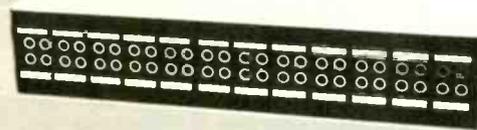


BROADCAST SYSTEMS INC.  
800/531-5232 800/252-9792 TX

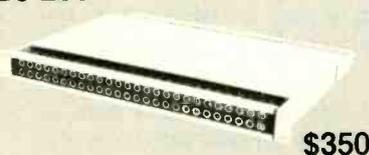
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## PREWIRED AUDIO JACK PANELS

BJ-240A \$545



BJ-200



BJ-240A

Rear View

\$350

### Both feature:

- Prewired and pretested
- Cable strain relief
- Easy cleaning
- All jacks wired to back plane
- Connectorized and Bantam versions available.

### BJ-240A

- 24 normal-thru (selectable, rear panel)
- Removable jack panel

### BJ-200

- Economical
- 26 normal-thru circuits
- Occupies 1 rack unit



BROADCAST SYSTEMS INC.  
Austin, Texas  
800/531-5232 or 800/252-9792 TX

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## On-Air Technical Manager/ Satellite Systems

Assume responsibility for the day-to-day operations of Skypath control and the resolution of problems encountered by affiliates utilizing **NBC's** KU-Band satellite system.

Make switches affecting network arrangements and supervise technical activities, facilities and personnel. Monitor programming to insure compliance with both **NBC** and FCC standards. Make on-the-spot decisions involving last-minute changes in operations. Ideal background will combine thorough operational experience in computer controlled switching and satellite systems and in video and audio testing procedures; broadcast management or technical supervision. A bachelor's degree in Engineering, Communications, or Business is preferred.

Please submit resume with salary history to:

**NBC Employment Office**  
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## NEWSMATTE<sup>™</sup> remembers!

**Newsmatte-2** is here — with all the same great compositing features as the original,  
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**Newsmatte-2** does double duty — both for its original purpose (perfect composites for news, weather and other live broadcast situations), and for light production work where the more flexible and sophisticated Ultimatte-4 is not required.

**Newsmatte-2**'s memory can take care of those occasions where smoke obscures the blue backing, when doors are opened or closed, when a panel is pulled out and revealed (weather map) or when lighting is uneven.

Call us collect for the name of your local authorized dealer. He'll show you what this exciting new product can do.

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*Connectronics*  
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Williamsburg, VA 23185  
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Representing: *Visual Information*  
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703 527-3262  
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Silver Spring, MD 20760  
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# Video Delay Lines

ALLEN AVIONICS Video & Pulse Delay Lines replace 75 ohm coaxial cable, provide a more suitable method of achieving precise short delays. The units reduce size, weight, installation costs, save time & effort in making delay changes.

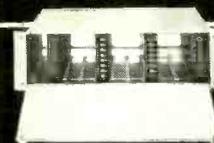
Part No.	Delay Range (Nano-Sec.)	Delay Steps (Nano-Sec.)	Method of Variation	Maximum Insertion Loss (or 100 KHz (db))	Amplitude Flatness At Any Delay Setting 100 KHz to 5.5 MHz (db)	Max. Rise Time (Nano-Sec.)	Package Size (Inches)
VAR005	3-7	Continuous	Trimmer	.20	.2 Max.	N.A.	3 3/8 x 1 1/2 x 1 1/4
VAR011	0-11	Continuous	Trimmer & Toggle	.20	.25	N.A.	4 3/8 x 2 3/8 x 1 1/16
VP0010	0-10.5	.5	Toggle	.15	.2	3	4 3/8 x 2 3/8 x 1 1/16
VP0127	0-127	1.0	Toggle	.15	.3	14	4 3/8 x 2 3/8 x 1 1/16
VP0255	0-255	1.0	Toggle	.15	.3	16	4 3/8 x 2 3/8 x 1 1/16
VP0317	0-317.5	2.5	Toggle	.15	.3	20	4 3/8 x 2 3/8 x 1 1/16
VP0635	0-635	5.0	Toggle	.50	.4	25	4 11/16 x 3 11/16 x 2 1/16
VP1100	0-1100	10.0	Rotary	1.25	.4	30	4 11/16 x 3 11/16 x 2 1/16
VP1270	0-1270	10.0	Toggle	*3.00	.4	30	4 11/16 x 3 11/16 x 2 1/16
VP2075	0-2075	25.0	Toggle	*3.00	.5	40	7 3/8 x 4 11/16 x 2 3/16
VS0315	0-315	5.0	Strap	.25	.4	28	4 x 2 x 1 1/4
VS0635	0-635	5.0	Strap	.60	.5	33	5 x 2 x 1 1/4
VS1275	0-1275	5.0	Strap	1.25	.5	33	5 x 3 x 1 1/4
VS2075	0-2075	25.0	Strap	2.50	.5	40	6 1/2 x 3 1/2 x 2

## RACK MOUNTABLE UNITS

VRM0255	0-255	1.0	Slide Switch	.40	.4 Max.	20	1 1/4 x 4 1/8 x 4
VRM0637	0-637.5	2.5	Slide Switch	*1.00	.4	28	1 1/4 x 4 1/8 x 6
VRM1275	0-1275	5.0	Slide Switch	*3.00	.4	33	1 1/4 x 4 1/8 x 9
VRM2270	0-2270	10.0	Slide Switch	*3.00	.5	40	1 1/4 x 4 1/8 x 9
VRS0317	0-317.5	2.5	Strap	.40	.5	26	1 1/4 x 4 1/8 x 4
VRS0635	0-635	5.0	Strap	.75	.5	35	1 1/4 x 4 1/8 x 6
VRS1270	0-1270	10.0	Strap	1.50	.5	37	1 1/4 x 4 1/8 x 9
VRS2260	0-2260	20.0	Strap	3.00	.5	40	1 1/4 x 4 1/8 x 9

\*±.2db variation at any delay setting.

Circle 217 on Reader Service Card



## RACK MOUNTABLE VIDEO & PULSE DELAY LINES

A complete Rack Mountable series of Video & Pulse Delay Lines, with the capability of replacing up to 1450 feet of cable, is now being marketed by Allen Avionics. (See listing in table at left.)

**Impedance:** 75 ohms.

**Pulse Distortion:** Less than 4% with an input pulse rise time of 20 nanoseconds.

**Working Voltage:** 100 volts maximum. 50 volts maximum for Rack Mountable series.

**Return Loss:** 20db minimum. 15db minimum for VP2075, VS2075 and Rack Mountable series.

**Delay Tolerance:** 5% or 1 nanosecond, whichever is greater.

## CALL/WRITE

For Video Delay Lines & Filters Catalog

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Phone: 516-248-8080

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WV

**Ralph L. Hucaby**

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Representing: *TFT*  
KY,TN

**Jacobs Industries, Inc.**

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# With our Automatic Remote Control System your transmitter – and your personnel – will operate with increased efficiency

Have you ever wondered if your night operator will remember . . . to switch patterns at sunrise? . . . to periodically check critical levels? . . . the correct transmitter restart sequence? You'll never have to worry if Potomac Instruments' RC16+ is on the job. Because it'll do all these tasks for you. Plus a lot more. Automatically.

With its microprocessor based control logic, the basic RC16+ provides 16 telemetry channels with automatic out-of-tolerance alarms and remote raise/lower controls;

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The RC16+ is also expandable. In 16 channel increments, up to a total of 64 channels. With the remote video display option your chief engineer can get a detailed readout of all measured parameters. It's updated every 30 seconds and connects to any standard telephone. The optional plug-in automatic logger provides a permanent record of all transmitter activity. Log intervals, sequence, and alarm flags are user-selectable.

And, best of all, the RC16+ is cost effective. No other unit on the market offers these features and capabilities at this low price.

Basic System . . . . .	\$4,995.00
Additional 16 Channels . . . . .	1,865.00
Plug-In Automatic Logger . . . . .	2,499.00
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Devon, PA 19333  
215 964-0606  
Representing: *Connectronics VA*

**Southern Coastal Marketing**  
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Pineville, NC 28134  
800 438-6040  
Representing: *QEI NC;SC;VA*

**The Gene Sudduth Co.**  
Gene Sudduth  
Box 293  
Flint, TX 75762  
214 785-5762  
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