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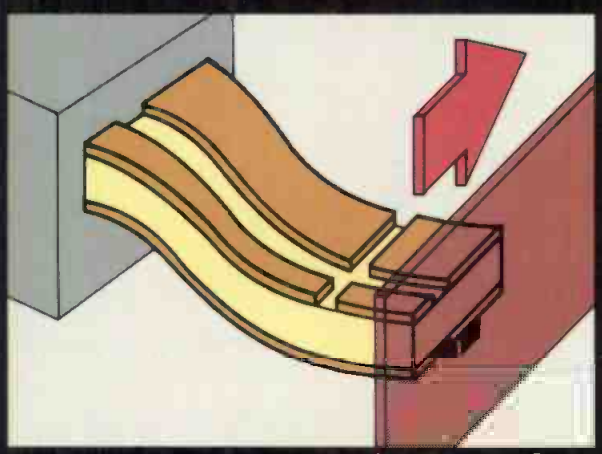

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BM/E
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Localism is on the rise as stations devote resources in people and equipment to gain audience. Illustration by Hector Ayala.

NOVEMBER 1981/VOLUME 17/NUMBER 11

In the December Issue
Nominees for the *BM/E* Best Station Awards will have center stage. Readers can vote for the best candidates in four categories — TV, FM, AM/FM, and AM — using a special ballot.

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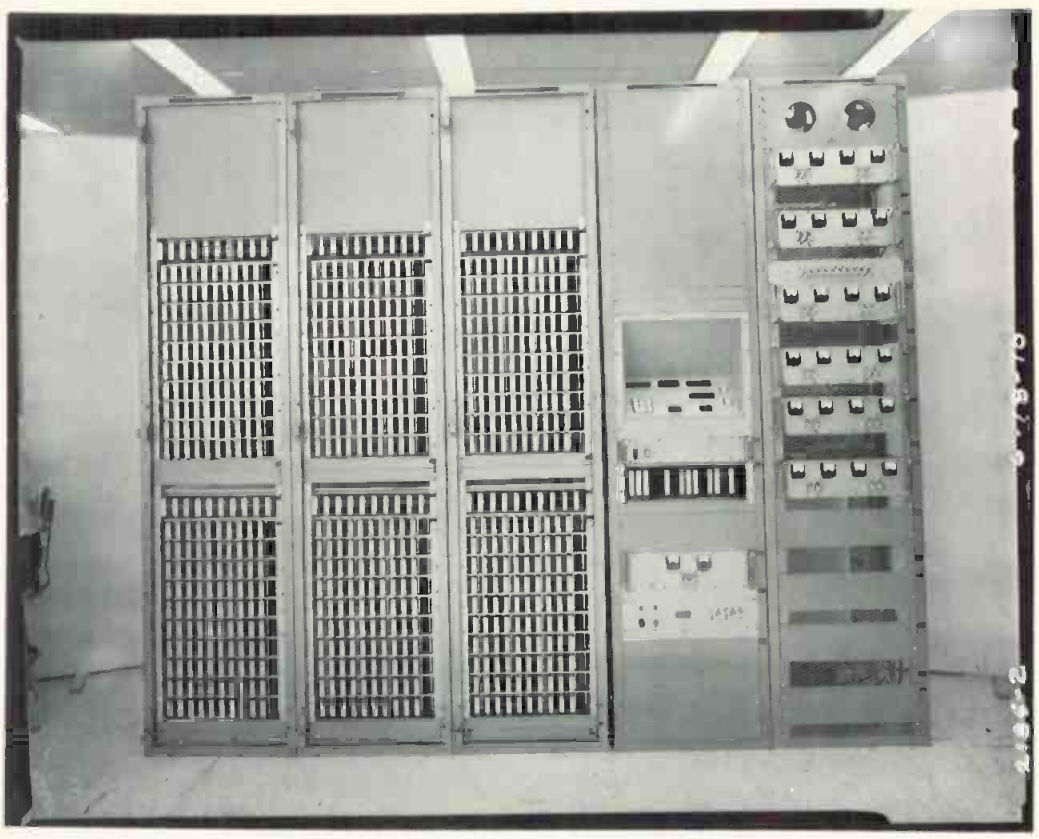
The 100x60 system pictured is an excellent example. Installed in a major network switching center in 1970, it has since undergone numerous expansions. Today, at 200x200, it is still in operation...over 90,000 hours of virtually continuous service and still going strong.



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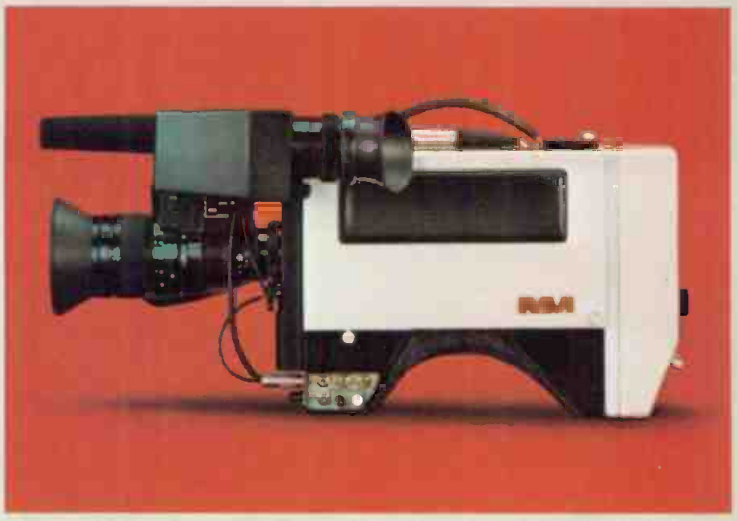

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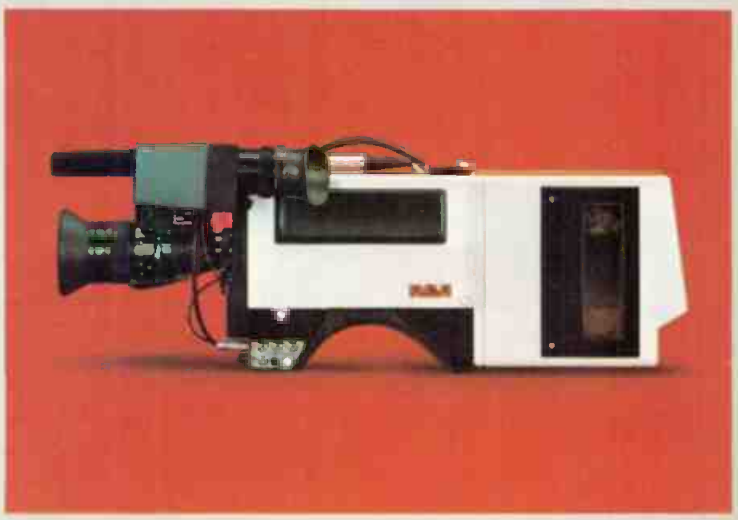

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USE IT...

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RCA

BROADCAST INDUSTRY NEWS

AT&T Satellite Plan Okayed — With Changes

The tariff for AT&T's new Satellite Television Service (STC) went into effect September 25, after changes were made to satisfy the FCC's rule that the original plan was illegal.

Under the initial proposal, occasional users were required to lease earth stations from AT&T in a "bundled" rate structure (full-time users could provide their own dishes or lease AT&T's).

The Commission objected to this provision, noting that the bundled rate plan allowed transponder access only to users willing to pay for an AT&T earth station.

AT&T responded to this objection by deleting occasional use from the tariff, offering the service only to full-time users. AT&T's Maureen Dvorak told *BM/E* that NBC had signed on as the first STC customer, with service scheduled to start in October. The NBC programming is slated to originate in NBC studios in New York and Burbank, with dedicated earth stations located in Chicago, Houston, New York, and Burbank.

ABC, CBS, Wold Communications, and the National Entertainment Network are also scheduled to use SCN. The service will distribute television programming over AT&T's Comstar domestic satellite system.

. . . While RCA To Begin Digital Audio Service

RCA Americom has announced that it will begin a new digital audio system that will distribute radio programming by satellite. Three companies have signed up for the new service — CBS, NBC, and Wold Communications.

Harold Rice, vice president of video services for RCA Americom, made the announcement at a news conference during the recent NRBA conference (see p. 113). The new service, called Audio Digital Distribution Service (ADDS), will make available 20 15 kHz channels on Satcom 1. The service will begin in 1983 with the launching of Satcom 3, which will free up the transponders on Satcom 1 currently carrying cable channels.

Thomas Dawson, vice president, division services of CBS Radio, said that the new system will allow the present network as well as the new RadioRadio net, to be distributed completely by satellite.

Reception of ADDS will be on a 10-foot dish the user must furnish, though RCA has an arrangement with Scientific-Atlanta for production of a dish compatible with the ADDS system. S-A will definitely be supplying the dishes for NBC's digital network; an agreement reached in September calls for the manufacturer to provide earth stations for most of NBC's 600 affiliates.

FCC Asks End Of Fairness, Equal Time Rules

The Reagan FCC continued to solidify

New Editor Reports To BM/E

On the job at the recent SMPTE Conference in Los Angeles, new BM/E *Chief Editor Robert Rivlin (left) interviews Fred Remley, vice president of TV affairs for SMPTE. A story on the conference and show will appear in the December issue.*

Broadcast Management/Engineering has named Robert Rivlin as its new Chief Editor effective with the December issue.

Rivlin served as *BM/E*'s Senior Editor from 1978 to 1980 and during that time received an ABP Neal Award Citation for his work on a Best Staff written series of articles. Most recently he was Technical Editor for *Millimeter* magazine and an international correspondent on technology to *TV World.*

Rivlin comes from a background in film and television production and he has won several awards for his documentary film and sports work. His articles on film and television appear in Omni magazine.

NEC Boosts ENG, Cable With Two NTSC Signals On One Channel

American broadcasters may soon get a crack at a new technological development their Japanese counterparts have been trying out since January: a dual video transmission system that puts two full RS-170A NTSC video signals on a single, conventional video channel.

The system, NEC's new DV-10, was developed in response to requests from Japanese news crews, whose ENG microwave channels are extremely limited. The signals are compressed horizontally and simultaneously transmitted over ENG microwave, long lines, or a satellite transponder; when separated, each has quality 10 to 20 percent better than U-Matic, according to NEC vice president R. Dennis Fraser.

Fraser told an October press conference that Japanese viewers were unable to distinguish between signals transmitted via the DV-10 and those transmitted in the standard manner. Because the signals are synchronous (the system includes time base correction for both signals at the input), production can take place at the station. In addition, the system switches to regular, full-channel transmission at the push of a button. Audio must be handled discretely (i.e., on the audio channels of ENG equipment or satellite transponders). The dual signal can be viewed and monitored in transmission.

Two full NTSC video signals with U-Matic quality ride side-by-side on NEC's new DV-10

Television news directors will probably see immediate applications for the DV-10, which is also being used as an STL in Japan. Its other major applications — for cable program distribution and video teleconferencing — may spark controversy between users and common carriers over tariff rates. The battle is already raging in Japan, Fraser said, where Nippon Telephone & Telegraph wants to double the tariff for the dual transmissions. Tariff battles in the U.S. "will be fantastic," Fraser predicted. No price has been set yet, but the modular system, consisting of a multiplexer and demultiplexer, will probably run in the neighborhood of $50,000.

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its stance on the side of broadcasters in September with its recommendations that Congress broadly revise the Communications Act, including repeal of the fairness doctrine and equal time provisions.

Specifically, the recommendations suggest deletion of Section 315 (requiring equal access to the air for legally qualified candidates for public office) and extensive rewording of Section 326, which would be amended to read, in part, "no . . . obligation to afford opportunity for the discussion of conflicting views on any issue shall be promulgated or fixed by the Commission . . ."

Newly appointed commissioner Henry M. Rivera abstained from the proceeding, stating that his knowledge and understanding of the issues were not yet broad enough to allow him to participate knowledgeably. Commissioners Washburn and Fogarty dissented from the revisions of Sections 315 and 326, both claiming that the provisions have not outlived their usefulness.

Chairman Fowler disagreed, both in his vote and in a strong separate statement that affirmed, "The so-called fairness doctrine permits this Commission to act as editor and censor of material broadcast to the people . . . I would rather have the editor make these choices than the government." He termed the proposed revisions an action "in the name of free speech."

Other major proposed revisions included the establishment of "a presumption that marketplace forces will normally be favored over regulation" in determining telecommunications policy and extensive changes in the license and renewal sections. License provisions would call for a "demand system" of allocations "since fair and equitable distribution of radio and television service generally has been established nationwide."

The Commission also recommended that during renewal proceedings, a licensee's performance be compared "only against standards set forth in the amendment, not against any competing applicant." Only if the licensee fails to meet standards would the frequency be open to other applications.

In addition, those parts of Section 312 that call for license or CP revocation for violation of the rules on lotteries, fraud, or obscenities or for failure to allow "reasonable access" to candidates wishing to purchase air time would be deleted.

Broadcasters Cheer Fowler's "Market" Stance

FCC chairman Mark Fowler's speech at the recent IRTS Newsmaker Luncheon drew a standing ovation from assembled broadcasters, who cheered his affirmation that marketplace forces, not government "trusteeship," must determine the course of U.S. broadcasting.

Marilyn Dimling of the NAB echoed the thoughts of many in the industry when she told *BM/E*, "We've been working for a long time for this — for the repeal of the Fairness Doctrine and Section 315. Obviously, we're very happy to hear the chairman articulate it."

Possibly less happy are various public interest groups, suddenly faced with a Commission less likely to turn their demands into regulation. Panic however, is premature, according to Pluria Marshall of the National Black Media Coalition. "Deregulation shifts where the leverage has to come from, in terms of community groups dealing with broadcasters" Marshall commented. "The era of deregulation is upon us," he said, "but many who are upset about it are those who are not willing to work hard to develop alternate strategies. We are not one of those groups." He noted that the Commision was continuing to enforce its EEO policies and support

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Anton/ Bauer, the recognized leader in portable battery systems, has done it again with their new LG-30 "Black Beauty" Lighting Head, the ultimate in portable lighting.

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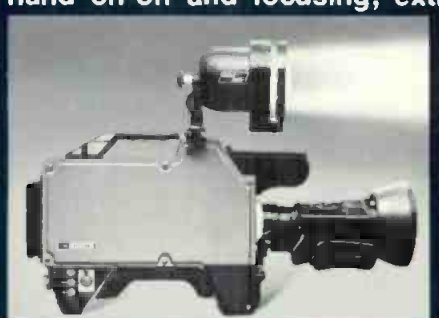
The perfect companion for the LB-30D Battery Belt.



The LG-30 mounts easily to any ENG camera.

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minority ownership.

In his speech, Fowler asserted that broadcasters, not the government, are the best judges of how best to serve their listeners. He termed the "scarcity" rationale for regulation "a radical and constitutionally questionable way of thinking," noting that scarcity exists in all industries.

Fowler's strongest words were reserved for what he saw as erosions of broadcasters' First Amendment rights under the "trusteeship" system. He said, "Each time we at the Commission insinuate our judgment into the editorial decisions of broadcasters . . . each time review a renewal application for this percentage of news or that percentage of public affairs . . . we trample on the freedom that broadcasting is guaranteed by the First Amendment." Full First Amendment rights "are your birthright as members of the press," he stated.

Current ownership and transfer rules also came under the chairman's attack as he questioned the "rule of seven" and "our marriage ceremony approach to broadcast transfers."

Finally, Fowler stressed his view of the marketplace as the best gauge of public needs. "The battlefield for the people's interest will be on transponders over Omaha and coaxial lines under Brooklyn, on UHF channels in Fresno and FM frequencies in Seattle," he asserted. "Do not look for it on a regulator's mahogany desk or in his metal filing cabinet."

Kidvid Ad Rulemaking Abandoned By FTC

The three-year old rulemaking procedure scrutinizing advertising on children's television has been scuttled by the Federal Trade Commission, which said the inquiry could no longer take the place of its "other important enforcement priorities."

The rulemaking, which began in 1978, received a severe blow last year when Congress told the FTC that "unfairness" was insufficient grounds to regulate advertising. Only actual deception could justify such rules, Congress told the agency. FTC staff had found in 1978 that the "possibility of unfairness or deception in children's advertising was sufficiently great" to justify the inquiry.

Action for Children's Television, the public interest group that initiated the rulemaking, indicated its strong disagreement with the FTC action dropping the rulemaking. A spokesperson for Kellogg's, one of the major advertisers under scrutiny in the inquiry, expressed the opposite point of view: "The FTC has finally got its head turned around," he said.

Compact Video HDTV Unveiled At SMPTE

Attendees of last month's SMPTE meeting in Los Angeles were treated to the first demonstration of Compact Video's new process for high-definition television, described as the world's first commercially available HDTV system.

According to Compact Video president and board chairman Robert E. Seidenglanz, the system, known as ImageVision™, produces a picture with about 2½ times the apparent resolution of the NTSC signal.

Seidenglanz revealed that Compact had already come to agreement in principle with a manufacturer of cameras and VTRs, although at press time he would not name the company. He said, however, that an HDTV camera and switchable monitor would be available for purchase by the end of the year. The ImageVision signal, Seidenglanz said, can go on one channel of any current domestic communications satellite.

Since the apparent resolution of ImageVision is equal to that of 35 mm

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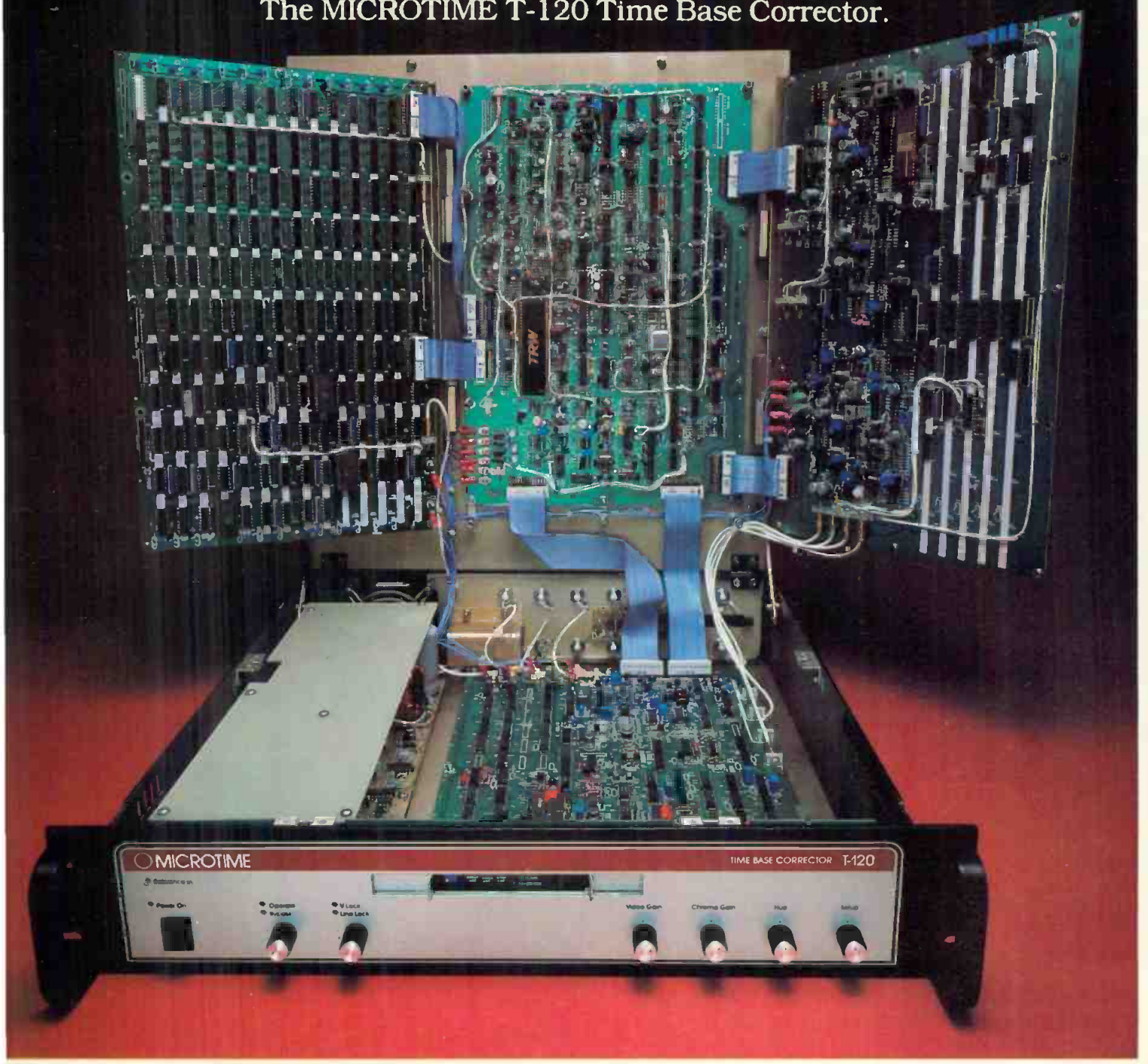

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film, Seidenglanz said, the system could become useful for shooting movies electronically and distributing them via satellite to theaters with electronic projection systems. Savings over usual distribution methods would be enormous, he stated. Video editing of shows or movies shot on film would also be possible with the system. Other applications could include high-definition premiere cable channels or HDTV service to the home, with FCC approval.

3M Development Simplifies Animation

Video animation without cumbersome preroll procedures and external editors has arrived, according to 3M.

The company told an October press conference that the simplified video animation procedure was a new application of the Automatic Track Following system incorporated in its TT-7000 VTR. Dave Bixler, marketing manager for recording products, said that the new system, by eliminating preroll, saves time and tape deterioration.

The new animation process permits animation to be recorded one field at a time without preroll. Each field is recorded while the tape is stationary, with immediate playback. A tachometer monitors and controls tape position, insuring tracking accuracy. As many as eight pictures may be recorded per second; the user can also edit one field at a time in stop motion.

Emmys Honor Ampex, RCA, Ikegami, Marconi

Once again, the technical achievements of broadcast industry manufacturers have been recognized by the National Academy of Television Arts and Sciences at its annual award ceremony in New York. RCA carried off its seventh Emmy, this one for its role in "the development of digital computer techniques for the automatic alignment of color television studio cameras" — specifically, the TK-77 automatic studio camera.

Also cited for their work in the automatic camera field were Ikegami and Marconi. Ikegami's Emmy honored the company for its automated HK-312 and other achievements in the area of color camera automation; Marconi got a certificate of achievement for its pioneering work in the development of the Mark XIII automatic color television camera.

Ampex and CBS shared an Emmy for their development of ESS, the first digital video production system, which, in the words of the award, "made the magnetic storage and electronic broadcasting of film slides and graphics easier to manage and more reliable with consistent high quality." The original ESS debuted in 1976.

The academy also honored Rank Cintel with an Emmy for the development of the Mark III flying spot telecine, first introduced in 1976.

New Satellite Antenna Pulls In 14 Satellites

Satellite Communications Network, a New York-based common carrier, has come up with an idea that may prove a major boon to the cable industry. The company recently introduced Simulsat, a satellite antenna capable of simultaneously receiving signals from any satellite in a 52-degree field of view — up to 14 satellites at once.

Although aimed primarily at cable operators, the satellite will also interest broadcasters, the company says. In fact, SCN's J. Scott Wright told *BM/E* that one of the first sales was to a Sacramento, Calif., TV station.

The advantages of the idea are obvious, leading off with savings over the costs of buying and siting one antenna for each satellite. Programmers benefit,

Finally.
Three-tube resolution in a one-tube camera.

One-tube technology has reached the level of three-tube performance. A new tri-electrode one-inch Saticon® tube with built-in bias light to reduce lag has made it possible to deliver excellent picture quality. In terms of resolution (450 lines) and stability (zero registration error, unlike three-tube cameras which must be registered), the FP-10 is far superior to other single tube cameras and comparable to many three-tube cameras.

A built-in image enhancer with a precision delay line provides sharp, crisp pictures. The ABO circuit, developed by Hitachi, extends dynamic range and guarantees easy highlight handling. Even in low-light situations, the FP-10 assures you of excellent results with the help of a +6, +12dB high gain switch.

The FP-10 will let you shoot in more places than you thought possible with remarkable ease of operation. An ideal ENG and production camera, the FP-10 can also be transformed into a highly versatile studio camera with the addition of an optional 5-inch viewfinder and Remote Operation Unit (ROU).

Other features include: built-in genlock; built-in color bar generator; a four-position color temperature filter; a bias light for reduced lag; auto white/auto black balance; and an available two-line image enhancer.

The high standards of quality you've come to expect from Hitachi are evident in the FP-10's construction as well. Built of die-cast aluminum alloy (not plastic), the FP-10 employs no cost-cutting shortcuts.

If you're looking for stability, portability, reliability and affordability in a one-tube color camera, your choice is the FP-10 by Hitachi.

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Circle 109 on Reader Service Card

also, since cable operators equipped with Simulsat are not limited to just one cable satellite.

Antenna Technology Corp. of Orlando, Fla., manufactures the antenna for SCN. It sells for $21,500; electronics can be purchased separately or through SCN.

Precision Data Buys Arvin Video Recording Operation

Arvin Echo, the Mountain View, Calif., manufacturer of magnetic recording and reproducing equipment, has been purchased by Precision Data, Inc., also of Mountain View. The company will revert to its former name of Echo Science, as it was known before its purchase by Arvin Industries several years ago. A Precision Data spokesperson told *BM/E* that no major changes were planned for the company, which will operate as a wholly owned subsidiary of Precision Data.

Echo's most recent product is the "Image Maker," a video disk system for preparation of graphics for broadcast news, sports, and commercials.

Kansas City VHF Bought For $79 Million

Media giant Hearst Corp. has agreed to purchase Metromedia's KMBC-TV, Kansas City, Mo., for $79 million in cash — the second largest amount ever paid for a broadcast station. The sale, subject to FCC approval, was necessary to allow Metromedia's recent $220 million purchase of Boston station WCVB-TV. Metromedia already owns five VHF stations, the maximum allowed by current FCC rules.

KMBC will be Hearst's fifth VHF station and its twelfth broadcast outlet. The station, in the nation's twenty-seventh market, is an ABC affiliate.

Coming Up: Nominees For Best Station Award

The December issue of *BM/E* will feature descriptions of stations across the country that have pooled the talent and resources available to them to produce the best service possible.

A ballot will be included for *BM/E* readers to choose the Best Station Award winners for 1981 in four categories — TV, AM, AM/FM, and FM. Be sure to vote for your favorites.

Source Corrections

Readers of September's The Source directory may have missed Dimension 5 Sound, listed incorrectly under Oregon in the Reps/Distributors section. The company is located in Womelsdorf, Penn. (215) 589-2576 and Philadelphia (215) 668-8260, and reps the lines of dbx, Electro-Voice, JBL, Orban, Quantum, Sennheiser, Shure, Sony Broadcast, Technics, Telex, and UREI.

Erroneously omitted from the alphabetical listing was JSH Electronics, 15682 Producer Lane, Huntington Beach, Calif. (714) 895-2298. Outside California, call (800) 854-7651. JSH carries a complete line of electron tubes for broadcasting, television, and other applications.

MCI, Inc. has four distributors not listed in September. They are: Audio Industries Corp., Hollywood, Calif. (213) 851-4111; Pacific Recorders & Engineering, San Diego, Calif. (714) 453-3255; Pro Audio Systems, Seattle, Wash. (206) 367-6800; Audiotechniques, Stamford, Conn. (203) 359-2312.

News Briefs

The Coalition for Better TV has **called off a planned boycott** of sponsors of TV programs the group considers offensive. The coalition is continuing to

rugged, cost effective vans...

Philips equipped.

tos courtesy Wolf Coach (Models A, C, D), Shook Electronics (Model B)

A-10: 10-11' production area, 1-2 cameras, 1 portable VTR, audio mixer, video switcher, audio cart recorder, and ancillary equipment.

B-14: 12-14' production area, 2-3 cameras, 1 studio VTR, audio console, production switcher, audio cart and reel/reel recorder, intercom, and ancillary equipment.

C-16: *See illustration to right.* 16-18' production area, 2-4 cameras, 1-2 studio VTR's; other equipment similar to B-14.

D-22: 18-24' production area, 3-6 cameras, 1-3 studio VTR's, A/V routing switcher, 2 audio cart recorders, telephone system; other equipment similar to B-14.

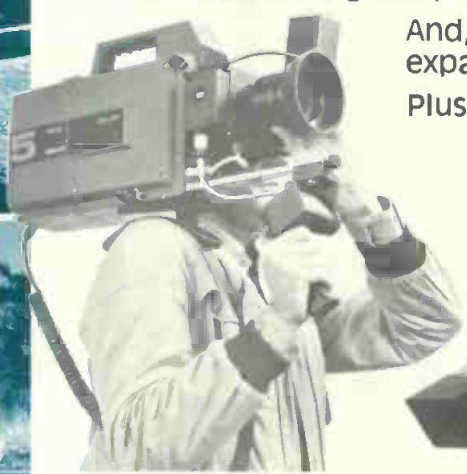
If you want the best mobile...for the best price... and with the best equipment...start with Philips.

These 4 standard fully equipped mobiles will consistently and reliably produce the quality you require for prime time and network feeds.

Selectively equipped with rugged, reliable equipment including:

- Philips LDK14S ENG/EFP cameras, or LDK5B triax or LDK25B multicore remote/studio cameras, or Philips' new LDK44 ENG/EFP cameras,
- ADC or CDL switchers,
- portable or rack mount 1" C type VTR's...
- even lighting kits and mics,

these vans are ready to roll with self-contained airconditioning and power generator systems.



And, these vans are designed for expansion and customizing.

Plus we offer total financing.

It's easy to get started. Call or write and our design team will aid you in selecting a model and equipment to match your budget and application.

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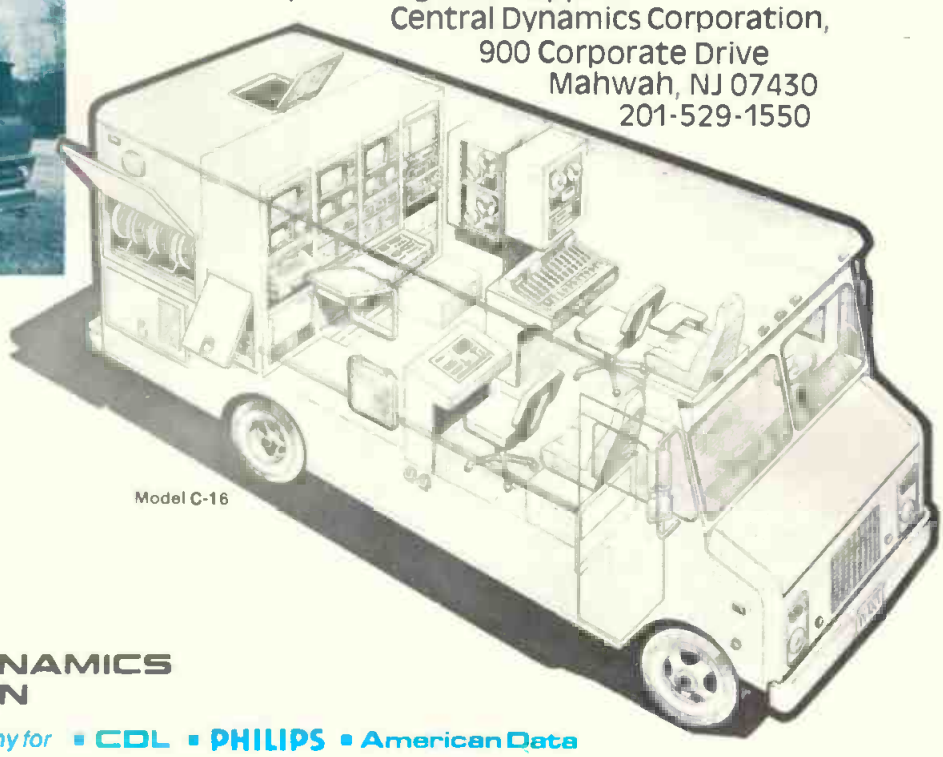
Mahwah, NJ 07430
201-529-1550



Model C-16

CENTRAL DYNAMICS CORPORATION

The U.S. Broadcast Company for ▪ CDL ▪ PHILIPS ▪ American Data

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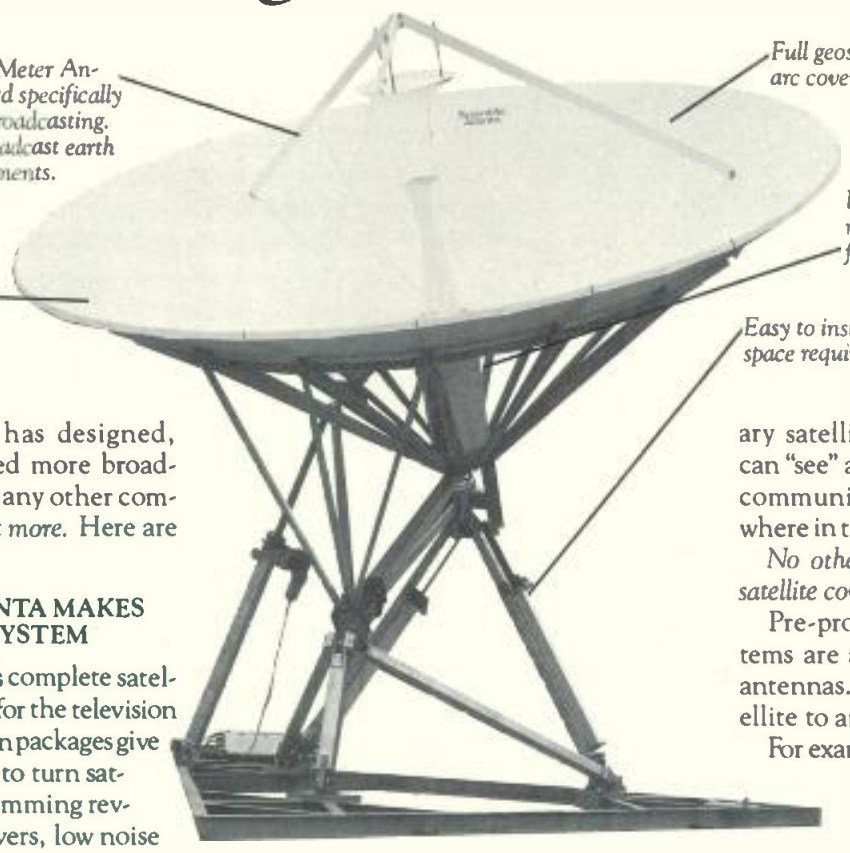
Why 4 out of 5 earth stations for TV broadcasting are from Scientific-Atlanta



Scientific-Atlanta has designed, built, and delivered more broadcast earth stations than any other company in the world. A *lot more.* Here are some reasons why.

SCIENTIFIC-ATLANTA MAKES THE ENTIRE SYSTEM

Scientific-Atlanta builds complete satellite earth station systems for the television industry. Our earth station packages give you everything you need to turn satellite signals into programming revenues. Antennas, receivers, low noise amplifiers, and installation and service.

THE RIGHT SYSTEM FOR YOUR NEEDS

As the industry's largest manufacturer, we offer a wider choice in complete system packages. And we have the practical, *total systems* experience to help you put together the earth station to fit your technical requirements. *And your budget.*

A broadcast earth station can be as simple as our Model 8501 Basic Receive-only system. It consists of an antenna assembly, a low-noise amplifier (LNA), and a video receiver.

This is the basic downlink system. It's perfect for operations such as taping satellite programming for future broadcast.

For added flexibility as well as improved reliability, many broadcasters choose our Model 8502 Receive-Only Earth Station. It includes a second set of electronics to give simultaneous reception on two different satellite channels—a significant increase in signal receiving ability.

What's more, the additional electronics serve as back-up units for the primary set, giving full station redundancy.

Should a malfunction occur in your primary on-line components, protection switching devices are included in the Model 8502 package which will automatically switch those functions over to the redundant stand-by units without interrupting on-line reception.

SUPPLY YOUR OWN PROGRAMMING

Scientific-Atlanta has supplied 97% of all the satellite uplinks currently in use by commercial TV broadcasters.

When you buy a Scientific-Atlanta uplink, you get the entire package, from the initial site planning advice to the final proof of performance procedure.

If you prefer, the uplink package can include frequency coordination, FCC licensing, and supervision for pouring of the foundation (using local construction crews for minimum cost).

MORE SATELLITE COVERAGE MEANS MORE PROGRAMMING

Scientific-Atlanta broadcast earth stations are available with full geostationary satellite arc coverage. Your system can "see" all current and future domestic communications satellites from anywhere in the continental United States.

No other antenna system offers more satellite coverage.

Pre-programmable motor-drive systems are available for 7- and 10-meter antennas. You can switch from one satellite to another in 60 seconds or less.

For example, by entering a simple two-digit code into our remote-control antenna positioning unit, your antenna can be switched to a different satellite during a commercial break.

WRITE OR CALL FOR INFORMATION

Clip this coupon for more information on the most advanced satellite earth station systems available for the television broadcast industry. Or call or write Ron Pearl at (404) 449-2064.

Scientific Atlanta BME-11/81
Communications

Attn: Mr. Ron Pearl
3845 Pleasantdale Rd.
Atlanta, Georgia 30340

Please send more information on satellite earth stations for television broadcasting.

NAME _____
TITLE _____
COMPANY _____
ADDRESS _____
CITY _____
STATE _____ ZIP _____
BUSINESS TELEPHONE ( ) _____

United States: One Technology Parkway, Box 105600, Atlanta, Georgia 30348. Telephone 404-441-4000. TWX 810-766-4912, Telex 0542898
Canada: 1640 Bonhill Road, Unit 6, Mississauga, Ontario L5T 1C8, Canada. Telephone 416-677-6555, Telex 06983600
Europe: Horton Manor, Stanwell Road, Horton, Slough SL3 9PA, England. Telephone Colnbrook (02182) 3211, Telex 849406

Circle 112 on Reader Service Card

News Briefs

monitor programs for "excessive" sex and violence . . . . A study by Action for Children's Television reports a **dearth of weekday children's programming** on commercial TV stations. Of the stations studied, 29 percent aired no regularly scheduled children's shows between 6:00 a.m. and 6:00 p.m. weekdays, and 62 percent had no regular after-school shows . . . . Storer Broadcasting has sold its only remaining radio station, **WLAK-FM,** Chicago, to Viacom for $8 million . . . . **KAUT-TV,** Oklahoma City, has given up on its pioneer all-news format after 10 months, citing insufficient advertising and poor ratings.

NTIA has told the FCC that it supports **longer hours for daytime-only stations.** The filing seeks extended morning and evening hours and new methods for calculating interference protection . . . . The Eighth Decade Consortium sparked **strong viewer response** with its most recent production, "Fed Up with Fear" (see *BM/E,* October, 1981, p. 31). Hundreds of people called each of the five stations on telephone hot lines specially set up for the show . . . . Bonneville Productions won a **Clio award** for "Support Your Local Family," a special public service campaign sent to 1000 TV stations during last year's election campaign.

Thomas B. Keller, formerly of PBS, has joined NAB as senior VP of the department of **Science and Technology** (formerly called Engineering) . . . . The FCC should make it clear that the **Equal Access to Justice Act** allows broadcasters' attorneys in license revocation proceedings to receive fees from the government, NAB says. The association also stated that the FCC must hold **hearings on DBS** or deny Satellite Television Corp.'s proposal . . . . One DBS applicant, Focus Broadcast Satellite Network, says it plans to provide the **first DBS programming,** with target date of early 1984 on the Advanced Westar satellite scheduled for launch then . . . . By next summer, visitors to Toronto will have access to **2000 Telidon terminals** located throughout the city, with free information on attractions and accommodations. Pages will be sold to companies or groups wishing to reach the vast numbers of tourists that pass through the city . . . . *The Jeffersons* has become the first off-network TV show to be **syndicated with closed captions,** the National Captioning Institute reports.

RKO's new RKO Two radio net had **56 charter affiliates** for its debut this fall. The net hopes to sign 100 stations by next month and 200 by December, 1982. According to the Spring, 1981, Radar survey, RKO One leads all other radio nets in audience growth, the network reports . . . . SIN has **added 27 cable systems,** bringing its affiliate total to 139 and moving for the first time into Wisconsin and Iowa . . . . **Satellite Radio Network,** 24-hour religious programmer, has added WROL, Boston, WZZD, Philadelphia, WFAX, Washington, and WPIT, Pittsburgh.

Billboard's **third Video Entertainment/Music Conference** will convene at the Beverly Hilton, Los Angeles, November 12 through 15 . . . . SBE will hold its fifth annual **Northwest Regional Convention** in Seattle November 19 and 20 . . . . Rep. Timothy D. Wirth (D.-Colo.), chairman of the House Telecommunications Subcommittee, is the keynote speaker for Scientific-Atlanta's **Satellite Communications Symposium '81,** November 2 through 4 at the Atlanta Hilton.

Audio Independents Inc., is sponsoring "Dialogue '81: Radio . . . Waves of the Future," a **conference for independent and station producers.** The meeting will convene December 11 through 13 at the Asilomar Conference Center, Pacific Grove, Calif. For in-

The dawn of digital technology in broadcast audio consoles

Harris MICRO MAC ™

Remarkable Memory. The new Harris MICRO MAC ™ is the first broadcast audio console with digital microprocessor memory. Also exclusive is the automatic logging option in a live studio operation.

E.P.A. (Environmentally Protected Attenuator). MICRO MAC's unique linear attenuator is immune to common control room hazards. Coffee spills, cigarette smoke and ashes, airborne dust and dirt—none of these show stoppers can stop MICRO MAC. And attenuator life is virtually unlimited!

Modularity. For both broadcast and non-broadcast applications, Harris' modular design makes MICRO MAC ideal. Low-cost software changes and additional hardware will accommodate future expansion through 48 channels. *Without* changing the basic mainframe! Switching and level control of audio is accomplished by digital control signals from the console mainframe to input and output card cages. Control is software oriented.

The Harris MICRO MAC is a major breakthrough in audio console design...a bright new talent of the digital decade. For more information, contact Harris Corporation, Broadcast Products Division, P. O. Box 4290, Quincy, Illinois 62301. 217-222-8200.

HARRIS
COMMUNICATION AND INFORMATION PROCESSING

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News Briefs

formation, call the organization at (415) 864-0700 . . . . American Women in Radio and Television, Inc., will hold its thirty-first **annual convention** at the Hyatt Regency Embarcadero in San Francisco, May 4 through 8, 1982.

Business Briefs

Television Technology Corp. of Arvada, Calif., will purchase Wilkinson Electronics, manufacturer of AM and FM transmitters. Wilkinson will be operated under existing management as a wholly owned subsidiary of Television Technology, which makes translators and LPTV transmitters . . . . **IFR Avionics, Inc.,** of Van Nuys, Calif., has agreed to purchase **Commerce Airborne Corp.,** manufacturer of ENG components and designer of custom avionics packages for broadcasting . . . . **Oak Industries** has bought an 81 percent interest in **VideoNet,** California-based producer of videoconferences and programming.

Scientific-Atlanta's Optima Division has appointed B.C. Electronic Sales as a rep for its line of enclosures. B.C. has offices in Shawnee Mission and Wichita, Kans., and St. Louis, Mo . . . . **Klark-Teknik Electronics, Inc.,** has named several sales organizations: Musonic, Asheville, N.C. (704) 254-1514, for Georgia, North and South Carolina, Tennessee, and Alabama; Richard Lewis Sales, Willow Grove, Penn. (215) 659-0704, for southern New Jersey, eastern Pennsylvania, Delaware, Maryland, Washington, D.C., and Virginia; and Sierra Sales, Diamond Springs, Calif. (916) 626-8562, for northern California and northern Nevada.

Construction of **Sony Corp. of America's** new headquarters in Park Ridge, N.J., is on schedule and should be completed by next summer, the company reports. Its midwestern regional office has moved to 500 Park Blvd., Hamilton Lakes, Itasca, Ill. . . . **Leitch Video** has headquartered its U.S. operation in the Greenbrier Industrial and Office Park in Chesapeake, Va., with actual production scheduled to begin early next year .

Group W has agreed to purchase four transponders on **Hughes Communications'** Galaxy 1 satellite, to be launched in May, 1983. Viacom also purchased two transponders on Galaxy 1 . . . . **Wold Communications** will provide program origination and satellite transmission services for RCTV's new pay cable service. Wold has also reached a long-term agreement with ABC Radio Enterprises for satellite transmission of ABC's new national radio program services . . . . **American Satellite Co.** will provide satellite transmission facilities for Dick Clark's new United Stations Country Music Network . . . . **Bonneville Satellite Corp.** will lease four transponders on the Spacenet Satellite System of Southern Pacific Communications Co.

Gannett Broadcasting has installed the first two DLS 6030 digital library systems from **MCI/Quantel** and will order two more . . . . Wakefield Manufacturing, the audiophile record pressing company, has purchased a **Sony** PCM1610 digital audio processor . . . . The Video Systems Div. of **Peirce-Phelps, Inc.,** has built a mini TV production van for Warner Amex of Mesquite, Texas . . . . WLUP-FM, Chicago, KDAY-AM, Los Angeles, KVIL-FM, Dallas, and WRKS-FM, New York, have become the first stations to purchase the **Aphex II** broadcast aural exciter.

American Video Products will provide the Mexican government with equipment for a sophisticated post-production editing suite for Mexico City's Ch. 13 . . . . **Audio & Design Recording, Inc.,** has sold a large number of Ex-press Limiter audio processors to Satellite Music Network.

"IN TWO YEARS, OUR HICCUPED ONCE OR TWICE.

"Our Sony BVE-5000 editing system is unbelievably reliable," says Randy Cohen, vice president and editor for Broadway Video.

"Amazing that Sony could come up with a state-of-the-art computerized system on its first try," Cohen continues. "And because it's specifically designed for one-inch, it lets me do more with my equipment than other editors."

Broadway Video is both a production and post-production facility in New York City. Its recent credits include "The Best of Saturday Night Live," major political campaigns, promos for the cable network Showtime, and a variety of industrial shows.

"The BVE-5000 worked right out of the box and has been performing flawlessly ever since. With no problems of any kind. Unlike some other systems, whose manufacturers wait for customer complaints to get the bugs out, instead of thoroughly testing their equipment *before* it's sold.

"With its simplified keyboard, the BVE-5000 is

HUMAN EDITORS MAY HAVE BUT NOT OUR SONY."

Randy Cohen, Broadway Video

easier to use, too. It has saved me 25% to 50% of the time other systems require. And since you don't have to be mechanically oriented to use it, the editors can be artists rather than technicians.

"Other advantages include variable search. Dual audio. Vertical interval time code. And the ability to interface with a wide variety of switchers.

"I'll be buying more Sony equipment in the future. Because there are enough reasons for indigestion in this business without machines that hiccup and burp."

Sony makes a full line of 1" and ¾" broadcast equipment, including cameras, recorders, editors and digital time base correctors.

For more information, write Sony Broadcast, 9 West 57th Street, New York, New York 10019. Or call us in New York/New Jersey at (201) 368-5085; in Chicago at (312) 792-3600; in Los Angeles at (213) 537-4300; or in Atlanta at (404) 451-7671.

SONY
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SM85

a studio quality condenser microphone that's not "studio bound"

This new high technology Shure microphone will change t way people think of condenser microphones. The SM85 designed especially for on-stage, hand-held use. Its soun unique—far more tailored to the special needs of the vocal sizzling highs and a shaped mid-range for superb vocal reproduction, and a gentle bass rolloff that minimizes ha dling noise and "boominess" associated with close-up us Ultra-low distortion electronics make the SM85 highly immune to stray hum fields. An integral, dual-density foa windscreen provides built-in pop protection.

What's more, the SM85 Condenser Microphone must pass the same ruggedness and dependability tests required of Shure dynamic microphones. As a result, the SM85 sets a new standard of reliability for hand-held condenser microphones.

The SM85 is *extremely* lightweight, beautifully balance it feels good, looks good on-stage, on-camera, on-tour. A your dealer for a demonstration of the new SM85, or writ (ask for AL664) for full details.

SM85

Cardioid Condenser Hand-Held Professional Microphone

The Sound of the Professionals

SHURE

Shure Brothers Inc., 222 Hartrey Ave., Evanston, IL 60204
In Canada: A. C. Simmonds & Sons Limited
Manufacturers of high fidelity components, microphones, sound systems and related circuitry.

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RKO: Riding High On The Satellite Wave

IS THE ACCLAIMED satellite revolution having a real effect on radio broadcasting? For one answer, see the description of Mutual Broadcasting's satellite system on page 00 of this issue. By putting its long-established radio network operation on the bird, Mutual is proving that the satellites really do work for radio.

Another example, that of RKO, shows that a well-thought-out satellite net can be built from the ground up and become successful in a relatively short time. Starting from scratch, RKO has built a body of affiliates, developed programming, and received support from advertisers.

RKO went on the air in November, 1979, with about 20 presold affiliates. Subscribers bring in the programs mainly through earth stations supplied to affiliates of the Associated Press. By October, 1981, the number had grown to more than 200 stations.

In the meantime, RKO decided to start two additional nets, RKO Two and RKO Radioshows. The original net was redubbed RKO One. RKO Two went on line in September, 1981, with about 50 subscribers (many sold in advance of the opening) by the end of that month. RKO Radioshows is in an earlier stage of development.

What RKO is doing has clearly won broadcaster acceptance. Its offerings include regular national and international news, produced by RKO's own large news organization, and tailored expertly to appeal to the audiences the nets seek: a younger, 25 to 34 group for RKO One, and a somewhat older group 34 to 45, for RKO Two.

The news operation has just moved into a brand-new editing and production facility at RKO headquarters. News editors have positions at which they can get active feeds from many sources, for background or for editing into recorded news segments. Nearby are complete production facilities and the "on air" studios.

RKO also is issuing a substantial number of commentary and interview

RKO Radio Networks' newsroom bustles as John McConnell (left) manager of RKO ONE confers with correspondent Gary McKenzie. Catherine Smith and Dean Shepherd, also correspondents, keep the copy moving

programs, plus a series called *Lifestyle* that briefly looks at problems and interests of the young audiences. Regular sports updates and other kinds of informative material are featured.

The entertainment segment has been highly successful. So far it has relied on one- to two-hour music specials, each highlighting an outstanding popular music performer. The specials present the music along with interviews, commentary, and biography. Previous specials have featured Art Garfunkel, Gino Vanelli, Rita Coolidge, Air Supply, David Gates, and Hall and Oates. The Hall and Oates special was carried on 150 stations and drew more than 10 million listeners, according to a survey by a research firm.

Overnight talk shows are another big part of the mix. The two now on the air are *Night Time America* and *America Overnight*. The latter is issued by RKO Radioshows and already has a substantial following.

Planned for January, 1982, takeoff are "mini-paks" on RKO Radioshows. These medium-length program blocks will be categorized by format — Country, Rock, talk, and so forth.

RKO is off to a whiz-bang start. Its progress in the next two or three years

Radio Programming

will tell us a lot about the character and fate of the satellite net in radio.

Quiz show comeback continues

Temporarily stopped in its tracks by the Van Doren scandal of some decades ago, the serious quiz show has been making a steady come back in recent years. In the updated versions, the outcome depends on real information in the minds of the questionees. There is no added excitement from flashing lights, bingo number, super-fast-talking hosts, or huge prizes waiting just off stage.

CBS Radio and *Time* magazine are collaborating on a modern quiz show of this kind *College Bowl*, with strong listener response. The show pits competing four-person teams, each representing a particular college.

Intramural contests are followed by regional rounds and a national championship. The series has the full support of the Association of College Unions, the international group of directors of activity (outside major sports) at colleges and universities in this country and abroad. ACU is organizing the teams and the initial contests at the colleges.

Answers are authenticated by *Time* magazine's research department. *Time* has also given $20,000 to the College Bowl Scholarship Foundation, which makes grants to all schools represented in the national championship.

College interest in the show is expanding rapidly; some 500 campuses will be represented in this season's contests. *College Bowl* will be carried on the CBS Radio Network, as it has been for the last two years.

The half-hour show will be on the net each Saturday, starting January 9, 1982. CBS Radio affiliates are, of course primarily interested. But the success of the show suggests that the serious quiz has returned. With the right organization and sponsorship, it can attract a large audience. **BM/E**

BM/E's Program Marketplace

Syndicators Revisited

Al Ham's "The Music of Your Life"
c/o Jim West
7540 LBJ Freeway
Dallas, Texas 75251
Tel.: (214) 387-9868

IT IS NOW widely accepted that the 35-and-older group spends money in a big way. Teenagers have been forced to move over and make room for their parents and grandparents in the esteem of sellers, and consequently, of course, in programming for radio.

The new respect for the older demographic group is based on studies that show convincingly that people in their 50s, 60s and up have more discretionary income than older people had in the past, and moreover are spending it on themselves rather than saving it for their children. More and more, children are pushed out of the nest when they finish college and have to spread their own wings for flight.

A number of radio stations and syndicators are profiting from a swing to programming for the 35-and-up group. One of the most spectacular and successful of such operations is Al Ham's syndicated *The Music Of Your Life*. When *BM/E* first described this syndication (January, 1980), it was very young but already showing strength.

Since that earlier report, the program has zoomed, both in the number of stations using it and in the results at those stations. By the time this report appears there will be at least 90 stations using the format, with virtually every major market represented. Among them are some success stories that might make a promoter of rock concerts wonder if he has the right product.

Typical audience share trends tell the story. WMAS in Springfield, Mass., came on in December, 1978 with a 0.1 share. By April, 1979, it had risen to 6.6; April, '80, 9.9; April, '81, 10.5. In the target 35–64 audience, WMAS reached a startling 18.5 share. WJAS, Pittsburgh, went from 0.7 to 6.6 in three months. WXKS in Boston, a 5 kW daytimer, climbed from near zero to a 4.0 share, remarkable for any station in the hot Boston radio competition

WHLI, in Hempstead, N.Y., another 5 kW daytimer, moved up to number one among the 42 Long Island stations, going from a 1.7 to 4.1 share. After not showing at all in Arbitron with its previous format, WHLI now boasts more adult listeners than any other suburban New York station and more than many New York City stations.

KBER-AM, Abilene, Texas, went from 2.8 before *The Music of Your Life* to 12.6 afterwards, becoming number one in its market with the 35-plus target

audience, with a share of 23.9. Other stations joining have all done well, if not as spectacularly.

Perhaps even more impressive is the success of *The Music of Your Life* fan clubs that many of the stations have established, inviting their listeners to join. The clubs often become a major social force in the community, sponsoring dances and other purely social events, local charity efforts, and group buying plans with local merchants that save the members money.

Again, the numbers tell an astonishing story. The club at WHLI has more than 30,000 members; WXKS in Boston has 25,000; KFJZ, Dallas, has 20,000. Jim West, who markets the program nationally, told *BM/E* that the nationwide club total is now close to 750,000 people. This large group is intensely loyal to the format, to the stations that distribute it, and to the advertisers who are heard along with it.

What is the magic in *The Music of Your Life*? We can see that it reaches listeners who were abandoned when rock music nearly captured the airwaves. The growth of Beautiful Music was one reaction to the rock invasion and the Beautiful Music listener has by and large been steadfast.

But the history of *The Music of Your Life* shows that there were a lot of listeners who were still not listening to the radio. What brought in so many of them is an expert flow of the non-rock hits of nearly five decades, going back to the 1930s and coming on down into the 60s and 70s. Al Ham mixes the most popular tunes of each period; one radio manager calls the program a "40-year hit parade."

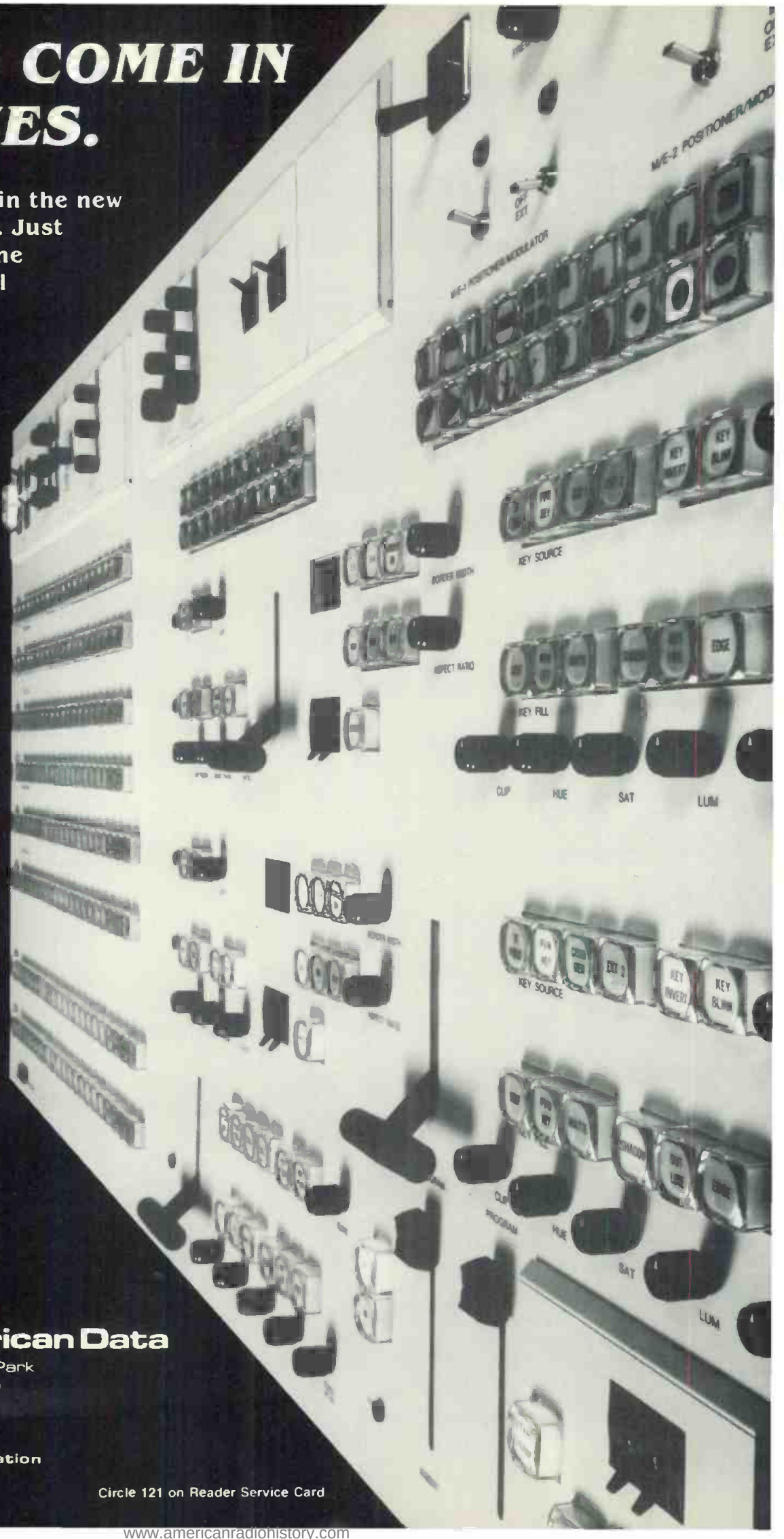
Nor is it primarily a "big band" format, although some big band music is included. The main emphasis is on the most pleasing vocals, the real hits. Ham, a veteran in management of popular music, has apparently been able to evoke, on a large scale, the emotions of listeners hearing again the sentimental tunes they became firmly attached to in earlier periods of their lives.

This is the only logical explanation for the frenetic response to the programs. Jim West told BM/E that careful audience research indicates that the programs substantially enlarge the radio audience. A lot of people are back in who were out. Graceful, often sentimental vocal music brought them back.

But rock and roll music is not going away. The "death" of rock has been reported a number of times, but all these reports have proven to be premature. What we see in *The Music of Your Life* is a large step along the road radio programming is taking — toward diversification, specialization, the satisfying of a variety of tastes. The success of the format shows how important this can be. **BM/E**

GIANTS COME IN ALL SIZES.

Model Shown: 3106 in the new American Data Gold. Just one in a complete line of quality multi-level video production systems. Simple to operate, yet advanced in design and reasonable in price.



American Data

401 Wynn Dr • Research Park
Huntsville, Alabama 35805
Telephone (205) 837-5180
TWX 810 726-2125

Division of
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WISH Fulfillment For An Expanded Late News

THE COMPARISONS are inevitable — *Nightbeat* telecast in Indianapolis, Ind., looks like a local version of ABC's *Nightline* — but WISH-TV's news director Lee Giles makes no apology. He is no Johnny-come-lately to the concept of longer, more probing newscasts. For nearly two years, WISH has aired a 45-minute late newscast against its competitor's half-hour. "Frankly," says Giles, "We intend to become *the* news and information station in this market." In keeping with the trend toward localism reported in this issue, WISH-TV has been getting a lot of support lately from the owners of the station, Corinthian Broadcasting. Until recently, Corinthian had the reputation of being a bottom-line oriented company that kept tight reins on the expenditures of its news departments. The company was reluctant to spend the funds that other group owners were spending to keep up with the latest trends in news production technology.

Corinthian, however, shifted its stance several years back to support its various news departments. The company is no less bottom-line oriented, but it is focusing on the importance of local news.

"In meetings with corporate management and the general manager, it was decided to give the 45-minute newscast a try, and if it went well, to expand to an hour," explains Giles. It went well, but the next question was what to do with an hour of late news. Giles had meetings with most of the staff and asked for suggestions.

Two distinct half-hour broadcasts finally developed. The first was a traditional hard news broadcast, with the current anchor Mike Ahern updating the day's events. The second half-hour was to take an in-depth look at one story with a very local slant. This broadcast would have a separate anchor and additional staff who would work exclusively on *Nightbeat*.

Giles started an intense search for the anchor/producer for *Nightbeat*. "We felt that the newscast should reflect the personality of the anchor," Giles explains, "and the only way to do that was to have the anchor also produce the newscast." Even though a number of people outside the company were considered, the original hope was to find someone already on staff and familiar with the market. One name kept coming up — Josh Littman.

Littman had been at the station for eight years and was well-known in the community as a no-nonsense, aggressive reporter. Littman also had a good feel for production and what topics would appeal to the viewers. In announcing Littman's appointment, Giles said, "Josh's strengths in responding to breaking news, his ability to "ad lib" in fast-changing situations, his interviewing techniques, his seasoned producing, on-air, and his reporting experience fit ideally with our plans for *Nighbeat*."

The plan for *Nightbeat* called for what Giles termed "a modular format" that would give the broadcast the ability to respond to the day's news in a length that would be appropriate. If the event called for the entire half-hour, the format could easily accomodate it. If not, other segments could fill out the program. Currently, sports and weather have spots in *Nughtbeat*. The time devoted to sports and weather in the first half-hour was cut down to leave more time for news. When appropriate, a lighter piece airs at the end of *Nightbeat*.

WISH-TV's Josh Littman anchors and produces Nightbeat, the second half of the country's only hour-long late newscast. Nightbeat takes an in-depth look at local issues

Littman reviews a previous show that dealt with a religious crusade against rock music. His ability to handle live interviews led to his Nightbeat anchor spot

The broadcast went on the air July 6, 1981, just in time for the rating period, and pulled an incredible 20 share. *Nightbeat's* direct competitors are Johnny Carson and *Nightline*. The ABC entry came in with a 23 share. That puts *Nightbeat* only three share points behind a show that has been on the air for nearly two years. According to Littman, "It just shows that there is a need for and an interest in what we're trying to do with *Nightbeat*."

Another key to *Nightbeat's* success, explains Giles, "is that it is local and live." While he didn't say it, it is also slick. For example, on one recent program the topic was the FCC's recommendation to Congress to decontrol broadcasting, including elimination of the fairness doctrine. The broadcast opened with a cube wipe of four live interview subjects — the general manager of WISH Bill Stough, a spoke's person from the League of Women Voters, a socialist candidate, and a member of the Moral Majority. The subjects were in four different locations.

The following half-hour featured lively exchange on whether the fairness doctrine really served to get non-establishment viewpoints on the air or whether it proved a hinderance. Littman kept the conversation flowing, while holding a tight rein on the participants to stop digressions. The fairness doctrine is of obvious interest to broadcasters, but most television viewers have no idea how it affects what they see and hear. The *Nightbeat* segment did a good job of explaining its effect on Indianapolis viewers.

The *Nightbeat* staff has been expanded, but not a great deal. In addition to Littman, a reporter is assigned only

WISH-TV news director Lee Giles (left) is the guiding force behind Nightbeat. Two years ago he expanded the late news to 45 minutes

to *Nightbeat* but the position rotates frequently to give all the staff reporters chance to delve further into a particular story than would be allowed during a regular newscast. In addition, there is a night photographer and an ENG editor. The producer of the late news acts as studio producer while the show is on the air, but Giles stresses, "Littman is the producer."

Nightbeat is definitely a local show, but sometimes national stories can spark a local link. When the skyways collapsed at the Kansas City Hyatt, Littman flew there and did two days of broadcasts. He tied it together with the collapse of an arena in Indianapolis several years ago. The question of safety in public places was made vivid with Littman reporting from the scene of the most recent disaster.

Nightbeat is also not afraid of tackling controversial subjects. Indiana is a conservative state, and many people support the Moral Majority. When Rev. Jerry Falwell came to Indianapolis for a rally, *Nightbeat* took a hard look at the group and its impact. At that time, the Coalition for Better Television, with the support of the Moral Majority, was threatening to boycott television advertisers, causing intense nervousness within the industry.

While *Nightbeat* is a newscast, it still retains an element of adventure. The staff feels that the broadcast can be and should be at the leading edge of what is happening. *Nightbeat's* mandate is to inform Indianapolis viewers more fully about the things that affect their lives. The show is still in the shakedown stage, but so far, as with a nicely designed piece of equipment, the shakedown has produced remarkably few rattles. **BM/E**

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LOCALISM: A NEW NEW TECHNOLOGY

STRATEGY AND A TO SUPPORT IT

For the past 20 years, more and more voices have been heard proclaiming the demise of broadcasting. But year after year, broadcasting, for both radio and television, has set new records for revenue. Each year, broadcasting grows stronger and stronger as its juggernaut is powered by twin forces: new ideas and new technology.

A WELL-KNOWN communications consultant invited to address an investor's conference, is standing at the open bar after his speech. A stockbroker approaches him: "I just want to tell you," says the stockbroker, "how much I enjoyed your presentation."

The consultant nods his head in humility.

The stockbroker continues: "There's so much talk now about cable television, video disc, and the whole 'video explosion.' But tell me, what would you do if you had the capital to make a major investment in media?"

The consultant picks up his Scotch and soda, wraps a cocktail napkin around the bottom of the glass, sips the drink, leans his head back, glancing at the ceiling thoughtfully, and turns to the stockbroker: "If I had the money, I'd buy a license for a television station. If I had less money, I'd buy a radio station."

What the consultant has discerned from observing the activity in the commercial broadcast media over the past 20 years is that while the business is changing, people who are changing with it are prospering and those with foresight and an established position in currently popular media are changing faster and better than anybody.

As Bob Bennett (president and general manager of WCVB-TV, Boston) notes in his enlightening interview on page 55 of this issue, the new media are monsters with voracious appetites. Twelve, 24, 52, or 200 channels are meaningless without something to put on them. Broadcasters have the physical plant, human potential, and the experience to provide the bulk of what must go on these channels. That's the supply side. But local broadcasters also have the means to provide their audience with that which none of the new media are structured to provide. That's the *demand* side.

People are demanding that media tell them about themselves and their neighbors; that media give to them information, news, and entertainment designed for Main Street and not only for Hollywood and Vine. Just as the big-city afternoon newspapers have seen their audience whittled away by suburban newspapers, big network-affiliated stations are beginning to feel the pinch of independents, imported distant channels via cable, and pay TV, chipping away at the prime-time audience. Some big-city affiliates are not standing for it. They've taken responsibility for their stations away from a passive "let the other guy do it" management and given it to the "we can do it better" team of managers. As just about everyone in the industry knows, WCVB's maverick, locally oriented management has boosted the station into the hands of Metromedia for a record $220 million.

The sense that people want to know about themselves and their community is not new. The FCC's detested ascertainment policy now joins the ranks of other unconscionable bureaucratic burdens: "If it weren't required, we'd have to do it ourselves." As the stories on WWAC, Atlantic City, N.J. (page 39) and KICU, San Jose, Calif. (page 63) show, stations that align themselves with the communities they serve will prosper under the pressure of new media.

Technology, of course, has played a central role in all of this. As anti-gun control enthusiasts are fond of saying: "Guns don't kill, people do." Technology is not half as important as the people controlling it, and if the people controlling it don't realize its potential they won't be able to hit the broad side of a barn. ENG cameras and recorders, microprocessor controlled graphics systems, small-format recorders, videotape editors, microwave gear, computerized lighting systems, live-assist radio automation systems, business computer systems, frame synchronizers, still stores, reverberation units, noise reducers, and the rest of it have made it possible to give locally produced programs the technical quality associated with big-time network productions. The newest broadcast technology, satellites, also gives local broadcasters a worldwide supermarket of programs to choose from in attempting to satisfy the needs of their particular audiences. As each story in this issue unfolds, broadcasters should see that technology puts control in their hands. No longer can broadcasters legitimately say, "We can't afford to do that," but they may have to admit that they have neither the courage nor the will to take control of their own futures. The tools are at hand, the mission is clear. All volunteers, take one step forward! **BM/E**

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WWAC: MONOPOLY ON LOCALISM

By David Hawthorne

Atlantic City's first television station is following a careful game plan, using thoughtfully selected technology to achieve specific goals. By analyzing the needs of the community they serve, they've done better than building a hotel on Boardwalk.

"Six, Five, . . .," Camera/operator/floor manager gets ready to signal WWAC's news director, Mike Crowley, that he's on the air with News At Noon

PROGRAM DIRECTOR Calvin Izard is finally getting some recognition — recognition from folks on the street who wave to him, from business people on the boardwalk who want to know how to advertise on WWAC, and from customers in restaurants who want to make program suggestions. All in all, as Izard puts it, Atlantic City is "the biggest small town in New Jersey." WWAC, Ch. 53, is New Jersey's newest television station and it is receiving a welcome from its audience similar to that which a glass of cool water would get from a desert patrol of the French Foreign Legion.

Clearly, the citizens of Atlantic county and surrounding South Jersey communities thirst for television even in a market where cable television makes the big-market New York City and Phildelphia stations available to 90 percent of the television homes. Like Coleridge's Ancient Mariner, however, the audience finds itself adrift on an ocean of media with, "Water, water everywhere/Nor any drop to drink." The market boasts reception of numerous over-the-air Philadelphia stations, plus the cable importation of New York stations. Even so, since the time of Ben Franklin, who called New Jersey "a barrel tapped at both ends," i.e. by New York at one end and Philly at the other, South Jersey residents have resented their submerged identity.

That has changed. Residents of Atlantic City and its environs now get their own news several times a day, along with numerous updates. They have their own television magazine show five nights a week. They get a rich diet of many of their favorite programs and movies from years gone by and even some of the newer syndicated programs. Soon, they'll get to see their own political officeholders and candidates for the first time on prime-time television. Even some area high school football rivalries that have excited neighborhood watering holes for the past half-century have finally become inportant enough for the world's most influential medium. To a very great extent, the strategy, purpose, and effect of WWAC is to improve the entire area's sense of self-worth.

Though Atlantic City is considered a part of the Philadelphia market, the nation's fourth largest, it and the rest of the South Jersey coast are outside Philadelphia's A contours. A new UHF station in Vineland, N.J., will be offering over-the-air subscription television during prime time but, according to WWAC general manager Bob Bryan, it lacks adequate signal for penetration of the A.C. market. Local cable operators refuse to carry the STV station. WCMC-TV, Wildwood, N.J., is an NBC affiliate that concentrates its efforts in the area south of Atlantic City. So, despite a relatively heavy concentration of television stations, there is no other strong over-the-air television presence with a focus on Atlantic City.

When casino gambling hit Atlantic City some years ago, many people predicted a renaissance for the city. They were, to some extent, correct. While the city is among the fastest-growing in the United States, it still has a lot of problems, some related to the decay that occurred over the lean years when Atlantic City slid from prominence as a seaside resort and some related to its new growing pains.

A group of individuals from Philadelphia came to Atlantic City and sought out Frank J. Siracusa, a prominent local insurance broker with political connections, to discuss the idea of applying for the Ch. 53 assignment. Siracusa, according to Bob Bryan, turned down the Philadelphians but took up the idea with other prominent local citizens, including minority interests. His idea was that while A.C. needed a television station, it *really* needed a locally controlled television station. A four-year struggle ensued over the contested license which was

secured by Siracusa when the other contestants agreed to drop their competing application in exchange for financial settlement. WWAC received its finalized CP on October 9, 1980, and that's when the real work began.

The first man on board was general manager Bob Bryan, whose television background extends back to 1952. "The first job I thought I had to fill," said Bryan, "was chief engineer — it had to be someone who'd be hands-on and willing to try new things." With the good luck that seems to abound at WWAC, Bryan was able to hire Dan Merlo away from the CBS Network in New York. As Merlo put it, "A lot of people wondered why I'd leave CBS Net for a little UHF in Atlantic City, but the potential of this place is just unbelievable."

Realizing the potential

With a July 1, 1981, target air date, Merlo had his work cut out for him. Consultant John Wilner had pulled together a list of technical descriptions of the station's needs but now that the plan was to become a reality, Merlo reexamined the package from top to bottom.

Program director, Cal Izard (standing) watches as director Ben Civenga (center) calls the shots. Civenga joined WWAC partly in order to work with the "quality equipment"

The WWAC plant was done on a turnkey basis with much of the assembly done on the erection floor at Peirce-Phelps' Philadelphia plant. Peirce-Phelps' chief engineer, Donald B. Leith goes over some of WWAC's rack-mounted equipment with staff engineer James Ridenour (right)

In November, 1980, architect Bernard DeAnnuntis got his first look at the ramshackle former Acme supermarket that was to become WWAC's studios and offices. Extensive renovation was needed for the entire plant, and construction guild rules forbade the non-union television system installers to work in the same building at the same time as the carpenters, roofers, electricians, and other trades. To meet the air date, though, work had to go forward. WWAC selected Peirce-Phelps of Philadelphia to produce a turnkey installation with nearly all operational systems constructed and assembled at Peirce-Phelps' plant and moved all at once into the new facility.

Coordination, obviously, had to be precise. Detailed drawings, two eight-hour meetings, and numerous phone calls between Dan Merlo and the engineers at Peirce-Phelps were virtually all that was required to bring about an installation that, according to Merlo, worked just about as it was called for on paper. There were, and are, some problems. The memory unit on the used System Concepts Q-7A character generator has been tempermental. The tower was misoriented 30 degrees during construction and as a result, the microwave STL found itself staring at a city water tower. The Microwave Associates MRC-1 will be in operation soon, however, when a new dish location assuring unobstructed line of sight to the tower has been secured.

Final purchase orders for equipment and systems were ready only four months and 20 days prior to air. Peirce-Phelps crews worked on their large assembly floor to bring together Industrial Sciences production, master control, and routing switcher systems using Datatek distribution amplifiers. System Concepts character generators and ADDA VW-1 frame synchronizers were rack-mounted. Space was provided for Sony one-inch VTRs and RCA quads. Ikegami HL-79B ENG cameras were selected, both for their quality and their 790 studio conversion kits. Tektronix test and measurement equipment was used, with lighting from Colortran for the 2000 square foot studio. ENG/field recording was delegated to a combination of Sony BVU recorders and Ikegami cameras. Two Ikegami telecines were ordered.

While this equipment was being assembled and tested in Philadelphia, work progressed on the Bogner antenna and transmission tower. A Comark CH. 53 transmitter was installed, and the Microwave Associates MRC-1 STL and transmitter remote control system was mapped out. "Technically," said Merlo, "we made about 95 percent of our expectations."

The mistaken orientation of the tower required temporary substitution of a two-hop circuit arrangement with the telephone company. The Ikegami telecines proved troublesome, though they are now close to performing as expected. But, while these complaints form the bulk of WWAC's technical shortfall, the staff's praise for most of the systems they purchased is uniform. Of the Ikegami cameras, Merlo is ecstatic. "I've never seen pictures this good, this consistently," he said. When Merlo realized that the cameras were expected to be on the street for news until 4:00 or 4:30 in the afternoon and reconfigured for the 6:00 p.m. news and 6:30 *Atlantic City Tonight* show, he thought the job would be tough. But when he found that the camera complement would also be employed for what turned out to be an unanticipated deluge of commercial

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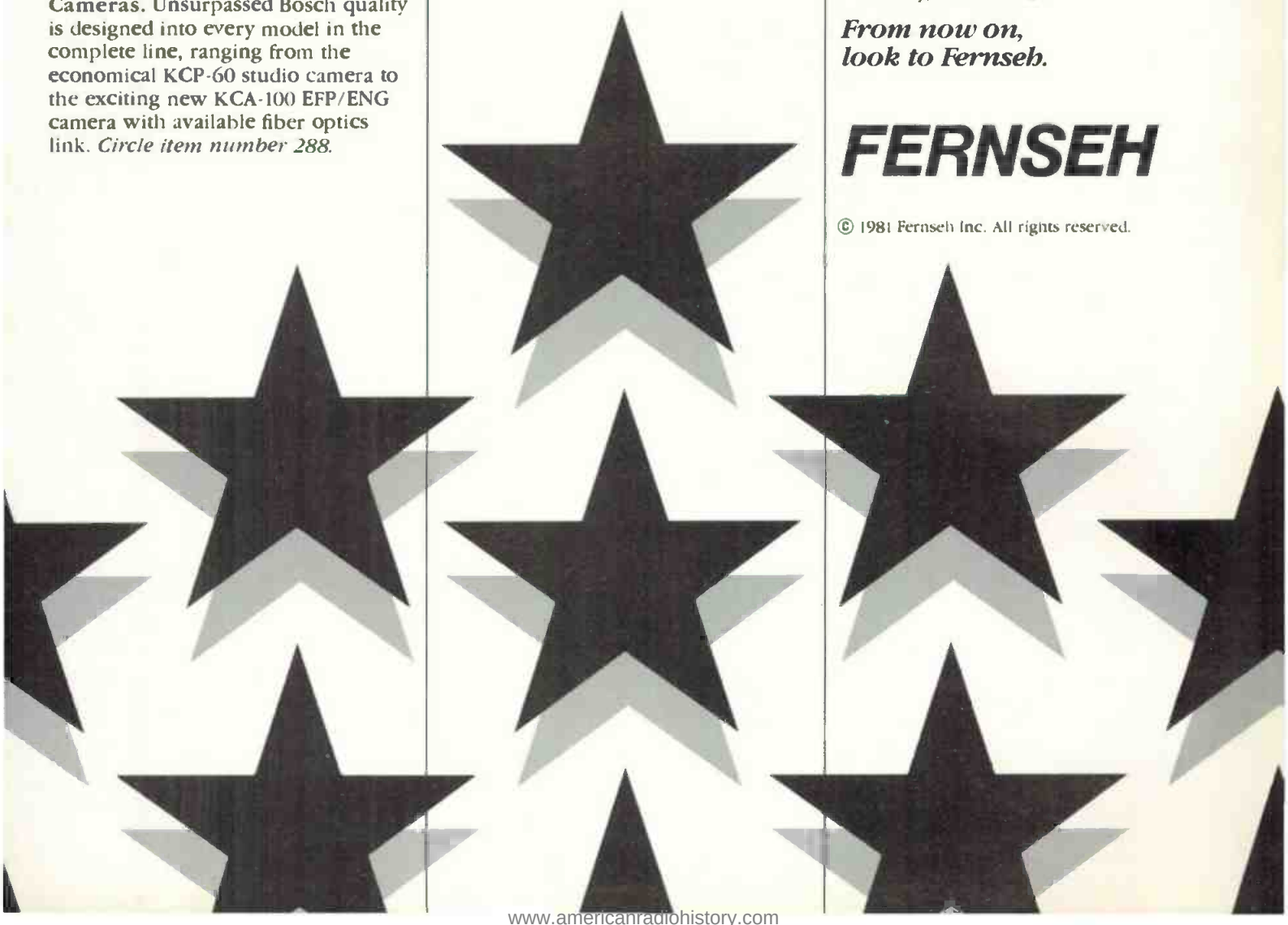

All assembled systems were checked out at Peirce-Phelps prior to disassembly, shipment, and reassembly in Atlantic City. Here the American Data master control electronics, ADDA VW-1 frame syncs, and Datatek DA system are examined using the Tektronix T&M system

production requests, Merlo was ready to pronounce the plan unworkable. Then the HL-79s rolled in off the street and Merlo discovered that he could set them up into studio configuration with the 790 kits in just under five minutes. Merlo still shakes his head and calls the performance of the camera systems "simply miraculous."

Merlo is just as enthusiastic about some of the other equipment. The Comark transmitter is "supurb" and he is particularly pleased with the service and attention he's received from Comark. "We had a problem with the klystron performance initially," said Merlo, who was surprised when one morning an English gentleman arrived to explain that he was there from EEV in the U.K. to look into his problem. "The switching systems from ISI," Merlo commented, "are performing as well or better than we expected." Production switching is via an ISI Model 1206 while master control uses an ISI 821, capable of automation, and routing is through an ISI 1100 Series switching system.

From March through April of 1981, the rest of the WWAC managerial staff was put together. One of the earliest arrivals was program director Calvin Izard, formerly a producer/director for 12 years with NJPTV. Though his commercial television experience was, in his own words, "nil," he had produced nearly 2000 shows for NJPTV and had the very important quality of deep roots in the South Jersey community.

Izard first came aboard as a consultant. Merlo was quick to approach Izard and question him deeply about his programming plans. If this was to be a "local independent" television station, then engineering had to have a clear understanding of the station's programming definitions in order to develop a plant capable of fulfilling that mission. Izard admits to knowing very little about the technology (he concedes that that is probably a mistake), but he was able to articulate his plans for Merlo, who concluded that the station needed "a little bit of everything."

The picture that Merlo got from Izard was of a station that would do a lot of EFP and ENG, would rely heavily on bartered programs and movies, and would be lightly staffed. Merlo already knew that his own engineering staff would be young and largely inexperienced in broadcast television, so he realized that one primary consideration for the equipment was simplicity of operation. The heavy reliance on films and older syndicated product, however, implied a need for two-inch quad machines, which he knew would require much more care and attention than the Sony one-inch equipment. Merlo eventually acquired two rebuilt TC-70C VTRs.

As the 16- to 17-hour program day began to emerge, Merlo soon found that much of his backup equipment was being forced into the front lines. Izard recalls being asked to make a lot of compromises as budget lines were drawn tighter. "Dan [Merlo] would come to me and ask me things like, 'Do you want clocks or do you want microphones?' and I'd think, 'Well, if I make owning a watch a condition of employment I can get along without the clocks, but I gotta have microphones."

Every silver lining has a cloud

General sales manager George Campise joined the WWAC staff to find two joyous things: this small-market UHF station had installed a Station Business Systems BAT-1700 sales, traffic, and accounting computer system and local businesses were indeed anxious to advertise on WWAC. The computer system helped make his three-person sales staff more efficient, and the pent-up market demand helped make them more effective.

The tough part was that very few of the local businesses had any television advertising experience and, concomitantly, had no commercials ready. Fortunately, the sta-

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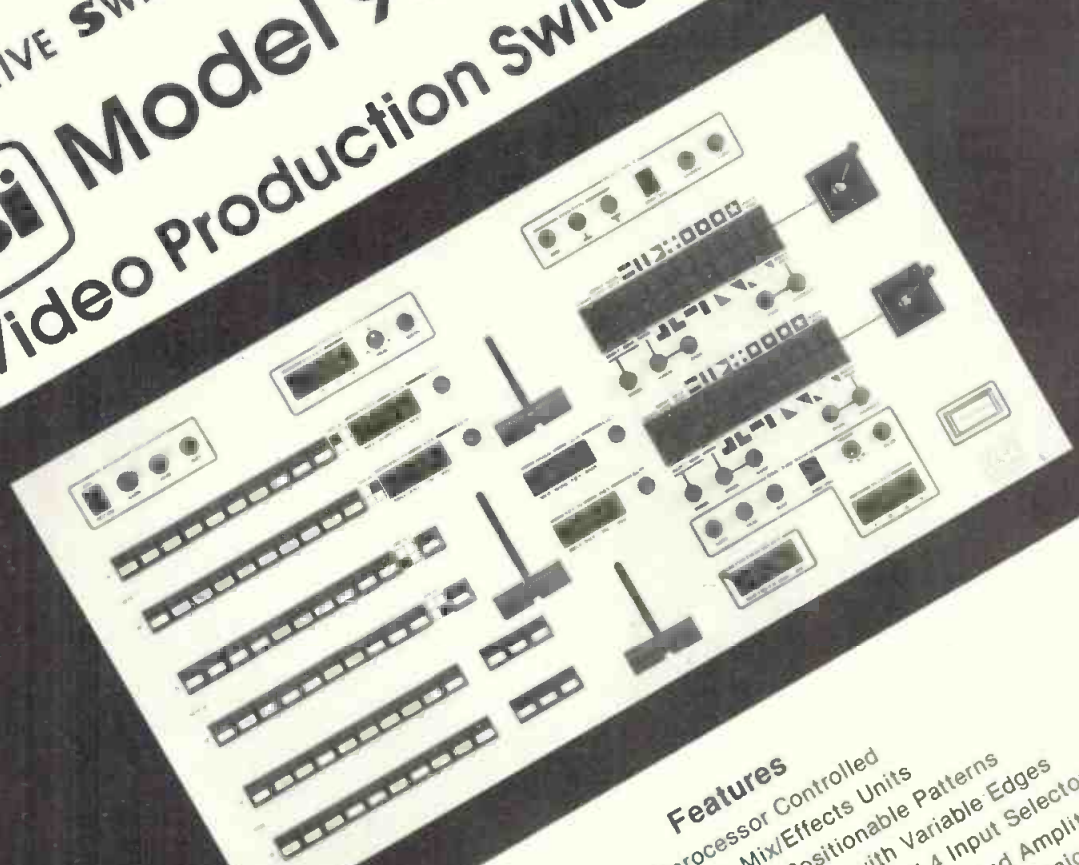

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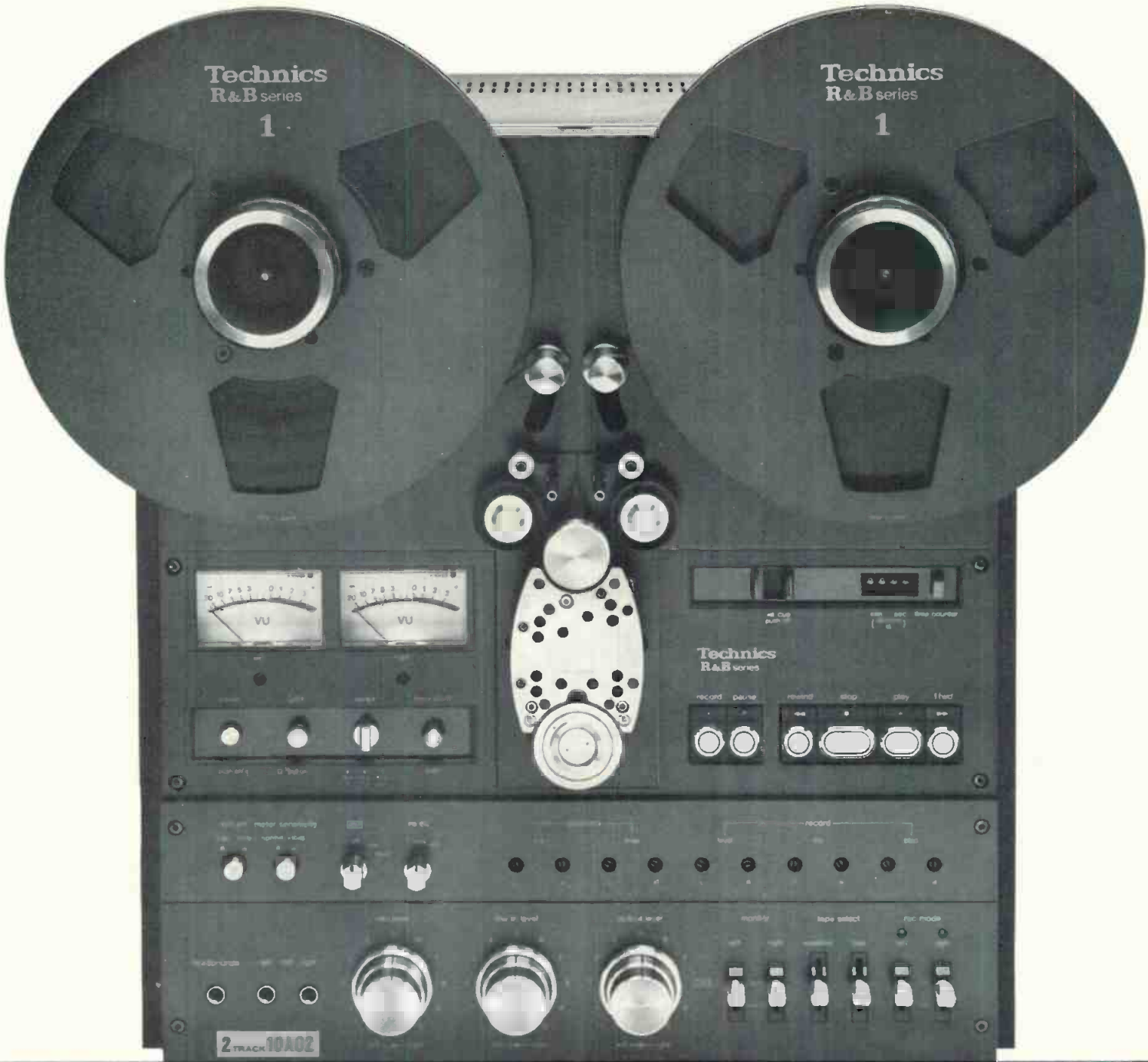

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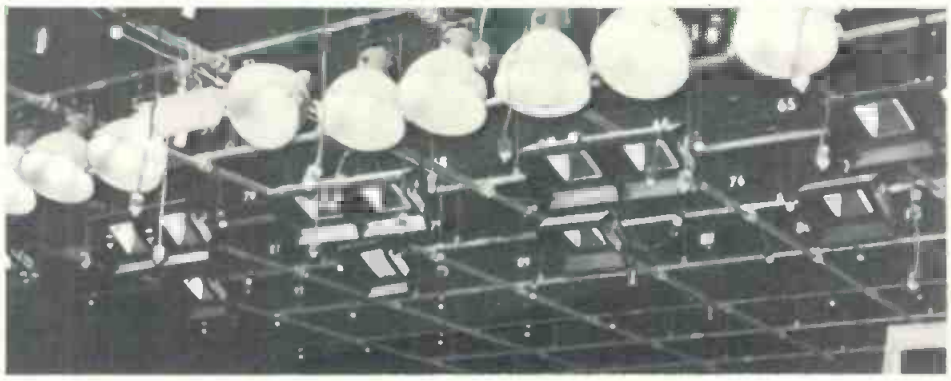
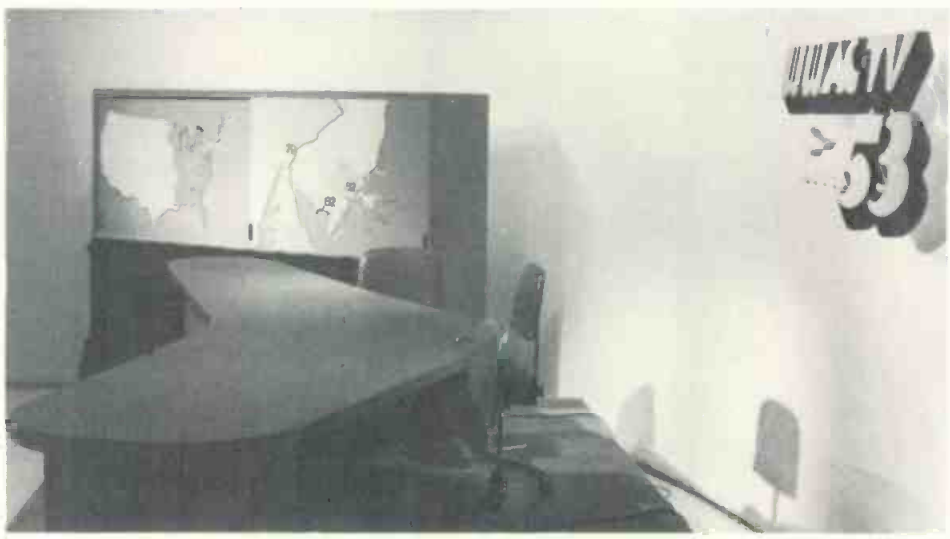




A Berkey Colortran lighting system covers the studio which houses WWAC's news set and Atlantic City Tonight set

tion's own advertising agency was headed by Ron Sherwood of Philadelphia, who had considerable commercial production experience, a private pilot's license, and his own private plane. Sherwood began to fly down to Atlantic City on a regular basis to produce commercials for WWAC clients. Some commercials (nearly all were 30-second spots) used still photography, voice-overs, and text, but many more required field production. Merlo's "reserve" BVU-50 and spare Ikegami HL-79B were put to use. Of the two portable setups at WWAC, one had been allocated to news and the other to programming. In the weeks preceeding air, the *Atlantic City Tonight* crew had put some 30 segments in the can for the magazine show, but with the added commercial load, *Atlantic City Tonight* started looking for more in-studio segments. Small-market television proved to be not only smaller, but more intense.

Sherwood soon found that he was doing far more work because of his client than for his client. WWAC's own advertising had taken a back seat to the development of commercials for its air.

The commercials are produced at cost for the client. Sherwood writes, produces, directs, and often does the voice-overs for the spots. WWAC provides the equipment and technical crew. In general, the spots are equal in quality to retail commercials shot in markets much larger than A.C. The spots are shot and edited on ¾-inch, dubbed to one-inch master reels, and aired on a quad spot reel assembled each night. The assembling of the spot reel generally takes 10 to 13 hours and, as with all other activities at the station, the entire staff contributes to the improvement of the system.

WWAC: Monopoly On Localism

The station is now conforming to a uniform spot break format, which means that each program interruption will be exactly two minutes long. Each two-minute break will consist of four elements, three of which will be constant, with only the commercial element changing from day to day. Right now, the break consists of a PSA, program promotion, "testimonial," and a commercial. The testimonial is a 30-second promotional spot in which local celebrities and officials make welcoming remarks about the station. Some 80 of these spots were produced before the station went on-air; they will be phased out over the coming months and replaced by new commercials. There will undoubtably be commercials to replace these spots; midnight to 8:00 a.m. studio shift has just been started to produce commercials exclusively.

Most of the spots so far have been for automobile dealers, clothiers, and other local retail outlets. For shopping mall spots, participating stores are wrapped around a theme for the mall. The bulk of the outside-produced commercials either originate with the casinos in Atlantic City or are part of the bartered programs that make up a large portion of the station's schedule. The casino spots highlight the casinos' entertainment, dining, and hotel accommodations. On-air promotion of their gambling activities is prohibited by the FCC.

Calvin Izard reports an interesting phenomenon: the viewers like the commercials! "It could be," said Izard, "that for the first time, viewers are getting information about sales, specials, and products that they can use." Prior to WWAC, Atlantic City residents could have been frustrated by a bombardment of commercial information that was irrelevant because it would mean a trip to New York or Philly. General manager Bob Bryan loves the bartered spots for two reasons: they reduce the cost of programming and lend a prestigious look to the overall package. "I know a lot of stations don't like barter deals," said Bryan, "but for a new station, they're great."

News and programming

For a long time, more Atlantic City citizens knew the names of the New York City and Philadelphia mayors than knew the name of the Atlantic City mayor. They knew more about the politics of Philadelphia's city council than they did about the campaign for county freeholder. They learned of the murder at Broad and Walnut in Philly before they heard about the murder on the corner of Atlantic and Tennessee. They knew that dinner would be kept warm for delayed commuters in Queens and Bryn Mawr, but they heard nothing about the trailer truck that jackknifed on near-by Route 40.

Now, Atlantic City and county citizens get news about their area at noon for 15-minutes, at 6:00 p.m. for 30 minutes, and 11:00 p.m. for another 30 minutes. In addition, they get one-minute news updates at 8:00 p.m., 9:00 p.m. and 10:00 p.m. They also have Atlantic City news on the weekend. *Atlantic City Tonight* (weekdays at 6:30 to 7:00 p.m., with a repeat at 11:30 to midnight) brings them a dizzying array of feature reports on local events, visiting celebrities, tips, local characters, and South Jersey culture. There are even news and public affairs specials that probe local issues. Last month, viewers actually saw and heard their politicians and candidates for political office debate on the issues in prime time before a live audience of fellow citizens.

The WWAC news department is under program director Calvin Izard. The news director is Bob Crowley, a former *Atlantic City Press* newspaper reporter. Crowley's knowledge of Atlantic City politics and the South Jersey community in general was a big plus, even though he had no broadcast experience. Nevertheless he's adapted to broadcasting nicely and now anchors the *Atlantic City at*

Sony Type C machines are slated for most of the post-production work and local production. While syndicated programs and daily spot reel runs on the quad machines, many of the vintage movies are dubbed to the one-inch equipment

CONRAC

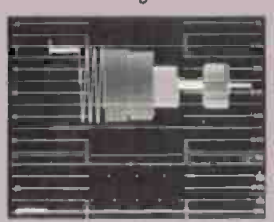
INNER VIEW 3:
A closer look at Conrac Monitors

Comb Filter Separator: Resolution Solution at 3.58 MHz.

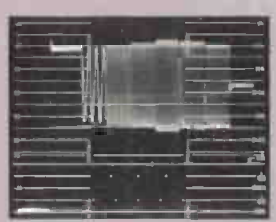
Conrac's Comb Filter Separator delivers the high resolution needed for today's high performance camera and taping equipment. It removes color information from the composite video signal without the luminance loss in the 3.58 MHz region produced by notch filters.

Conrac's Comb Filter takes advantage of spectrum interweaving to separate luminance from chroma, without reducing luminance bandwidth.

But the best part of Conrac's Comb Filter is that it gives you this improved picture clarity without the drawback of conventional comb filters. Because, unlike conventional comb filters which exhibit heavy dot patterns in the luminance path, Conrac utilizes non-linear techniques to virtually eliminate these patterns around vertical and horizontal transitions.



1. Multiburst test signal with conventional bandpass and notch luminance/chrominance separator.



2. Multiburst test signal with Conrac's Comb Filter luminance/chrominance separator.

Conrac Quality: Computer-controlled for the 80's.

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Conrac's track record of technical innovations stretches back nearly three decades; and what we've learned since then goes into every monitor we make today. That is important to you because the more technology we pack into each monitor, the more performance you will receive from it.

Comb filter separator and computer-controlled quality are just two ways Conrac technology can save you time and money.

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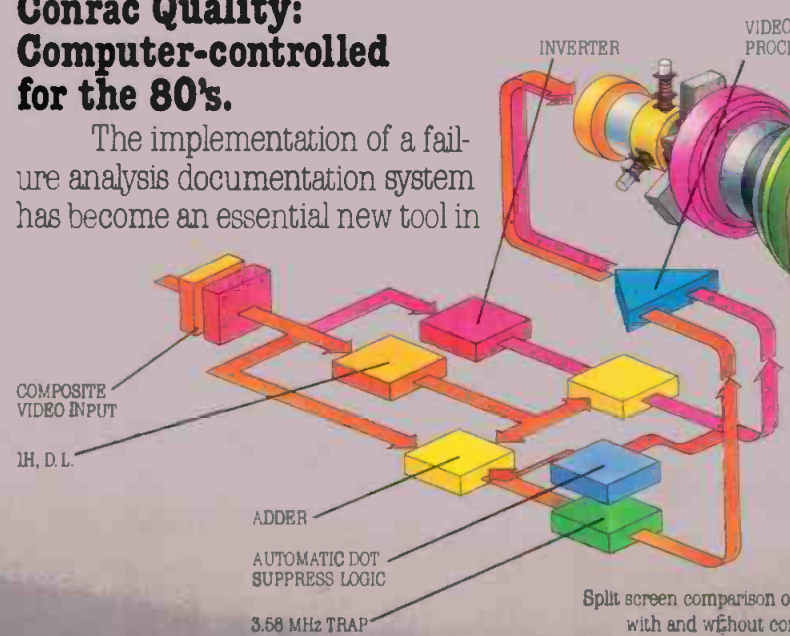
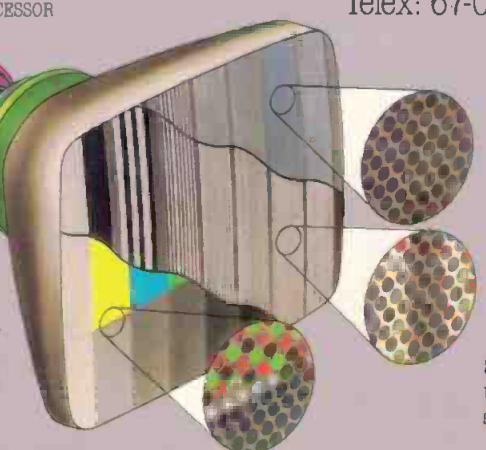


Split screen comparison of CRT display, with and without comb filter



1. Luminance resolution using the conventional notch/filter separator.

2. Luminance resolution using the comb filter separator.

Residual dot patterns virtually eliminated, using dot suppression technique.

Quality you can take for granted.

Circle 129 on Reader Service Card

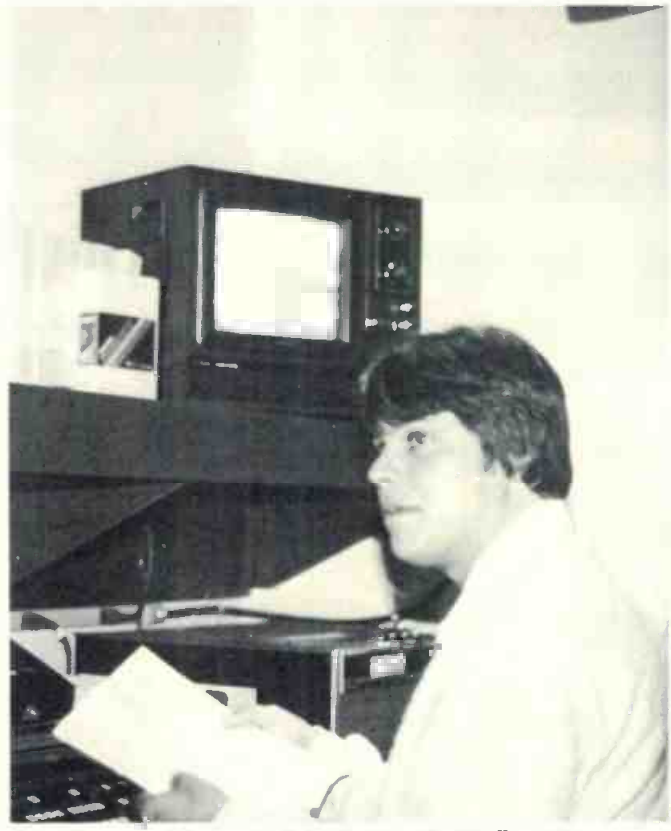
WWAC: Monopoly On Localism

Noon news, basically a rip-and-read 15-minute segment with slides and occasional footage from the previous evening's newscast. It's anticipated that *Atlantic City Tonight's*, co-host Lynn Wiedner, a former Miss New Jersey, will take over the non-anchor slot as well as the weather segment on both the noon and 6:00 p.m. telecasts. In the meantime, the on-air experience that Crowley is gaining is helping him to understand the peculiarities of electronic journalism.

The main newscast is the 6:00 p.m. *Atlantic City News*, anchored by Norma Muchanic. Norma doubles as the principal field reporter and manages, to almost everyone's amazement, to get three solid ENG pieces per day.

Weekend news duties are anchored by Dick Heatherton, a popular DJ at WCBS-FM, New York, who wants to break into television news. Dick's presence is big-market and polished, something that has not gone unnoticed by local newspaper reviewers. Though TV news is new to him, he does it well, and reviewers say they find his weekend news spots a plus for the station.

The news programs achieve excellent technical results from their Sony BVU field recorders, BVE editing systems, and Ikegami cameras. As with everything else in the station, there is very little technical margin in terms of backup or replacement systems, so the scene gets a little hectic around 4:30 p.m. when the news crew rolls in with its field footage. Both edit rooms are placed into service while the Ikegami HL-79Bs are mounted into the 790 studio conversion kits. Camera setup and adjustment is accomplished in only 10 minutes when there is time to spare, and in less than 10 minutes when there isn't.



Ben Civenga edits segments for the Atlantic City Tonight program using Sony 3/4-inch decks and a BVE-500 editor. Civenga's success in pulling the show together has altered his responsibilities to those of producer

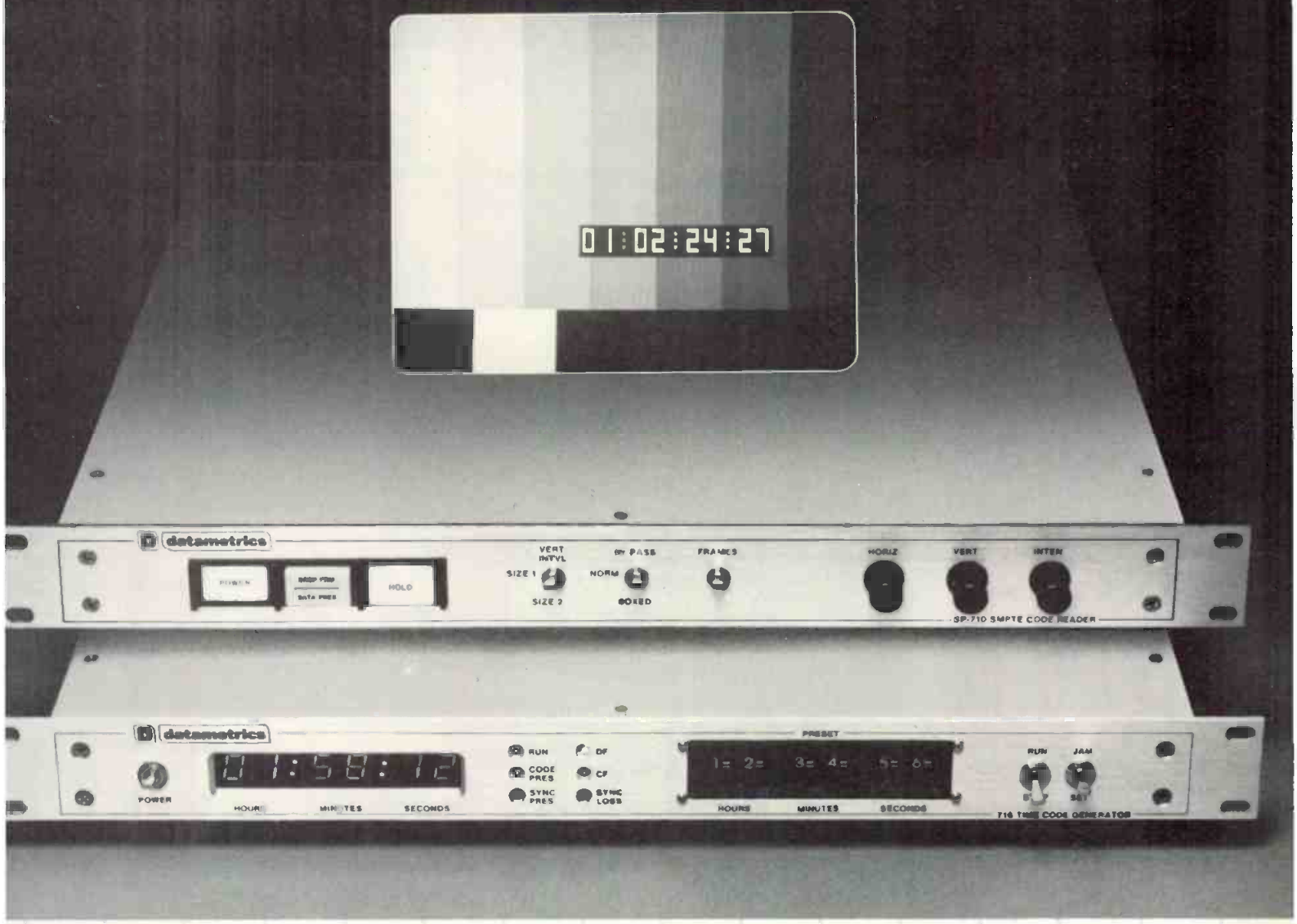
If there is a hitch in WWAC's news operation, it's the rather delicate role that the station plays. WWAC is an unabashed cheerleader for Atlantic City, and some of the stories that crop up don't always reflect the upbeat aspect of a city struggling for rebirth. The casino industry, for example, is central to the successful revitalization of the town, but it is also responsible for much controversy. Many of Atlantic City's minorities and poor people feel that the casinos have not produced the slice of pie they were promised.

While WWAC does not steer clear of controversial stories coming out of the casinos, it makes sure that it has its facts straight before giving the stories prominence. There is clearly no desire on the part of WWAC management to portray Atlantic City as faltering on its road to recovery. It must be remembered that WWAC is locally owned and locally operated, and that when it comes to "badmouthing South Jersey," the residents get plenty of that from outsiders. In time, the station may strap on its journalistic pearl-handled six-shooters, but for the time being it is playing more schoolmarm than Lone Ranger.

When WWAC went on-air, however, discussions were held over whether or not it was ready to go with its full news agenda. Some people thought that the news programs should be phased in, but others, and especially the stockholders, felt that news had to be the centerpiece of WWAC's on-air performance. Even with knees knocking, WWAC news hit the ground running.

Of all its locally produced programming, WWAC is probably proudest of its *Atlantic City Tonight* magazine hosted by Calvin Izard and Lynn Wiedner. Izard compares the show favorably in terms of content and production value with magazine shows produced in Philadelphia, "and they do it with a staff of 20 while we've got three

Perfect Timing Perfect Price



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Circle 131 on Reader Service Card

WWAC: Monopoly On Localism

WWAC's Mobile Unit 1 hustles back from news every day between 4:00 and 4:30 to turn over its HL-79 to the production staff. Within minutes, the unit is fitted into the HL-790 studio conversion kit and is ready to make up part of the station's three-camera compliment for its evening news and news magazine. Only three cameras carry the burden of commercial, news, and local programming

people plus crew."

Of course, Atlantic City has a built-in advantage. Celebrities are not hard to come by, and few small-market stations can offer the parade of headliners that are drawn in by casinos. In addition, the show offers segments on cooking with casino chefs, tips on gaming, sailing, wine, dining, collecting, and a host of other segments all wrapped around South Jersey themes. Director Ben Civenga produces and edits the show with a sense of genuine enthusiasm.

Filling out the rest of the WWAC program schedule is an impressive 300-title film package. *The Muppets*, *Rat Patrol*, *Sea Hunt*, *Dance World USA*, *Soul Train*, *Blue Jean Network* rock and roll specials, *Nashville Scene*, *Good Vibrations*, *Outer Limits*, and *People Are Talking*, the contemporary issues talk show out of Baltimore, Md. But perhaps the station's most popular show is its 5:30 p.m. weekday Gothic soap opera, *Dark Shadows*. In a conversation overheard at the 7-11 store where station personnel go for coffee, a customer asked the cashier where all the kids were who used to hang out on the street after school. "They're all home watchin' *Dark Shadows* on TV," was the reply.

Lessons for localism

There are still a lot of markets in the U.S. that consider themselves underserved, even when they may have television service in abundance. Whether the market is relatively small or large, people can be given a sense that a television station is theirs, especially if that station reaches out for their comments and involvement. The growth of cable television won't hurt broadcasters who

pursue news, public affairs, and programming that truly addresses the wants and desires of their local constituencies. If an outlet happens to be a UHF license, cable might even help by putting the station on VHF channel position. WWAC is on cable channel 5.

With possibly hundreds of LPTV licenses coming up for grabs, more and more communities will expect television to serve them and be more than a conduit for large and impersonal corporations headquartered in some distant big city.

Technically, localism will require good equipment — perhaps not the Cadillacs, but also not the Jeeps. As Dan Merlo put it, "You have to be able to do everything. It doesn't mean getting a lot of some stuff, it means getting a little of everything and designing things to be replaced, moved, added to, and compatible with everything else." Asked if he'd choose different equipment than he did, now that he has had some experience with it, Merlo said "no," though he would like more equipment. "The one-inch equipment is great — it needs very little care compared to the quads."

From a staffing standpoint, Bob Bryan points out that localism requires very flexible people who are willing to wear more than one hat, and often more than two. "This is the youngest staff I've ever seen running a television station," said Bryan, "but it's also the most energetic and enthusiastic."

The WWAC staff now includes six people in sales, six in business and traffic, 15 in programming, 23 in engineering, and three in general and administrative roles. Bryan expects to see more personnel growth, given the station's local mission, especially in engineering and production. In a recent week, engineering racked up nearly 155 hours of overtime, mostly by two or three key people in switching, transmitting, and maintenance. In the long run, the growth in workload will make it cheaper to hire three more technical people. As mentioned earlier, WWAC is about to initiate a midnight to 8:00 a.m. production shift, primarily for commercials. Of the 86 advertisers that WWAC went on the air with, nearly half required station-produced spots. This trend is continuing, and it takes people. In addition, plans for two more locally produced programs are being discussed. A game show hosted by Bert Parks, a former Miss America host, is a likely project that may very well have syndication possibilities. A very popular horror movie host of the '60s, Zacherly, is negotiating for a comeback with WWAC.

The next major technical innovation for WWAC will be the installation of an earth station. WWAC is betting that more current syndicated product will become available via the bird and that sports and music events transmitted via satellite will be popular with Atlantic City viewers. National and international news cuts are also likely to become accessible to WWAC news, broadening it without obscuring its local focus.

Clearly, the aim of localism at WWAC and at stations that follow similar courses, is not isolationism, but rather consolidation of discretionary authority within a local management that is in tune with Main Street rather than Avenue of the Americas. Group-owned stations, whether network affiliates or independent, can be just as successful at localism, but the answer to the question: "Will it play in Peoria?" has to come from Peoria and not from the other end of the boardroom conference table. **BM/E**

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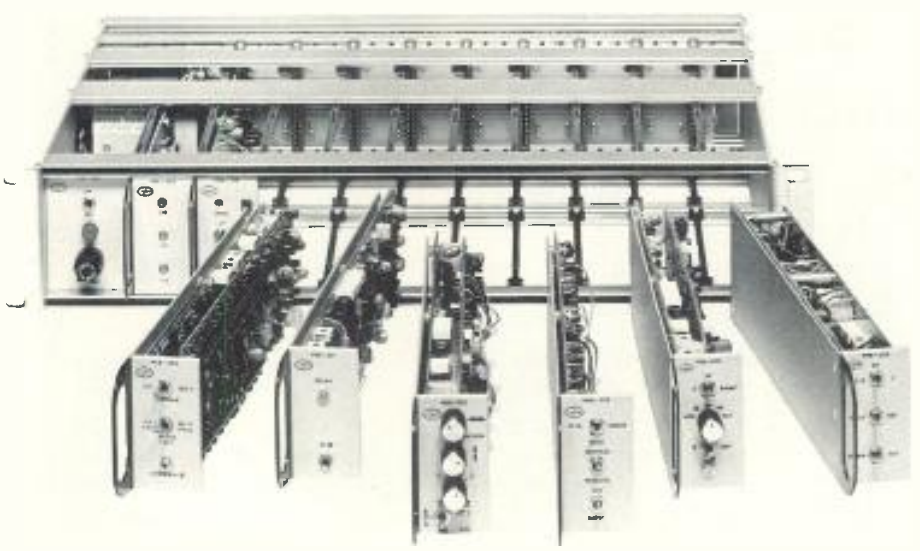

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LOCAL BROADCASTING: LOOKING TO THE FUTURE

WCVB's Bob Bennett is known for his forward vision and his faith in the future of broadcast television. Here, he airs his views on the impact of localism.

WITH THE INROADS being made by alternative entertainment and information sources, some think that broadcasting is on its last legs. Others see a new opportunity to expand the role of broadcasting, especially at a local level. What new things can broadcasters do to keep pace with the advances of cable? For one viewpoint, *BM/E* talked to Bob Bennett, president and general manager of WCVB-TV, Boston. While many broadcasters talk about the potential of the medium, Bennett has proved it by his stewardship of WCVB-TV (See *BM/E*, October, 1981, p.35). Here's what Bennett had to say about the future of broadcasting.

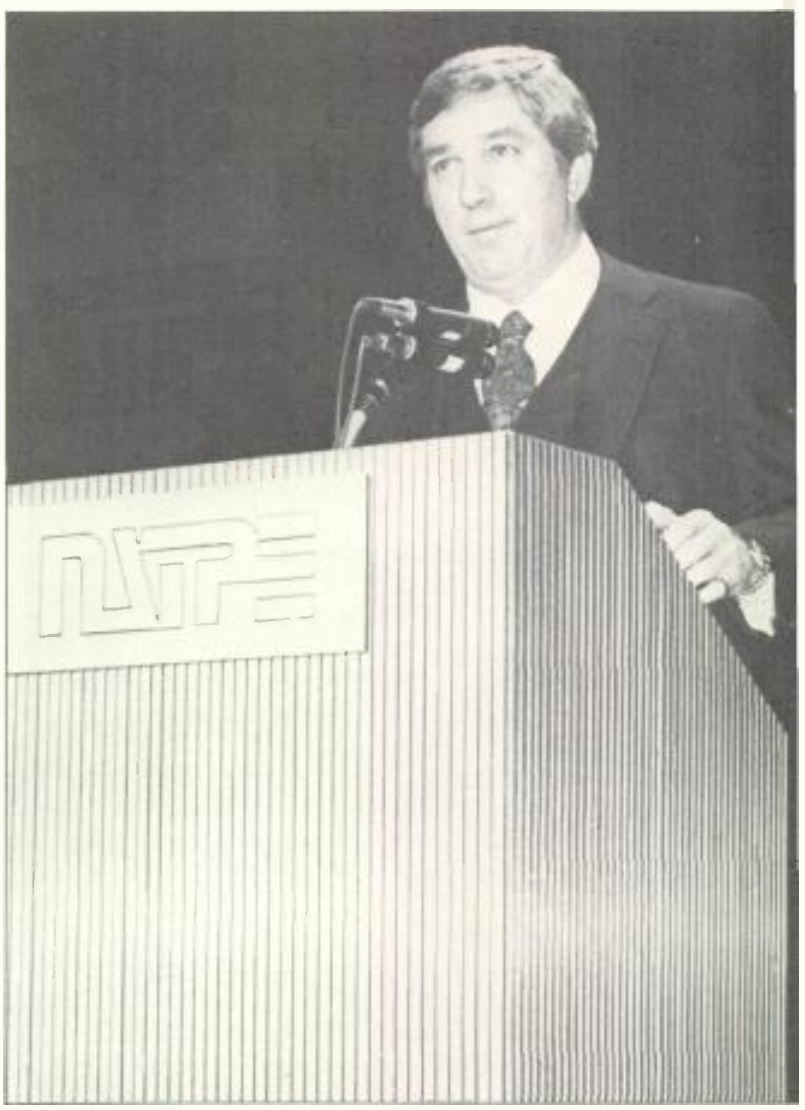
BB: I look to the future, as a single operator in this market, with more excitement and enthusiasm for the industry than I've ever had in my whole life. A lot of other broadcasters share that with me.

BM/E: What's the source of your optimism? So many other people are pessimistic. Is this an entrenchment of, "let's keep that nasty old cable away from our revenue"?

BB: One of the advantages of the cable is that it's going to make people view more television rather than less television. I don't know what the hours of viewing are now . . .

BM/E: Six-and-a-half hours.

BB: Six-and-a-half hours, that's a lot of hours. As of this moment, that includes having a television set in the den someplace. I think as time goes on, that den is going to become a television room, more than it ever was before. Because now you're going to sit there and, depending upon what town you're in, you're going to be able to sit there with a little remote unit and punch up 75 cable stations. It's going to fascinate people. They're going to sit there with more excitement than they did since 1952 when it first started to peak. Those stations that get them-



"What cable does and where the new technology is going should turn people on. That monster is going to have to be fed movies . . . programming"

Looking To The Future

"I see . . . the opportunity to expand news far beyond what it is now. Local stations will be doing two, three hours of news a day"

selves involved in software are going to be able to feed that monster. They'll have a hell of a lot more going for them than they ever had in the past.

I see in the market an opportunity for us to expand news far beyond what it is now. I think you're going to find the local stations doing two, three hours a day of news rather than a half-hour or an hour. I mean, there are all kinds of opportunities there for anyone who wants to do it. They can be producing programming in their own regional market or they can produce programming in that market for national distribution. There's going to be this crying need for software. And if a station doesn't want to do that, I think all it has to do is to establish further that franchise of a local station in that market.

Those stations that are just running situation comedies and movies in prime time are going to have a difficult time surviving, because that guy sitting there with that button in downtown Boston is going to have at his disposal at 8:00 more than one movie or two movies, as he has now. He may have a choice of seven movies or 10 movies. And in situation comedies, it's going to be stretched with distance signals from 4:00. If a viewer likes *Happy Days*, it will be possible to watch it at 4:00, 4:30, 5:00, 5:30. How is a local guy going to compete in that area? A station will want to establish rather quickly its uniqueness in that market. What can it deliver in that market that can't come in on cable?

And the advantage that the stations have that are doing news and local programming, and public affairs, is that that kind of effort — certainly news — is not going to be done by the cable operator. Cable operators are not geared up to do it.

So I think, if they're going to survive, if they expect to survive and really want to grow, they've got to expand their news and public affairs and local presentations. That doesn't necessarily mean that they have to produce something that's going to be syndicated. They've got to produce it for themselves to make them unique in that market.

I think as you look down the road 10 years, you may find only two or three television stations in this market that are commercial television stations. They could be WNAC, WBZ and ourselves, who could be bigger than we ever dreamt possible. It gets complicated, but I could see those stations being regional stations. Maybe the whole thing changes around, and network relationships change so that we wind up as a regional network of some kind here. We could be producing for our region, and whatever we produce is also sent out to another region and we take their material back here. I think there's going to be a de-emphasis on entertainment programs. I think you're going to find more *60 Minutes* kind of programming, more *20/20*, more *NBC Magazine* . . . .

BM/E: Other people have mentioned that informational programming is what is going to be the salvation of, certainly, local stations and probably the network. That kind of programming can't be duplicated by the cable operator. And if you're going to be doing more and more information in the local station, is that going to be enough to sustain stations? Are you going to be able to bring in enough revenue to keep the stockholders happy?

BB: I think you can get more revenue. But you're not going to be able to do that in Portland, Maine. They're not going to have the resources. They're not going to want to spend the kind of money that would be required in the smaller market to do it, so I think they're going to look to the larger markets near them to supply them with that kind of programming. They just couldn't gear up to do a four-hour news operation every day. They may want to, but I don't think it would pay off for them. So I think some of that programming is going to come from Boston. Washington is going to serve sections of Virginia and so on.

BM/E: And you become a regional network — the station that serves New England?

BB: Yes.

BM/E: And all the smaller stations in New England that couldn't afford to do the kind of slick network programming that you do — documentaries, news, dramatic things — could join in that consortium?

BB: They could be affiliated in much the same way they're affiliated with networks. They may not be able to compete from say, 4:00 local time to 7:00. What I envision is that those stations in those regions may wind up taking the news operation that we would be feeding out from 4:00 to 8:00, with maybe five minutes or 10 minutes of their own local news included. We would becoming, not a national source of news, but a regional source of news. And maybe that appeals to me because of the unique region, the way New England is set up. It may not apply to Los Angeles or Detroit or New York — I'd have to think about that for a second. But I know that it would

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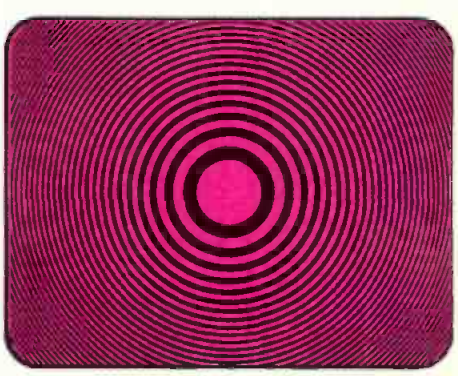

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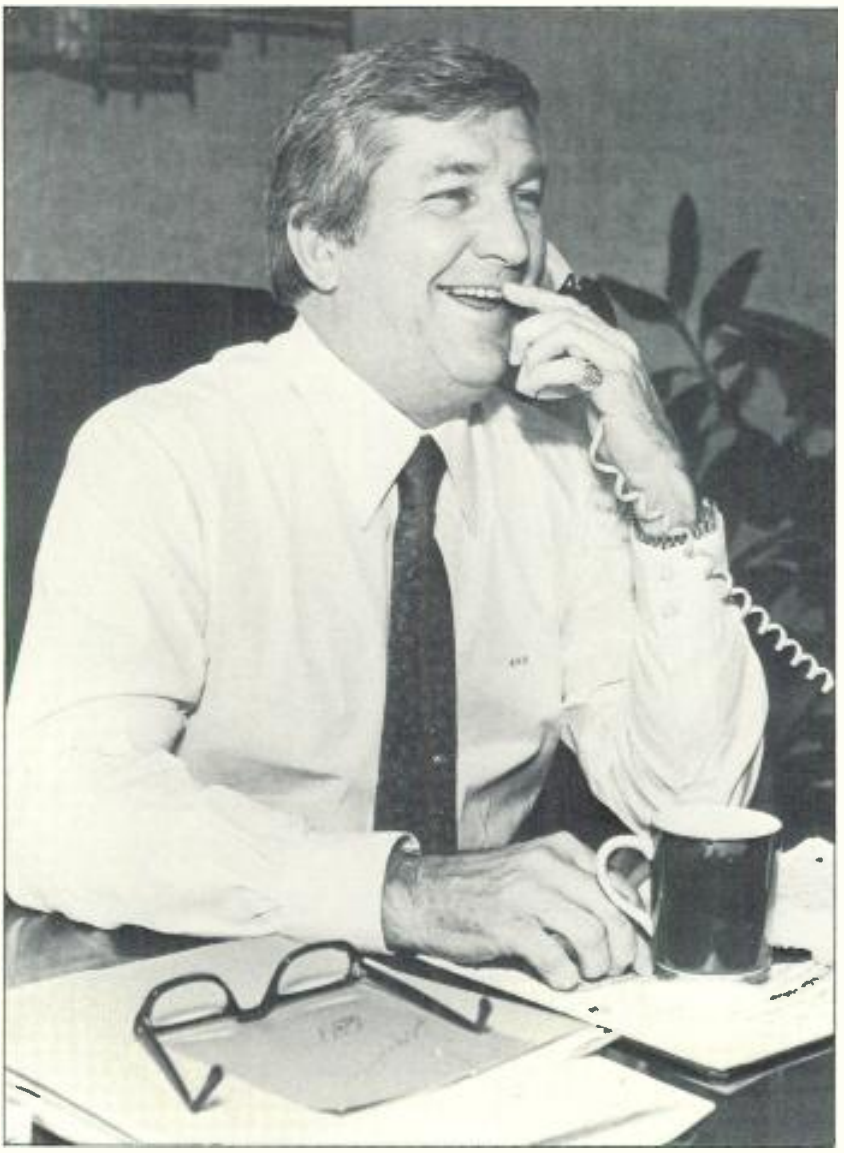


"You try to create an atmosphere for people where . . . there is no fear of failure"

work here and I'm not so sure that it wouldn't work in a lot of other areas. I can see Pittsburgh being a kind of a focal point for that whole section of Pennsylvania. The smaller markets that are currently affiliated with networks could still keep that affiliation, but they might very well be drawn to that regional superstation to be supplied with local news, and maybe local public affairs that may be appealing to a region as opposed to just one market, which is the way they deal with it now.

BM/E: Some people thrive in a competitive atmosphere with some diversity. That diversity to some people is a challenge, gives them an opportunity to do some things they've never been able to do and they love the competition. Other people would just as soon not have it. You obviously thrive on that competition. You're not afraid of the other new technologies.

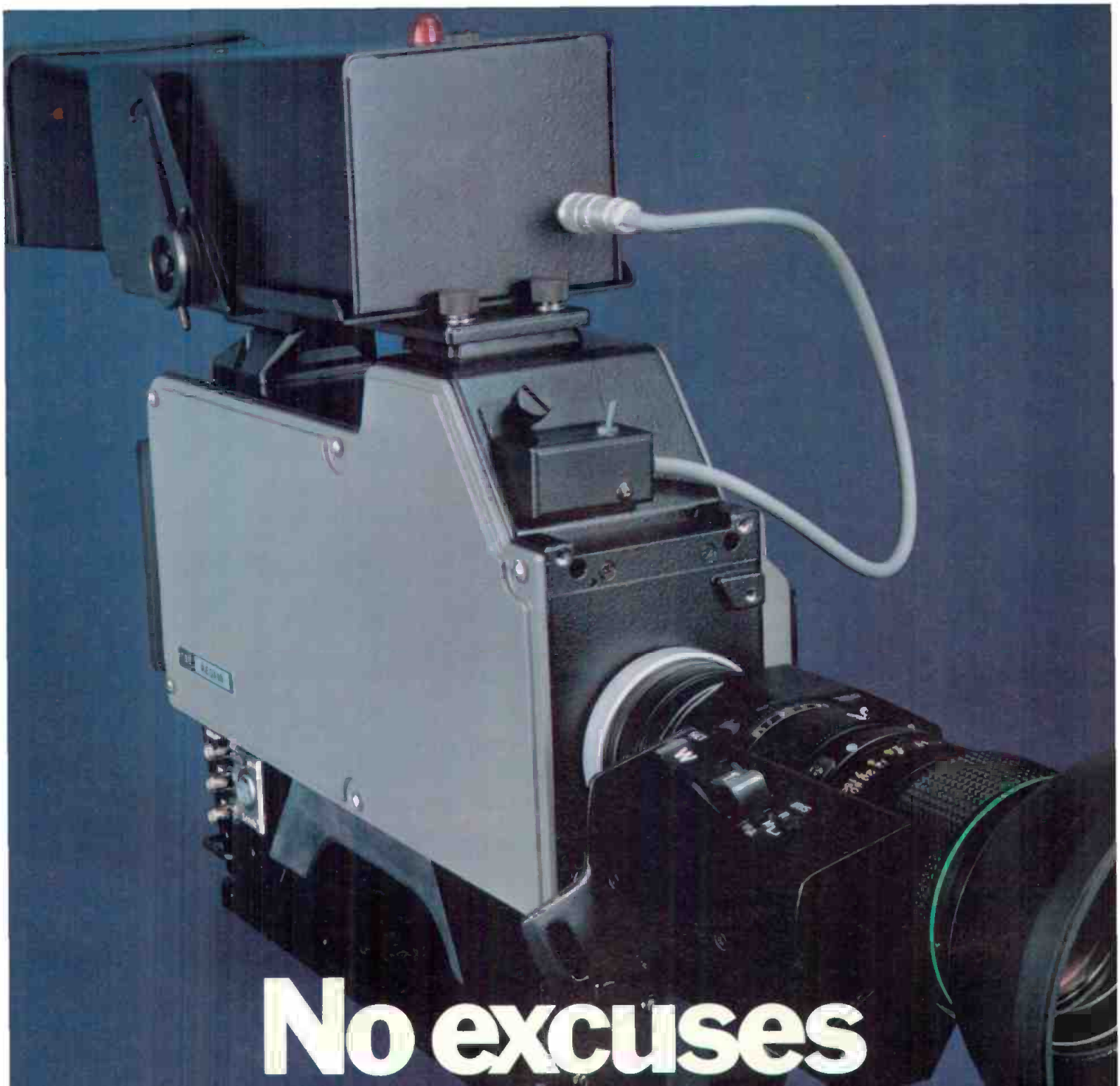
BB: No, I'm not afraid at all. And that doesn't mean that I'm right. I could be wrong, but as I told you, I'm enthusiastic as hell about the future. I can bring it down to just this station. I'm not talking about the industry. Here, my feeling was that we could produce situation comedy. Last season we did 20 half-hours of a situation comedy called *Park Street Under*. And while it was not deserving of being on the network, if it was shown to a group of people with 24 other pilots, I guarantee you that very few people, if any, would have ranked it twenty-fifth. What did we spend on it? About $15,000 a half-hour. For that same half-hour Hollywood would have spent $400,000. That excited me. We tried something and proved that we could do it.

We proved to ourselves that a single station can do situation comedy. You might say, well, why didn't we continue on? Well, you're limited. We've got one big studio here and we're doing 62 hours of regular programming. At some point you have to stop and stand back for a minute and see where the hell you are. At the same time we are finishing that, we started to do *Summer Solstice*.

We proved to ourselves again that a station or a company outside Los Angeles could produce a movie. And we did a very good job of it. We were able to attract good people with big names. As it turned out that was the whole reason for it, because we had a writing contest. Our executive producer and producer came out of our plant; they had never made a movie before. When you see it you will find this is a beautiful, sensitive feature. It's going to play on the ABC Network.

You're talking to someone who believes that if you get a group of people together and they're enthusiastic about the project — and *enthusiasm* is the key word — you can do anything. You can lift this building.

They were so excited about what they were doing and



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Looking To The Future

they wanted it to be so good. And it came through. Henry Fonda, who has been around this business for 50 years, said, "I don't believe what I'm seeing." And what he was seeing was enthusiasm. That's all it was.

So that's where I think it is. There's the WCVB or BBI production capabilities in Boston. And there's two or three units here. And there could be other stations who could be doing it. I see it in New York. I see it in Washington. I see it in Minneapolis. I could see it spreading all over the country.

There are dreamers out there that are going to get it done. I'm just saying that what cable does or where the new technology is going should turn people on — these kind of people who may have been frustrated for years because if you couldn't get it on ABC, CBS, or NBC, you were dead. And if you didn't have the connections or the know-how, you didn't have all the talent and the names that were merchandisable and saleable, you couldn't do it. If you couldn't have big names and a good director, you couldn't get a movie done. That monster is going to have to be fed movies. It's going to have to be fed programming.

BM/E: That enthusiasm that you talk about and that I've seen walking around the station the last day and a half is there; it's real. Nobody can make it up. I've heard one phrase over and over since I've been here: "It's fun. I'm having fun." How do you get that translated to other broadcasters?

BB: The one thing that does it is what we've done. You try to create an atmosphere — a working atmosphere for people where they are not afraid, where there is no fear of failure. We did a kid's show, *Jaberwocky;* the first year on the air we did 130 half-hours. It won the award as the best children's show that year, and the international film festival award as the best children's program that year. We put it on at 7:00 in the morning, stripped it. I'll bet you that in the six months that we had it on the air we didn't get as much money in revenue as it cost us to do one half-hour. Now, you might say, hey, that's crazy. Who would do that? But what that established very quickly, and that was just the beginning, was that we really were concerned about serving our constituency.

The payoff comes to the broadcaster who might say, "Why should I do all that, I don't need to do that. I can buy that or the networks will supply it for me, or I don't need to be that involved and I still serve my community." The result of it is that if you do all these things that concern the community, the payoff doesn't necessarily come in those programs from which you make a lot of money, but in the total image. My feeling always is, with the image we have at the advertising agencies in our own community and around the country, if the pricing is the same for our offering as it is with WBZ, WNAC, or anyone else, all things being equal, we'll get a very large share of that sale. Because people know us, they think of us as a class operation, and they want to be associated with that.

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STARTING A NEWS DEPARTMENT FROM SCRATCH

Many news directors dream of being able to put together a news operation unencumbered by the "mistakes" of others. KICU, San Jose, Calif., is giving Doug McKnight that chance.

SAN JOSE, a booming city in the booming Santa Clara, Calif., Valley, is fighting to get out of the shadow of San Francisco. San Jose, now almost the same size as San Francisco, is considered by most outsiders a suburb of its bayside neighbor. The San Francisco stations boom into the market and get a lot of San Jose viewers. Most of the San Francisco stations maintain some sort of presence in San Jose, but the coverage of the city gets short shrift on the newscasts.

KICU, formerly KSGC, decided to change that two years ago. That's when the station was sold, and the new owners felt that San Jose deserved an identity and a station of its own. Veteran San Francisco broadcaster John Davison was hired to turn the station around. Ch. 36 had the reputation of being a UHF station that showed a lot of old movies and game shows — not the best in the Bay Area. The station did not even have a news department. Davison saw a first-rate news department as an excellent image-builder. Even on the station's limited budget, Davison found a way to build a respectable-sized news department to serve the needs of the San Jose community.

First, Davison sat down with the technical staff to decide what equipment to buy. There was not enough money to acquire top-of-the-line cameras and recorders, but maintaining quality was still a priority. The staff finally settled on three JVC KY-2000 cameras with Sony BVU-100 recorders. The three editing stations are equipped with Sony BVU-500 recorders and BVE-500 editors.

After the equipment decisions were made, it was time to consider staffing. Davison began an intense nationwide search for a news director. A major stumbling block was the size of the market. San Jose is listed in the San Francisco ADI, which makes it the number five market, but if the two markets were split, San Francisco would drop to about 8 and San Jose, would end up about 25. (The

News director Doug McKnight (with beard) discusses the 7:30 news with managing editor Ed Casaccia (left) and the on-air team of sportscaster John Shrader, anchors Jan Hutchins and Ysabel Duron, and weathercaster Steve Dini

Reporter Bill Buckmaster goes over a script with director Alex Case just before the 7:30 newscast

station is suing to do just that.) Because most applicants knew about the real size of the market, the station was concerned that many really good people wouldn't work in that small a market or would demand unrealistic "top 10" salaries.

Recruiting top-knotch employees

"I was astounded at the caliber of people who were interested in coming here," said Davison. The quality of the applicants gave Davison the leeway to set some parameters on what he wanted in a news director. A major criterion was knowledge of the area — and that's when Doug McKnight came into the picture.

McKnight had spent five years at KGO, the ABC O&O in San Francisco, as executive producer of special projects, and before that was assistant news director at WXYZ in Detroit. He's been both a radio and television reporter, as well as a producer and executive producer. He also has a masters degree in communications from Michigan State and is finishing up his MBA.

"I heard about the job through the grapevine," explains McKnight, "and I thought it was a news director's dream. I called John Davison and talked to him about the job. The more I talked to him the more impressed I became.

"He knew exactly what he was trying to accomplish and he had no illusions about it," McKnight says. "There was a goal in mind and I felt that it could be accomplished."

Even with a goal in mind, where do you start when putting together a news department from scratch? Lots of questions have to be answered before you can begin. What's the news philosophy? How long a newscast? Single or dual anchor? What kind ot set? What kind of reporters? The questions were endless.

"The first thing that I did," explained McKnight, "was to sit down and brainstorm the things that needed to be done. From all my experiences in news departments, what kinds of things did we need to do?

"I made a list of them. Then I went through the list and said, how long do I think it will take to do certain things — like design a set, build a set, hire the various people, order the stationary and office supplies and whatever."

McKnight used a technique that was developed by NASA to make sure that complicated projects are completed on time. It's called a PERT chart, which stands for Program Evaluation Review Technique. With the PERT chart system, you assign completion dates for projects and then construct a chart that tells you when you have to have certain equipment or people in order to complete the project. It then gives you a clear picture of those things that have to be done on time. This information can be put on a calendar so it is easy to see where you are at any point.

"After all this great preparation," explained McKnight with a chuckle, "the calendar went out the window the second week after I made it. But the process allowed me at least to get in my mind all the things that had to be done."

Among the things that made the calendar go out the window were some opportunities that came along before

The news department shares the ENG microwave unit with the public affairs department, but has three cameras assigned exclusively to news

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Starting A News Department

Managing editor Ed Casaccia is considered by McKnight to be the best producer in the Bay Area. McKnight felt it was a coup getting someone of Casaccia's caliber

their scheduled times. The major event was the opportunity to hire an executive producer from KGO named Ed Casaccia. "The chance to hire someone of Ed's caliber is just not something you pass up," says McKnight. Casaccia came on board as managing editor, which in a news department the size of KICU's means he is assistant news director, executive producer, producer of the newscast and "runs the character generator. We all wear a lot of hats around here," says McKnight.

People decisions were the biggest problem facing McKnight. Even without any advertising, he received over 100 tapes from reporters looking to fill the three slots that he had open. McKnight is nothing if not orderly. He made up an evaluation form because, as he put it, "When you deal with that many tapes you tend to forget." As with his PERT chart, his careful planning went mostly by the boards.

The two anchor people were already familiar to McKnight. Ysabel Duron came from San Diego but had spent several years in the San Francisco area. Jan Hutchins had been doing sports at KRON, but had expressed an urge to branch out into a less confining role. Bill Buckmaster was already at the station doing the one-minute news updates. George McManus came from KCBS radio, where he had been a reporter for 12 years. Marti Scholl came from Greensboro, but had spent many years at KGO radio.

An obvious edge in hiring came to those who know the way to San Jose. "It was a two- or three-point plus if you were from the area," McKnight explained. "In every case the people were either from the area or had spent a lengthy time here. They knew Redwood City from Milpitas" (communities on opposite sides of the bay).

The sports director John Shrader, was hired from the other station in the area. The weatherman, Steve Dini, turned out to be a big surprise. He was already at the station, but was the movie host and had never done weather before. Dini, of course, is not a meteorologist, but his weather reporting seems to be effective for the objectives of the newscast. "He's working out very well," says McKnight.

The next problem to be solved was the hour of the newscast. Everyone involved in the decision-making process had a favorite hour. Some wanted to go head-to-head with the San Francisco station at 6:00 p.m. Others held out for 10:00 and some (including McKnight) felt 7:30 was the proper hour. To solve the impasse, the station conducted a telephone survey to gauge the news viewing habits of the community.

"We sampled 432 people, randomly, by telephone," explained McKnight. "We asked a bunch of questions about what they wanted to see in a newscast, but our basic purpose was to pick a time for the newscast.

"We did bracket it a little by eliminating anything before 7:30. We just didn't think at that time that we could compete at 6:00. But we did want to know about 7:30, 8:30, etc. At what time would they start watching a newscast? What was the earliest and what was the latest?

"We then gave them almost a *TV Guide* kind of choice — 'At 7:30, would you watch reruns of situation comedies, *Evening Magazine*, movies, or a local newscast?' The survey screened for news viewers. We asked people if they had watched a newscast in the last week. If they hadn't, we tossed them out. We were talking strictly about news groups.

"The results were overwhelming. People prefered an early news to a late news in this area. Twenty percent of the people didn't get home in time for the 6:00 news. Given the options at 7:30, people were equally willing to watch a newscast as anything else. At 10:00 we would have been against KTVU in Oakland and we would have gotten killed. Three percent would have watched us against the 30 percent that would have watched them."

On balance, though, it should be pointed out that eliminating non-news viewers skewed the survey and the KTVU comparison was based on a known quantity against a news broadcast that didn't even exist yet. Also, a 7:30 newscast has been successful counter-programming in several other markets.

McKnight now has a news team, a set, equipment, and an airtime, but what goes into the newscast? The main thrust of the newscast is its San Jose perspective. McKnight prefers it to be called a South Bay perspective because the ADI includes more than San Jose.

"We cover stories in San Francisco, but we approach them much the same way that the San Francisco stations approach stories in San Jose. If you watch our newscast you will see that it is heavily South Bay oriented," says McKnight. He adds that another selling point "is that we do a straightforward newscast. It's not a lot of hokum. I think people are getting tired of that stuff."

Doug McKnight is not getting tired. He thinks that San Jose is a good news town, which is the highest compliment a newsman can award a city. He is tired of living in the shadow of San Francisco. He is out to prove that he can put on a newscast and do it better than anyone else. And unlike almost all the news directors in this country, he is getting a chance to prove it without anyone else's imprint on how he does it. Doug McKnight is unique in that when the dust settles, succeed or fail, he can at least say that he did it his way. **BM/E**

Editor's note: When this was written, the KICU news had been on the air for less than a month. We plan to take another look in the future to see how the station is progressing.

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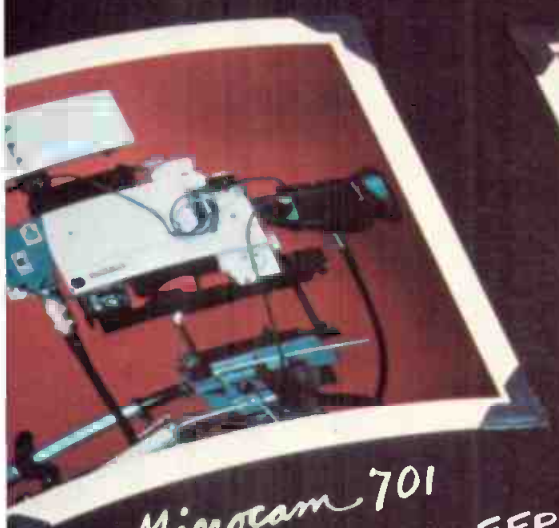

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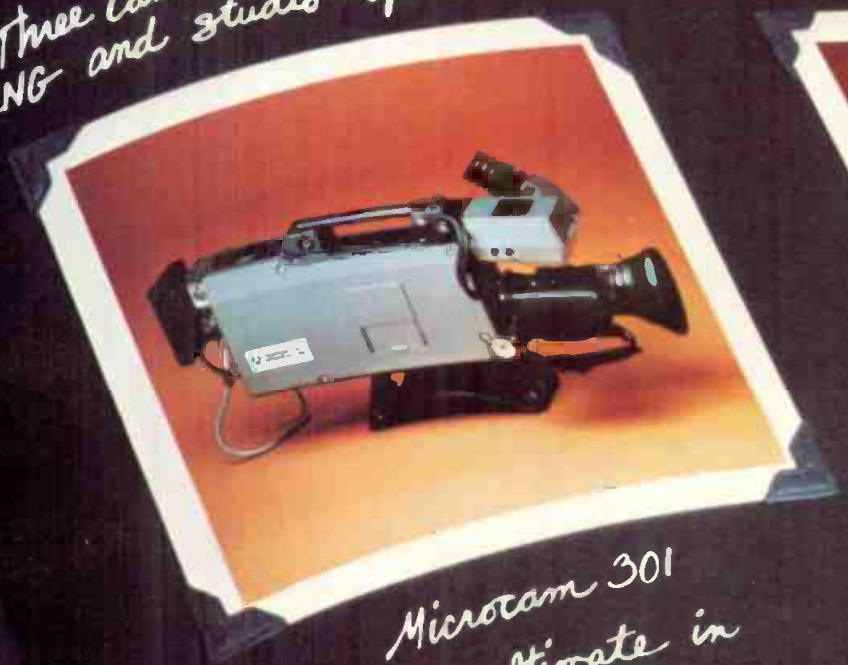

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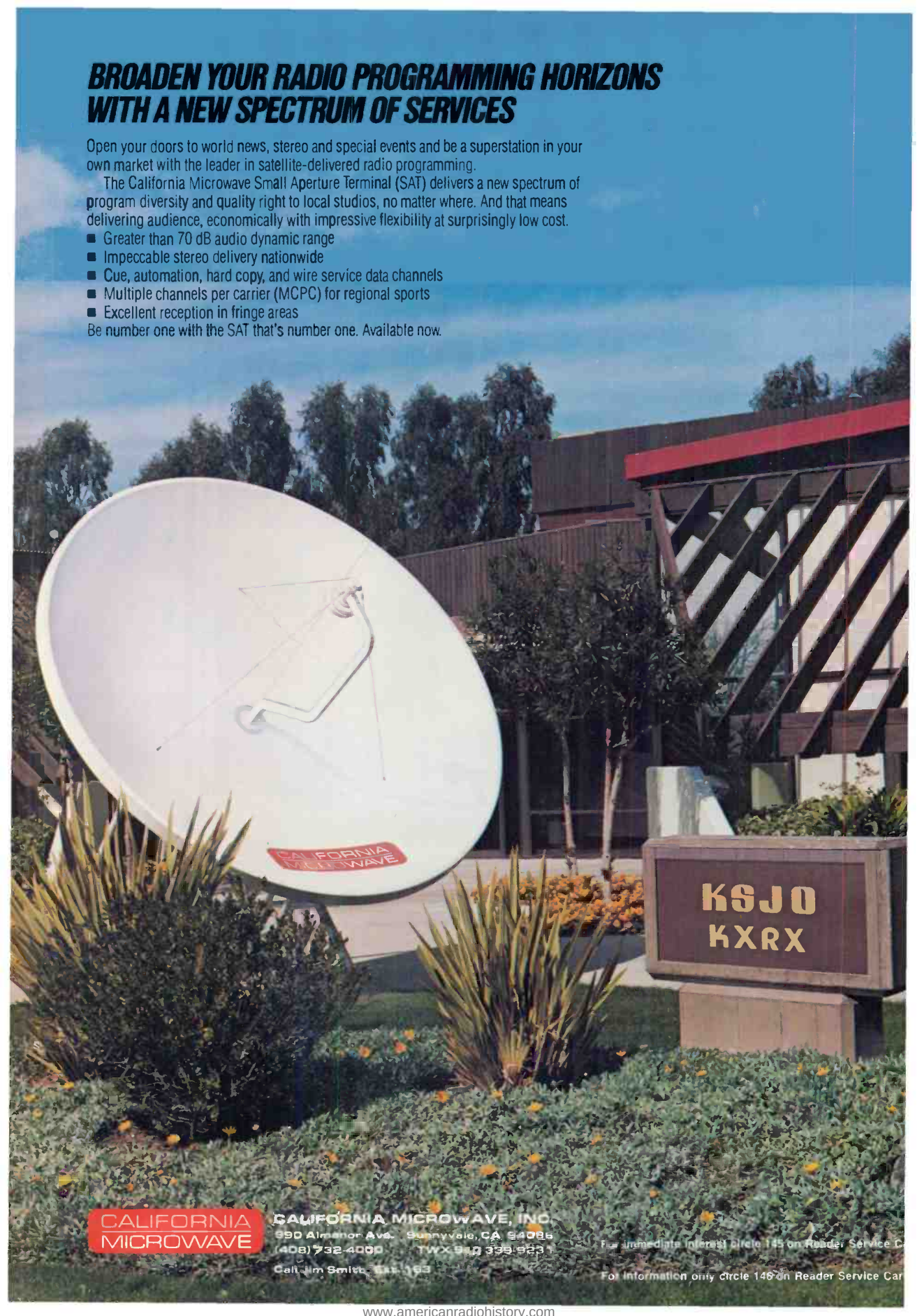

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THE BIGGEST SATELLITE NET BECOMES A SUPPORTER OF RADIO LOCALISM

The Mutual Broadcasting System now has the largest satellite network in operation, with its own uplink and, soon, about 650 earth terminals to deliver expanded, diversified programming to about 900 affiliates. Despite centrally produced programming, Mutual turns out to be a supporter of local radio.

ARE THE SATELLITE NETS that are swarming onto the scene going to "nationalize" radio, to spiral to a new era of domination of radio by national networks? Will the ease and low cost of satellite distribution, with its high technical quality, put an end to the reign of the local radio program director?

If there is an inherent incompatibility between the satellite nets and radio localism, it is beginning to come into play right now. New program developers have been croping up regularly, each one pointing out how easy to get, how inexpensive, how professional in content and style the progamming is going to be. In addition to the newcomers, the traditional nets — NBC, CBS, and ABC — are transmuting themselves into "new" nets, adopting satellite distribution and creating new kinds of programming.

A good insight into the meaning of the full-blown satellite net to the future of radio programming can be found at the Mutual Broadcasting System, headquartered just outside Washington, D.C. Mutual is now a full satellite operation on a massive scale, with a company designed and owned uplink and about 650 earth terminals, all supplied to affiliate radio stations, Mutual has some basis for its claim to being the first commercial network to own the entire distribution system. Mutual's bold policy of supplying earth stations at no cost to the users set a pattern that many satellite developers have followed.

The speed at which Mutual's affiliates have been equipped for satellite reception could hardly have been forseen a few years ago. Before Mutual's plan was announced, conventional wisdom held that downlink capability would come in gradually as the better capitalized radio managements decided to indulge in this "luxury." Similarly, it was thought, the programmers would get onto the satellites slowly — the broadcast establishment surely would not move for a long time.

Mutual's demonstration of do-it-all-now had a lot to do with the avalanche pace of the satellite revolution. Mutual was aided and abetted by California Microwave's manufacture of 50 to 75 earth terminals a month and installation of them in radio stations in every part of the United States. Software producers planning to distribute by satellite no longer fret about how many potential subscribers have earth terminals; if a radio management wants to sign up for the programs, the earth terminal follows almost incidentally.

Total design for feeding the satellite

The Mutual plant consists of studios in Arlington, Va., and a brand-new uplink facility about 10 miles away in Bren Mar, Va. At the present time Mutual has three program channels in active use, with more to come. The uplink signal with the three channels goes to Westar 1, on which Mutual uses transponder 2 in a single-channel-per-carrier mode.

The studios, (*BM/E* March, 1977), include several "on-air" studios for voice material and a large news editing room with adjoining rooms for producing recorded newscasts and commentary programs. Dedicated telco lines to important news spots in Washington provide for the live coverage of political news and "actuality" interviews with newsmakers that have been Mutual specialties for many years.

A variety of pathways bring in reports from Mutual news personnel across the country and abroad. For sports remotes, another Mutual specialty, there is a large complement of portable input equipment, with a number of advanced techniques developed by Mutual for its play-by-play coverage of sports events. The sports coverage is being expanded with the availability of three channels at all times so that Mutual can, for example, put on regional sports programs.

Complex switching operations get the many programming elements and the commercial blocks onto the right channel at the right time, complicated by the necessity for taking account of time zones in program scheduling. The daily switching is carried out by a two-layer computer operation. The first computer is fed a skeleton schedule for each day, and then gets commercial sales information and a precise program format for that day. This information is merged by the computer into a specific daily pro-

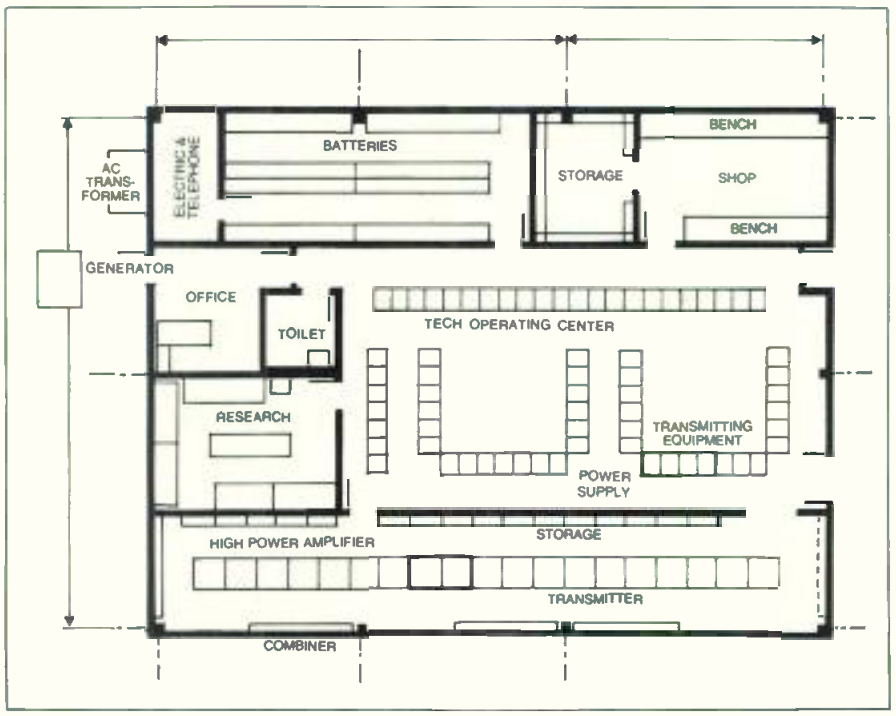

Diagram shows floor plan layout at Mutual's new building designed specifically for uplink capability

gram with all elements, channels, and times stated. A floppy disk holding the whole day's schedule goes into the second computer, which then directs the actual switching.

A complete manual switching console serves as back up for this computer operation.

At the present time, the central switching does not direct particular programs to particular stations. Each affiliate management chooses which programs on the Mutual smorgasbord it will pick up. Technically, the choice is made by tuning the downlink demodulator to the right channel. Presently most stations can stay tuned to the same channel most of the time but Mutual expects that as the channel capacity and program mix expand, centralized switching may become desirable. If that is instituted, the central switching computer would tune each station's demodulator to the needed channel at each hour of the day. (National Public Radio is already using a similar system.)

Operating center at Bren Mar uplink station. In foreground are controls and readout of computer that tracks all parts of the operation

Bren Mar's extraordinary uplink

The new uplink, which went on line this last June, is in a new building specifically designed for the job. The programs come in from the studio on three dedicated 15kHz telephone lines; a complete microwave link between studio and uplink is ready at all times to take over if any telco line is not up to snuff.

Redundancy, in fact, is the rule throughout the plant. The six modulators (anticipating expansion in number of channels) are backed up by six more modulators. Any modulator can be switched to any audio input, which gives flexibility in channel assignments as well as a virtual guarantee of continuity in this part of the operation. The modulators put the audio signals onto the subcarriers that will take them through the system.

Each subcarrier has on it not only the 15 kHz audio signal but also a series of cue tones in a 16 kHz to 19 kHz band. The cue tones are on hand for a number of purposes, and are useful for radio station operators who want to automate their own switching to some degree.

The three subcarriers in use at any time go into a combiner and onto a 70 MHz IF frequency. This composite signal, with its frequency-division multiplex carriage of the three program channels, goes to the high power amplifier (HPA) where it is upconverted to 6 GHz and raised in power to the transmission level.

From the HPA, the 6 GHz signal travels in underground waveguide to the 11-meter antenna just outside the building. There are two HPAs, each rated at 3 kW at present; only about 10W is used ordinarily. The large power reserve looks toward future expansion of program carriage by the uplink. One HPA acts as a hot standby for the other.

The 4 GHz signal bringing the programs down from the satellite is received directly at the uplink station on the 36-foot antenna, and also on a six-foot antenna, for monitoring purposes. The six-foot antenna and typical downlink electronics provide a signal much like the one most affiliates will get. This essential signal allows an automatic signal strength adjustment system, a kind of high precision ATS, to keep the output of the HPA at the

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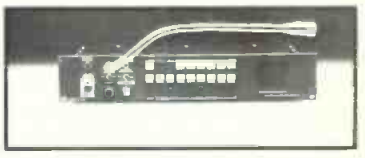

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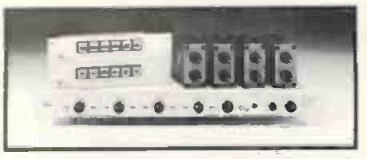

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William Check, director of satellite engineering, demonstrates the modulator assignment control in the uplink electronics. Just below it is the spectrum analyzer that monitors output power

right level for proper operation.

If the power level is too high, it will tend to "take over" in the satellite, cutting down on the power available for other signals being handled. If the HPA output is too low, the signal reaching the radio stations will not be strong enough to operate the downlink electronics properly. Foul weather, especially a severe thunderstorm near the uplink, can reduce the power reaching the satellite substantially.

Another interesting function of the system is to keep the antenna pointed toward the satellite within about a tenth of a degree. If the antenna is misdirected, the signal will miss the satellite and go off into space. The downlink signal gives information on this and the system automatically operates the direction motors on the antenna to correct its position.

The monitoring system uses a Tektronix programmable spectrum analyzer that has the upper and lower tolerance limits for the downlink signal in its memory. An out-of-tolerance signal automatically triggers an adjustment.

Top audio for all programs

Mutual decided to incorporate top audio quality throughout the plant, in both the studios and the uplink station, even though a majority of programs are voice only. The uplink is equipped with distribution amplifiers from McCurdy, modulators from Leaming Industries, combiners and upconverters from California Microwave, HPAs from Aydin, and an antenna from Scientific-Atlanta. Martin Rubinstein, president, explains: "We decided to use the full 15 kHz bandwidth and very low distortion operation on all programming because we knew that, right away, our signal quality must be up to the best local FM broadcasting to make us competitive. Moreover, as we increase our coverage of music, including live concerts, top audio quality will be even more important."

The uplink-downlink chain includes a compandor system to improve the signal-to-noise ratio. This approach to noise control has become quite general in satellite systems (see story on the Bonneville satellite system on p. 81 in this issue).

Supply power has double redundancy

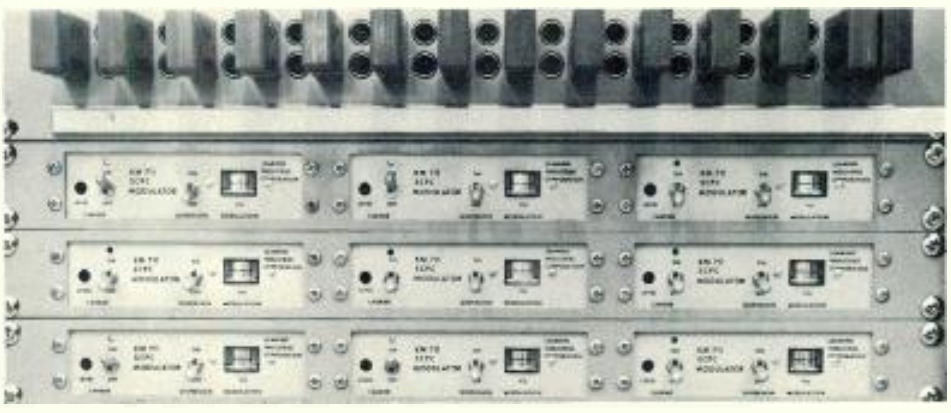
The uplink supply power is made virtually failure-proof with a double backup system. A complement of massive storage batteries, totalling 120 kW, floats on the supply power line at all times and is kept charged by the line power. Thus, the batteries instantly take over if commercial power falters and can run the plant unaided for about eight hours. For a longer outage, a diesel generator can be brought on line in seconds and will run the plant for about 100 hours without refueling, including recharging the batteries.

A separate room in the downlink for the batteries is designed in a way that typifies the care that went into the plant. This room is lined with concrete that separates it from the rest of the building, and has a floor several inches below the floor level elsewhere, so that a battery fluid spill cannot seep into other parts of the plant.

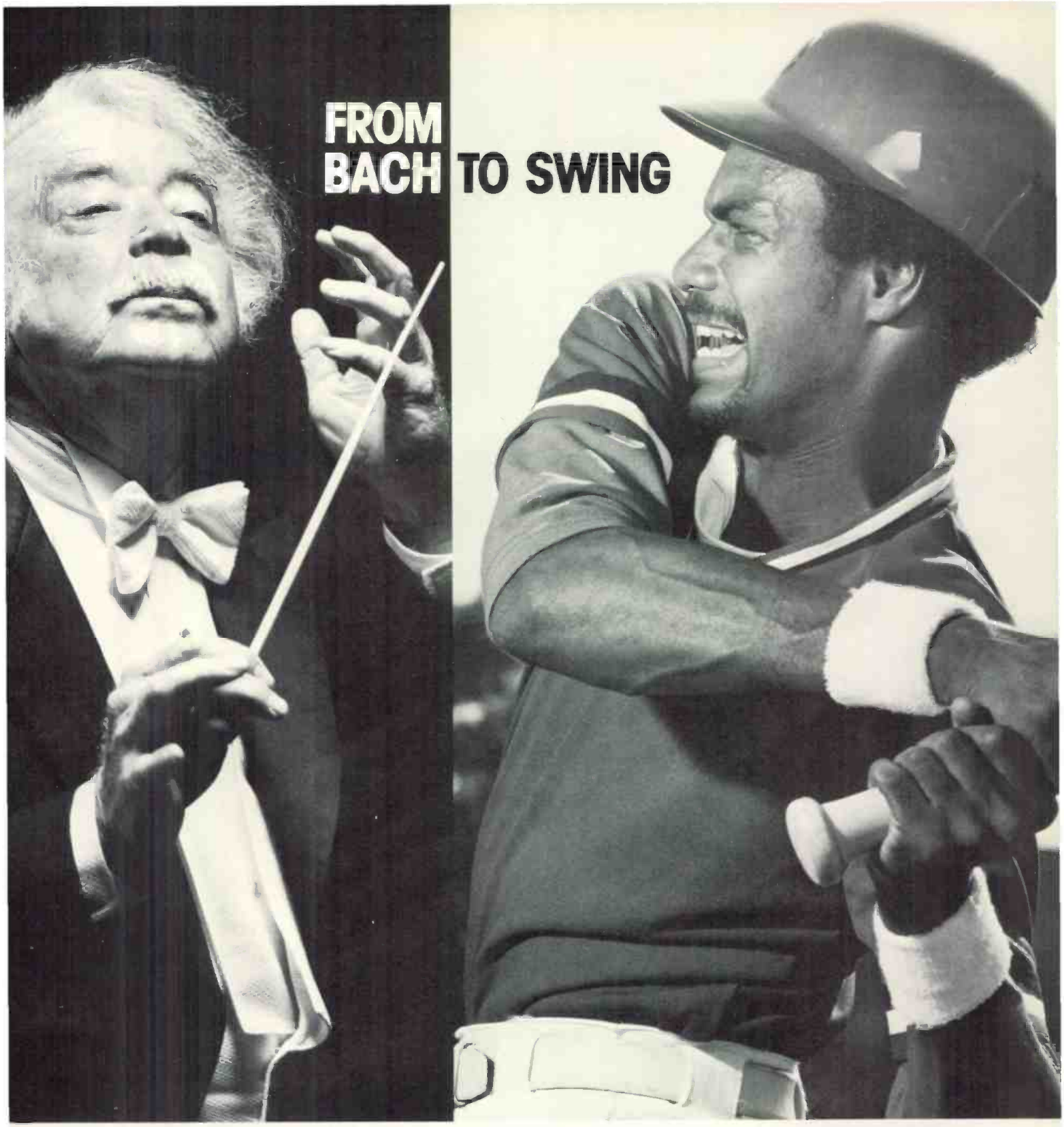
The site, in a valley a little below surrounding terrain, gives the essential protection necessary for frequency clearance amid the maze of microwave signals that criss-cross the area. The design has ample physical and technical space for expansion, with room in the backyard for a number of additional uplink antennas and room in the building for much more electronics. Mutual is considering renting space in the uplink facility to other organizations. Mutual's own expansion to additional program capacity will, of course, be easily accommodated. Thus Mutual is well set to move into the satellite era on any scale the management wants. The plant will support — indeed, encourage — any degree of program expansion and diversification that Mutual finds desirable.

Programming: aimed at localism

Is the growing program diversification and expansion pointed toward the eventual Mutual takeover of the main program space at the local station? Radio operators who imagine that signing on with Mutual will, in time, let them



Bank of modulators that put audio signals onto subcarriers for carriage through the uplink system. Each modulator is set to a specific subcarrier. Any signal can be assigned to any modulator



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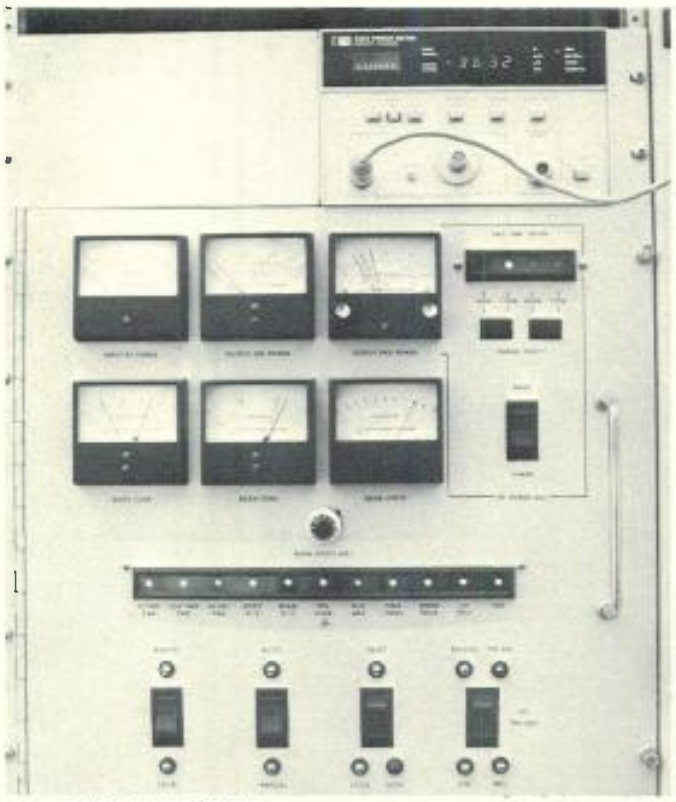
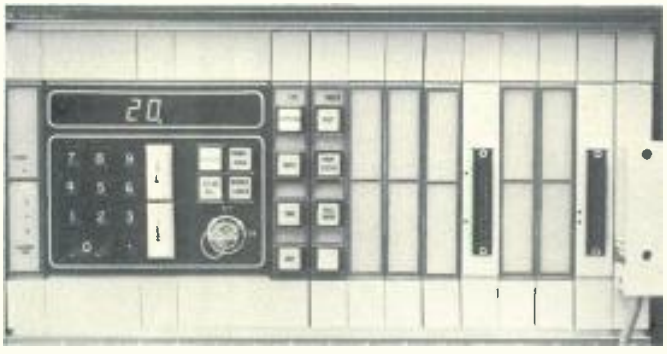
go home for most of every week had better listen to Martin Rubinstein. He says: "We must have — and I venture to say all nationally organized program producers in the end must have — subscribers who each have an individual program character and well-planned, enterprising, community-attuned local operation. That is the real prescription for radio health today, and even more in the future. For such vigorous localists we are going to have more and more non-local material, attractive programming they need and could not produce themselves. But we can never run their stations for them."

Mutual's long-standing stocks-in-trade, national and international news and play-by-play sports, are becoming even more substantial in the mix. Multiple channels are allowing Mutual to regionalize the sports coverage on an increasingly large scale.

The mix also includes an increasing number of serious commentary programs, discussions, and interviews with authorities on political and consumer topics. A business comment program, originated by *Forbes* magazine and produced by Radio Works, the Los Angeles syndicator, is available five times a week. Mutual has moved strongly, with great success, into entertainment programs in the form of music specials.



Meters show continuous readings of power, voltage, current in various parts of transmit operation, including the emitted beam itself. LED's below meters signal faults in specific areas — high and low power supply, door interlock, and so on



Control unit gives manual command of many parts of operation, each called up by number code using button array at left end

The program list during one week in August provides a taste of the mix. In addition to the backbone newscasts and sports coverage, there was an interview with Virginia Knauer, director of the U.S. Office of Consumer Affairs, who gave advice to consumers on meeting the problems of inflation. The Mutual Spanish-language football broadcasts, carried by many stations in the Southwest, celebrated their fourth anniversary with coverage of a game between the Cowboys and the Green Bay Packers in the Texas Stadium. *Assignment Hollywood,* a daily series of interviews with film stars hosted by Fred Robbins, featured Kate Nelligan, Christopher Reeve, Nastassia Kinski, Burt Lancaster, Roger Moore, and Pele, among others. Elmer Dapron's daily *Grocery List* told what foods were best buys and how to stretch the grocery money. *On the Homefront* offered daily advice on home maintenance and equipment buying.

Every weekday night the midnight to 5:30 a.m. Larry King show brings a great variety of celebrities and newsmakers into the Mutual studios for interviews and discussions. This immensely popular talk show draws as many as four million listeners in an evening.

On the entertainment front, Mutual produced the weekly three-hour music special, *The Dick Clark National Music Survey,* a rundown of top popular music releases peppered with interviews with singers, songwriters, and instrumentalists. Clark, long-time impressario of popular music with his *American Bandstand,* is also immensely popular with Mutual's affiliates; many sell local time on the Clark program at premium prices.

Rubinstein reveals that Mutual plans to move into music of a wide variety in 1982 including both recorded and live music programs and eventually live concerts in stereo.

What do the users say?

From a list of several hundred Mutual affiliates that had their earth terminals by June of this year, *BM/E* called six at random, including small, medium, and big markets and several formats. Telephone interviews produced a consistent picture of the experience of a Mutual affiliate with satellite delivery.

KPAG, Pagosa Springs, Colo., is the only station in this small town in mountainous ranch and ski country. The operation has been built successfully around "top pop" and "top country" music coverage, plus a number of farmer-directed programs, Spanish-language broadcasts of several kinds, community discussion programs, and local news.

From its Mutual earth terminal KPAG pulls in the top-of-the-hour news, a large proportion of the discussion, political, and self-help programs (very popular with the audience), the Dick Clark music specials, and the overnight Larry King show, among others. Deborah Steele, acting program director, reports that the local programming establishes the station as the voice of the community, while the Mutual programs give the station a nationalism and sophistication that the affluent ranch and sports audience welcomes.

In Palm Beach, Fla, WPBR is successful with an all-talk, heavy-news format. The station has developed

Production Studio. WRBR-FM. South Bend. Indiana.

Electro-Voice's Greg Silsby talks about the Sentry 100 studio monitor

When I first described to Electro-Voice engineers what I knew the Sentry 100 had to be, I felt like a "kid in a candy store." I told them that size was critical. Because broadcast environment working space is often limited, the Sentry 100 had to fit in a standard 19" rack, and it had to fit *from the front, not the back*. But the mounting hardware had to be optional so that broadcasters who didn't want it wouldn't have to pay for it.

The Sentry 100 also had to be both efficient and accurate. It had to be able to be driven to sound pressure levels a rock 'n roll D.J. could be happy with by the low output available from a console's internal monitor amplifier.

The Sentry 100 also had to have a tweeter that wouldn't go up in smoke the first time someone accidentally shifted into fast forward with the tape heads engaged and the monitor amp on. This meant high-frequency power handling capability on the order of five times that of conventional high-frequency drivers.

Plus it had to have a 3-dB-down point of 45 Hz, and response that extended to 18,000 Hz with no more than a 3-dB variation.

Since it's just not practical for the engineer to always be directly on-axis of the tweeter, the Sentry 100 must have a uniform polar response. The engineer has to be able to hear exactly the same sound 30° off-axis as he does directly in front of the system.

I wanted the Sentry 100 equipped with a high-frequency control that offered boost as well as cut, and it had to be mounted on the front of the loudspeaker where it not only could be seen but was accessible with the grille on or off.

I also didn't feel broadcasters should have to pay for form at the expense of function. The Sentry 100 had to be attractive, but another furniture-styled cabinet with a fancy polyester or die-cut foam grille wasn't the answer to the broadcast industry's real needs.

And for a close I told E-V's engineers that a studio had to be able to purchase the Sentry 100 for essentially the same money as the current best-selling monitor system.

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Greg Silsby

Market Development Manager,
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strong community identification, not only with an extensive local news program but also with many interviews with local celebrities and discussion programs on local worries and opinions.

Valerie Aspinwall, program director, observes that this close connection with local thought is necessary to successful direction of the station. The station management knows how to reach local government on various problems and can advise call-in listeners how to get action.

From Mutual, WPBR takes the national and international news coverage, the Larry King show, the national commentators like Jack Anderson, and many of the other political discussion and the self-help programs. These complement and enhance the station's own programming position, making it more attractive to the large, affluent audience in the Palm Beach area.

An entirely different operation is that of WVHI-FM in Evansville, Ind. This station is devoted primarily to religious programming, both music and talk. But program director Mike Gillan points out that the religion-oriented audience welcomes a reasonable proportion of other kinds of programming, especially the news broadcasts. Also popular are national commentators like Jack Anderson and some of the Mutual sports programs, like the Notre Dame football games. Furthermore, WVHI has used a number of the music specials and sells local time on them to increase station income. Most of the station's programming is, of course, noncommercial, strongly supported by the station's audience.

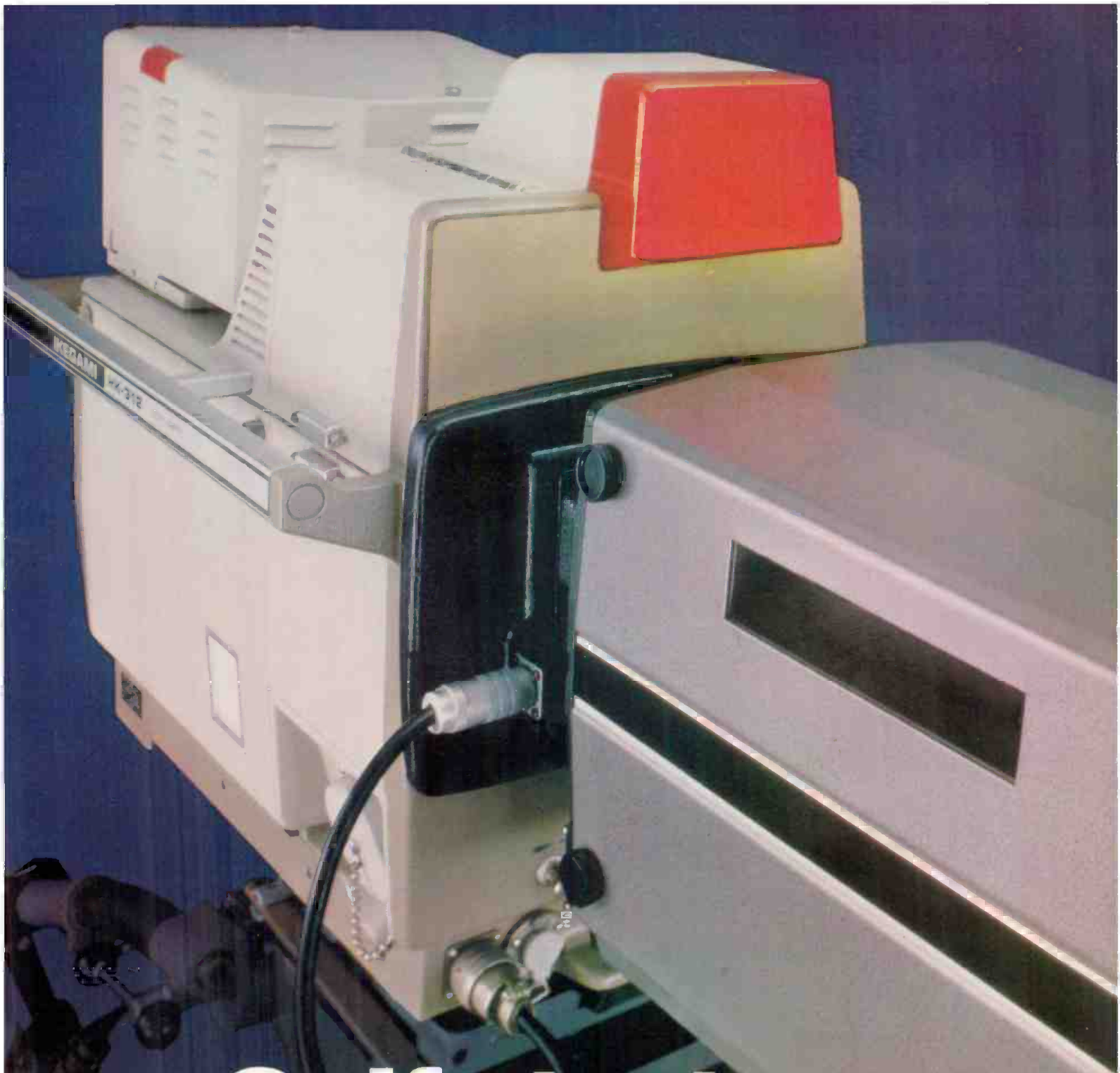
A religious station with a somewhat different approach is WCPH in Etowah, Tenn. Kathy Wentworth, general manager, maintains that the programming is "100 percent gospel," but for news alone WCPH is glad to have the Mutual earth station. It is clear that any audience, no matter how specialized, wants regular newscasts today.

In Hagerstown, Md., WWCS uses a mix of modern country music, farm programs, and local news and discussion programs devoted to local issues, with a strong call-in operation. Again, the Mutual news is central, but the Dick Clark music programs have also been welcomed by the local audience and local advertisers. The Mutual discussion and self-help programs are also popular.

In Cincinnati, WSAI uses a modern country format on FM and strong news and "service" approach on AM. The two stations simulcast from 5:30 to 9:00 a.m. every day. Then the AM continues with a preponderance of traffic, local news, weather, and other talk and information material. The FM concentrates on the music.

Patricia Breuer says that both operations are successful; the FM is now the only Country "buy" in Cincinnati and the AM is strong with its community identification efforts. The Mutual news airs on both stations, as does the night-time Larry King show. Jack Anderson and other national commentators are added to the AM programming. A large proportion of the Mutual sports programs are fitted into one or another of the stations, with the Notre Dame football games very prominent and the station acting as the "flagship" for broadcasts of local college games, both in Cincinnati and on the road.

It is clear that the increasing variety of Mutual programming allows the local station to enhance a wide spectrum of local radio operations with material from the satellite. **BM/E**



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A COMPLETE SYSTEM CHECK CONFIRMS THE TOP QUALITY OF SATELLITE AUDIO

By Vladimir Nikanorov

Is the great improvement in technical signal quality reported by radio managements with satellite earth terminals as good as it's cracked up to be? A series of tests carried out by Bonneville Broadcast Consultants, now distributing their syndicated programs via satellite link, has determined satellite performance in detail. Result: it's true.

ONE OF THE STRONGEST attractions of satellite distribution of radio programming is the sharp improvement in technical quality of the received signal reported by users of the system. Radio managements with earth terminals are virtually unanimous in unreserved praise of the quality of the satellite signals.

Exactly how good is that quality? A study of the design of the Bonneville Broadcast Consultants studios and uplink facilities shows the organization and characteristics of a typical system in some detail. A testing of a complete ground-to-ground path has given concrete evidence of performance quality.

Bonneville is joining Satellite Music Network and WFMT, the Chicago fine arts station, in using subcarrier space provided by United Video on the satellite signal of WGN-TV, Chicago (see *BM/E*, September, 1981 p. 23). For the operation, United Video has just inaugurated its own new uplink facility built near Chicago. Satellite Music Network and Bonneville have also built studios specifically for putting their syndicated music programs onto the satellite link.

SMN's two stereo signals, the Bonneville and WFMT stereo signals, A Seeburg background music service in mono and, of course, the WGN video and video-audio, are all sent up to RCA's Satcom 1 via the United Video uplink. The assignment is to transponder 3. When the new bird, Satcom 3-R, is aloft in late 1981, the United Video signal will be switched over, operating again at C band but with an increase of power from 5 W to 8 W.

Vladimir Nikanorov is technical director, Bonneville Broadcast Consultants, Tenafly, N.J.

The uplink from antenna to audio input

The antenna in the uplink is a 10-meter design, Andrews Model ESA10-46B. It has a two-post transmit-receive feed, with low noise amplifier (LNA) and deicing equipment. The receive feed allows the signal from the satellite to be monitored right on the spot.

The antenna is fed by a 3 kW klystron high-power amplifier (HPA), which is fed in turn by an IPA using a traveling wave tube and 12-channel tuner. One channel is tuned to the portion of the 6 GHz band used by transponder 3 on Satcom 1.

The 6 GHz signal carries all the material noted above: four channels from SMN, two each from WFMT and Bonneville, one from Seeburg, and the video and video-audio signal from WGN. This array of signals reaches the final amplifier stages by frequency-division multiplex on the 70 MHz intermediate frequency, which is upconverted to 6 GHz ahead of the IPA. The 70 MHz comes from a combining system that takes in all the signals, each on its subcarrier frequency. Each of the subcarrier signals comes from a separate modulator, which has taken in one of the audio channels and put it on its particular subcarrier.

The modulators consist of a bank of more than a dozen Wegener WCI-1600's, widely regarded as one of the key elements in the transparency of satellite audio transmission. The Wegener modulator-demodulator pair includes a companding system for noise reduction that gains some 18 to 20 dB of subjective noise improvement. This is very important in the quality of performance because a satellite transmission chain, as a whole, has an inherently low signal-noise margin (see figure p. 82)

Bonneville's audio is put onto tape at 15 ips at the organization's Tenafly, N.J., production studio. The production equipment, as described in earlier articles in this magazine, has been set up for very close control of quality and careful audio processing. The tapes are carried to the

new Bonneville studio at the uplink, where a commercial automation system puts them on the air.

The studio also includes voice announce facilities, a console, and cart recording equipment, so that the regular newscasts supplied to subscribers by Bonneville can be recorded. They are put onto the satellite by carts under control of the automation system.

The music tapes are played by Ampex ATR-100 machines, also under control of the automation system. Automation is used for efficient and precise adherence to the complex time formula necessary in the operation. Everything in the Bonneville studio is designed for audio performance that will exceed that available in well-organized FM broadcast stations.

The downlink also aims for quality

The downlink facility is essentially the uplink in reverse, except that it handles only one set of subcarriers.

The major determining factor of the downlink performance is the S/N of the chain. This is critical because each element of the downlink contributes to the noise level. Noise is measured conventionally in degrees Kelvin, harking back to the days when LNAs were cryogenically cooled parametric amplifiers.

The positive factor of the antenna, in terms of performance, is the gain, which depends generally on the size of the dish. The negative contribution is the noise temperature, which depends on the elevation angle at the particular site. If an antenna angle is less than 25 degrees, it will pick up noise energy from the ground. For Satcom 1 receiving stations in areas like New Hampshire, for example, the noise degradation can be over 20 degrees K. Some of the calculated specifications for receiving antennas are published with 30 degrees K allowance for low angle locations.

Antenna gain in respect to LNA noise temperature is G/T, a parameter that actually determines the quality of the downlink performance. Here is a simple calculation for G/T of the antenna/LNA combination:

$$G/T\ (dB) = G - T$$

Where G is gain of antenna in db and T is noise of LNA in dB.

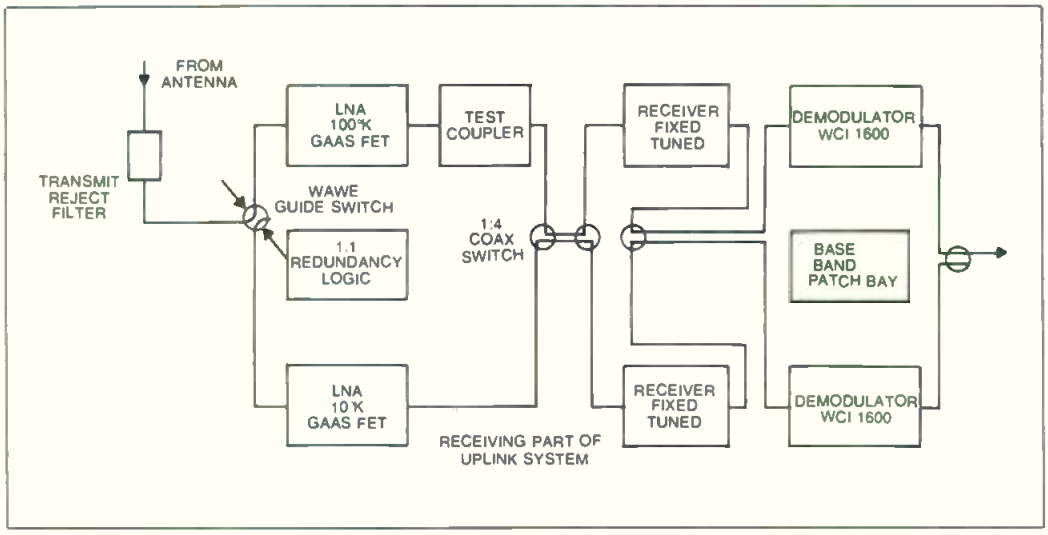
According to the formula:

$$T = 10 \log_{10} T \text{ degrees K}$$

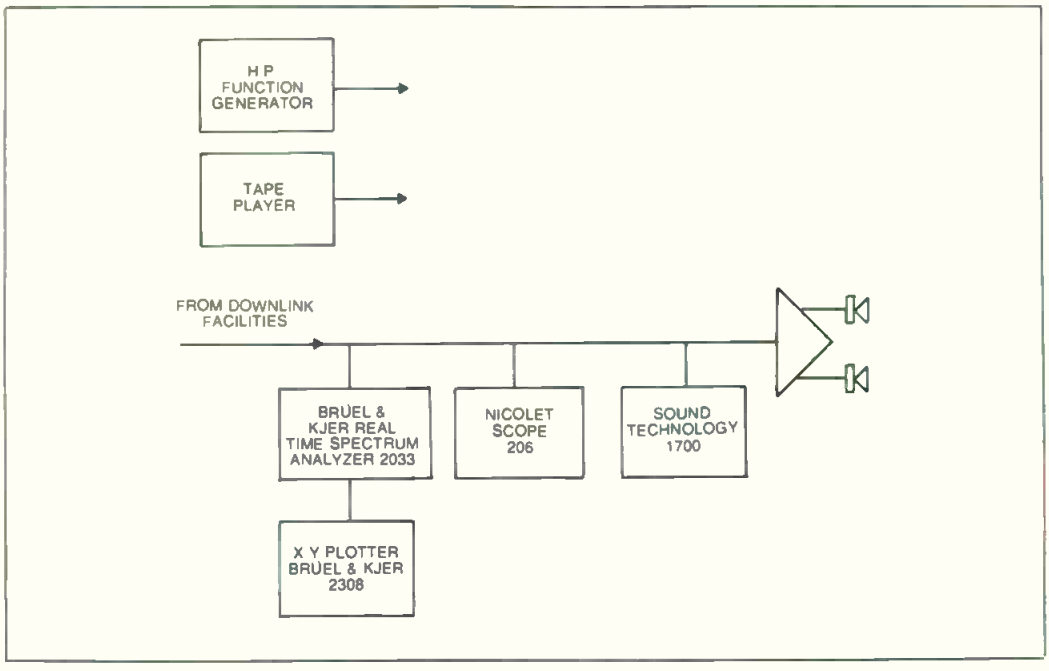
For example, gain of a 3.7 meter dish is 41.7 dB. Typical noise figure of an LNA used with this antenna is 100 degrees K.

$$T = 10 \log_{10} 100 = 20 \text{ dB}$$

$$G/T = 41.7 - 20 = 21.7 \text{ dB}$$



Simplified block diagram of downlink electronics used at uplink for monitoring signal quality delivered by satellite



Main units in test setup at receiving end for determining characteristics of ground-to-ground path

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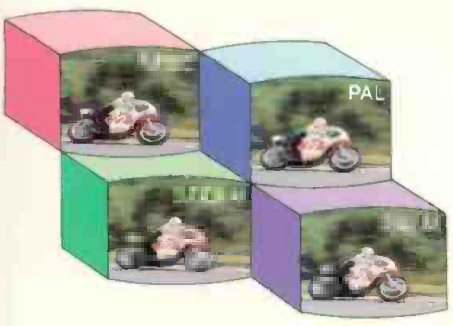

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Systems Check For Satellite Audio

The downlink system carrier power-to-noise ratio (C/N) and subsequent S/N ratio are direct functions of G/T, provided the receiver is operating well above threshold. If the carrier power in an FM system is reduced so that instantaneous signal plus noise peaks are near zero, a disruption occurs in the discriminator, which causes clicks in audio. To avoid it, the carrier level should be better than 13 dB.

C/N measurement is relatively simple. First, the carrier power is measured by a power meter connected to a test point on the IF output of the receiver. Then the same measurement is repeated with the carrier down. It is very useful to conduct the measurements while gradually reducing the dish elevation. This measurement will help to find the critical position of the antenna as far the noise of the system is concerned.

Calculations show that a typical signal-to-noise ratio of the 15 kHz stereo demodulated channel is −45 dB as referenced to a 400 Hz level. A full blown formula and a numerical example are shown in the table.

It just happens that the FM demodulated noise power increases with the square of the noise frequency, which describes the power curve as parabolic. This means that the noise at higher frequencies is high, dropping very rapidly with decrease of frequency and becoming zero at dc. Because of its nature, the noise of 400 Hz bandwidth will be better than −65 dB. The combination of modulator and demodulator provides a possibility for noise reduction in the high frequency region. As already noted, the Wegener 1600 supplies about 20 dB of noise reduction, which brings the calculated overall noise down to −65 dB or better. To repeat: the determining factors of the downlink system performance are antenna gain and elevation and LNA noise temperature. The quality of the three is summed up by G/T. C/N of the system greatly depends on G/T. In turn, C/N determines S/N of the audio. S/N is improved by the Wegener compander, which compresses the audio on the modulator side and expands it at the demodulator.

Signal-Noise Calculation

The calculation is based on the initial formula:

$$S/N = 3b\ 2\ C/N$$

where S/N is signal-to-noise of demodulated audio
b is a modulation index
C/N is carrier power to noise power ratio.
C/N must be better than 13 dB.

Practical formula is as follows:

$$-S/N = C/N\ 20 \log \beta_1 + 10 \log \beta_2$$

$$\beta_1 = \omega/2\ fs$$

ω is deviation of a main carrier by a subcarrier.
fs is a subcarrier frequency.

$$\beta_2 = 3\ \omega_b^2/N^3$$

ω_b is deviation of subcarrier by the baseband signal.
ω is noise bandwidth of the baseband filter.

If pre-emphasis and compander are used, then the formula looks different:

$$-S/N = C/N + 20 \log \beta_1 + 10 \log \beta_2 + P + C$$

If C/N = 86.3 dB (worse case)
ω = 6.54 mHz
ω_b = 50 kHz
P = 12.4
C = 20 dB
Then:

$$S/N = -86.3 + 26.3 + 26.5 - 12.4 - 20 = -65.9\ dB$$

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As for handling, the EC-35 is very similar to a 35mm cine camera. On the tripod or off, it lets you use film techniques and lighting. And you'll find familiar features like a matte box, and follow-focus mechanism. What's more, the EC-35 utilizes the Emmy-award winning digital techniques that assist in the adjustment of routine daily functions. So you can spend more time shooting.

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Systems Check For Satellite Audio

Measuring the chain

Anyone who has ever worked in radio broadcasting knows that the reality of practice often contradicts the theory with all its wonderful calculations. Curiously, sometimes the worse or the theoretically forbidden turns out to be the common practice of the industry. A good example is compression of audio for radio broadcasting. It is recognized that compression destroys the original structure of the sound. Yet no radio station dares put out the signal without using some compression.

But compression as now widely practiced does not work at all in the case of audio transmission via satellite. If the peak density of the high-frequency region is high from an excess of compression, then the noise reduction is not taking place and the audio will become literally covered with "hiss."

With this in mind, we conducted measurements to find the capability of Bonneville's system and the parameters that would be critical for audio transmission. The measurement chain was probably one of the longest ever.

The function generator was located in Atlanta at one of the CATV stations similar to the Bonneville uplink. (A 10-meter transmitting dish, 3 kW HPA, and a Wegener 1600 series modulator were the main components of the Atlanta uplink.) The signal was beamed to transponder 3 on Satcom 1 and received at earth station of Bergenfield Cablevision System of New Jersey.[1]

A block diagram of the measurements with equipment description is shown in the accompaning diagrams. Not only was the test itself unprecedented, but the procedure was much more fun than might appear from the description. And the results were surprisingly good. The following parameters were measured: signal-to-noise ratio and noise distribution throughout the frequency range; total harmonic distortion; even and odd harmonic values; headroom of the system; even and odd harmonic values under extreme conditions; total intermodulation distortion; and frequency response.

In addition, the word "this" was played through the system. The word was pronounced and recorded by Jim Stagnitto, the production wizard of Bonneville. At the end there was also a piece of Bonneville-produced Beautiful Music, that stirred everyone's emotions.

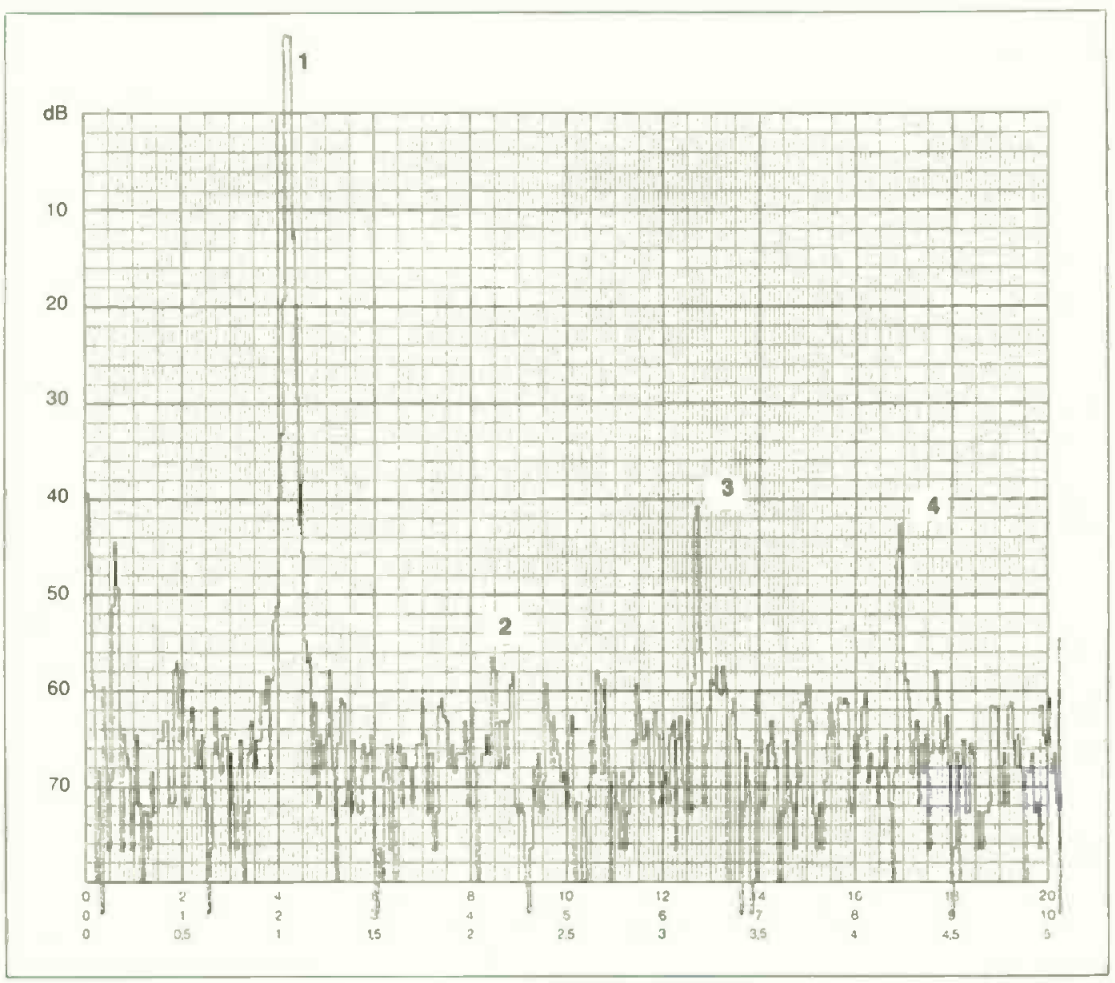
S/N, distribution of noise

The system has unity gain, so the +8 dBm at 400 Hz tone, which was fed in by Atlanta, appeared as +8 dBm at 400 Hz on the audio output terminals at Bergenfield. The chart shows an astonishing −69.1 dB of S/N. Actually, the figure is a very conservative averaging. The noise level is dependent on frequency. In a frequency band of 50 Hz to 1 kHz, only a few noise peaks reach the average level. Noise in the 1 kHz to 15 kHz band is − 10 dB below the average, so the "hiss" level is −79.1 dB. The only components that are +10 dB higher than the average are the peaks below 50 Hz.

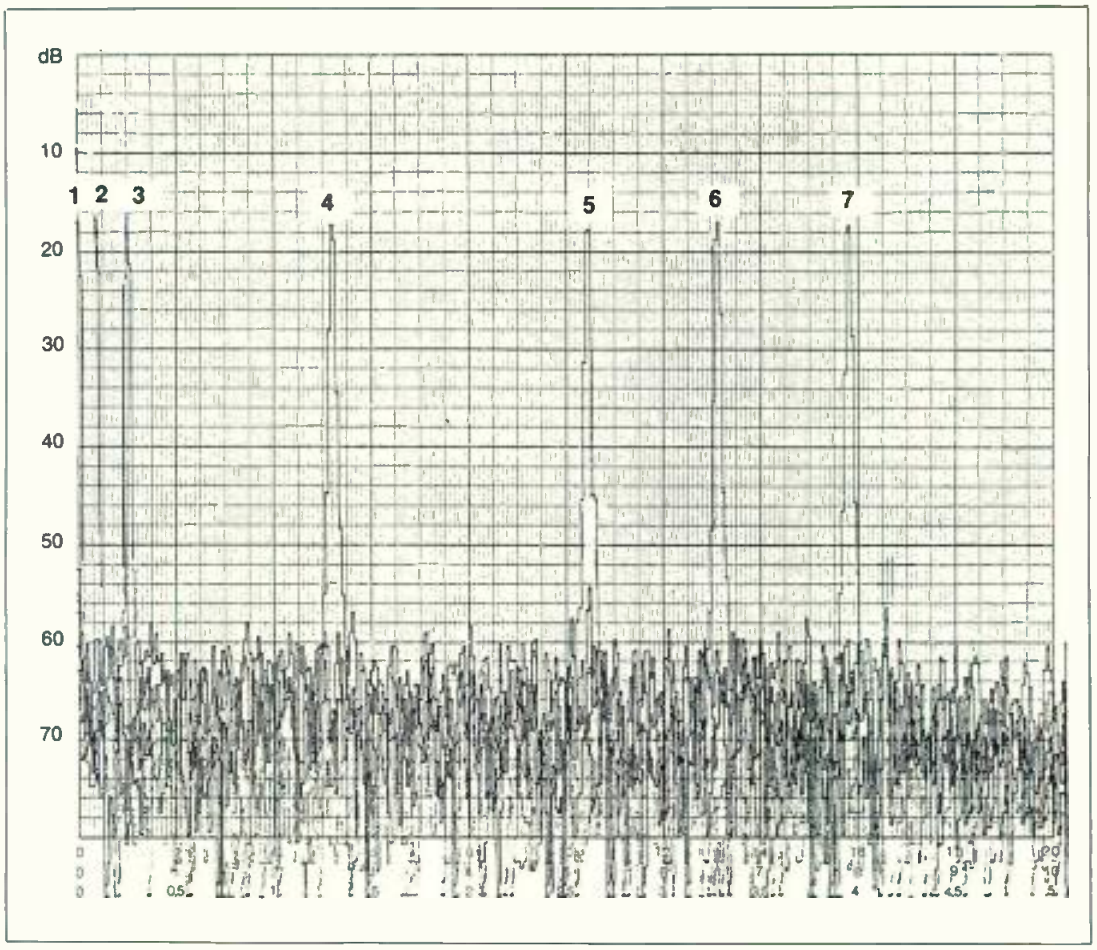
THD, second and third harmonics

Total harmonic distortion as registered by the Sound Technology 1700 series was 0.1 percent. It was measured in reference to the same +8 dB 400 Hz tone. The chart shows that a good part of the total measurement falls on the second harmonic level, which is −44.2 dB. The third

[1]Bonneville thanks engineers Louis Livaditis of Wegener Communications in Atlanta and Joe Azznara of Bergenfield Cablevision System of New Jersey for their interest in measurements and cooperation.



Fundamental at 400 Hz, +18 dBm, is marked "1" above, with second, third, and fourth harmonics at 2, 3, and 4 respectively



Frequency check shows flat response to 15 kHz, with 50 Hz at 1, 400 Hz at 2, 1 kHz at 3, 5 kHz at 4, 10 kHz at 5, 12 kHz at 6, and 15 kHz at 7

harmonic is at −59.1 dB.

It is known that the even harmonics — second, fourth, and so on — are much more pleasing from a listening standpoint than the odd harmonics. In fact, the so-called aural processing by Aphex, which is widely used in the recording industry, is actually based on artificially created even harmonics added to recorded music. All this means that the effect of THD at this very low percentage will in reality produce an effect even smaller than the figure suggests.

System head room

Headroom measurements are always controversial because each tester seems to have an individual idea of what value of THD should represent the limit of the "room" in which audio appears to be undistorted. To avoid controversy, the measurement was conducted at +18 dBm. This figure was chosen because peaks on the Bonneville recorded music typically reach +10 dB above the average. Therefore, it made sense to find out what happens in the system when such a peak occurs.

The Sound Tech registered 0.4 percent THD referenced to +18 dBm at 400 Hz. The spectra on the chart show second, third and fourth harmonics of the 400 Hz tone. The second harmonic level did not increase in comparison with the first measurement. The third harmonic was measured at −51.6 dB and the fourth at − 52.9 dB. By the measurements, the system performed extremely well. Again, an expected listening result should be even better than the measurement suggests because of the positive contribution of the even harmonics.

The TIM distortion measurement, shown on chart 3, reveals 0.1 percent distortion, which can be regarded as excellent performance.

Frequency response

Frequency response was taken with discrete frequencies at +8 dBm. The intention was to find the system's linearity and high order harmonics levels in comparison to noise. The high frequency steady tones of +8 dBm defeated the noise reduction system.

It should be noticed that the normal high frequency content of music material is more than 15 dB below the average level of the mid frequencies. The chart shows fantastic linearity throughout the 50 Hz to 15 kHz band. It is also clear that the high-order harmonics are basically at the same level as the high-end noise and, along with the "hiss," will be reduced by the noise reduction system.

Program checks

The peak of the fun came when it was time to record Jim Stagnitto's "this" on the spectrum analyzer. The 5 kHz scan was synchronized with the word, the spectrum of which can be found on the chart. We encountered no sibilance from the "s" in the area of 4 kHz.

Of course, the ultimate and the final test was music. A piece with Anita Kerr and singers, recently recorded in England for Bonneville by Marlin Taylor, was chosen for vocal susceptibility to sibilance and for its good dynamics. The impression was that the transmission chain works as well as a straight wire.

Thus present satellite transmission technology offers an open road to technical excellence. With the coming proliferation of audio transmission via satellite, top-grade signal quality will be widely available for radio operations. **BM/E**

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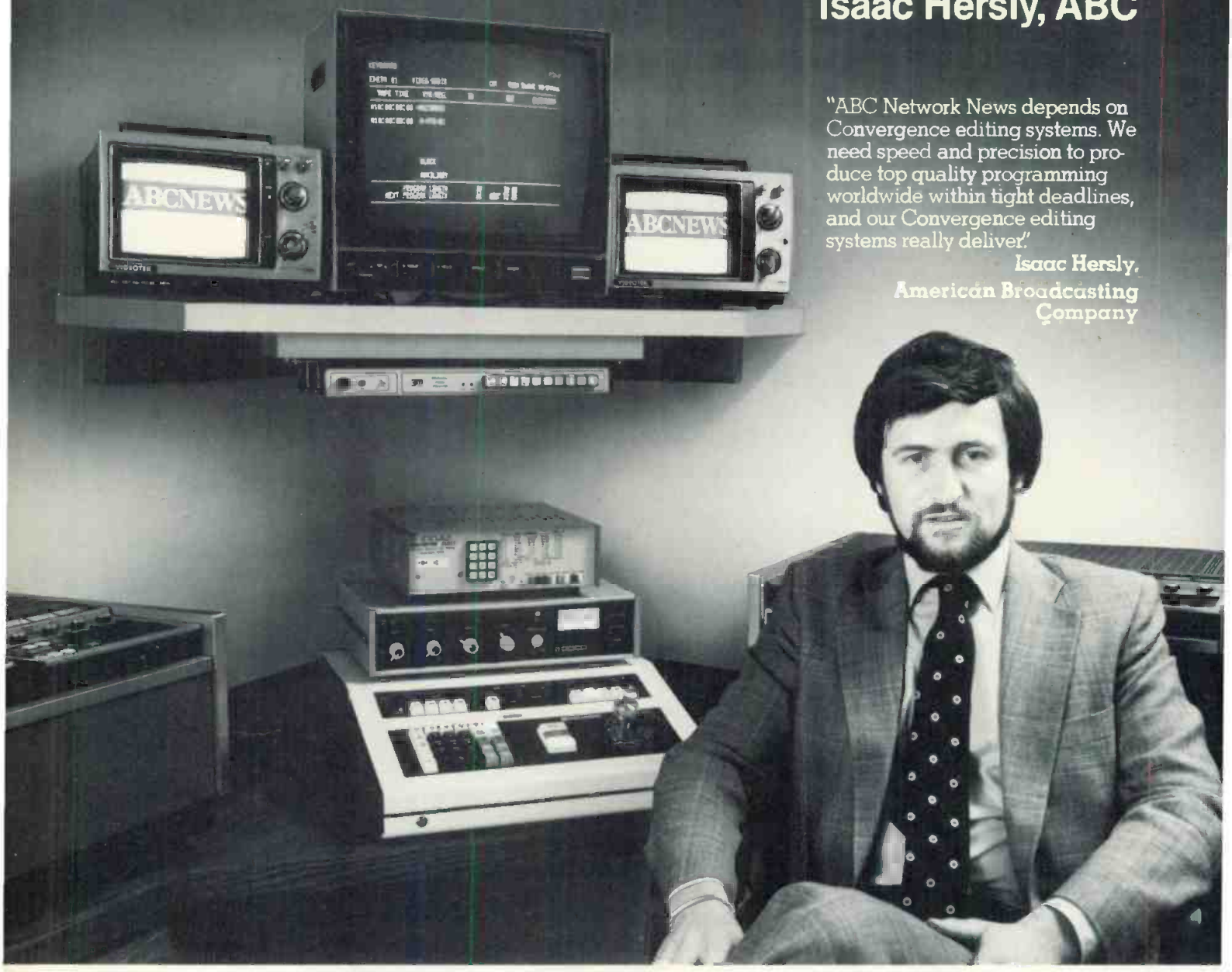

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LOCAL RADIO SCORES IN U.K.

With more and more Independent Local Radio stations being authorized, Britons are tuning away from BBC to get community news and entertainment. Not to be outdone, BBC Local Radio is fighting back with "community action."

LOCAL RADIO is a resounding success in the U.K., with Independent Local Radio (ILR) stations now garnering more listeners than any of the four BBC national networks. When it comes to local news and information, BBC Local Radio scores well, too. The share of listeners tuning in to local radio is growing. From 1978 to 1979 both ILR stations and BBC Local Radio increased their shares about one percent each. With more local stations being authorized (see box), the share is sure to increase in the future.

A major study in September of 1980 showed station choices for various kinds of listening.

STATION CHOICE FOR PROGRAMMING REQUIREMENT

Of all those listening to radio for:	Proportion (by percent) who most often choose: ILR	Radio 1	Radio 2	Radio 3	Radio 4	BBC Local Radio
World and national news	32	19	18	1	18	9
Local news and information	73	3	3	—	2	16
Background music	37	27	24	2	2	5
Concentrated music listening	24	22	20	10	9	5
General entertainment	22	7	19	2	31	7
Current affairs, etc.	28	9	11	2	31	7
Sports coverage	35	8	30	4	7	13

(BBC Radio 1 is a popular-taste station. BBC 2 is MOR, BBC 3 is the cultural station, and BBC 4 is news and entertainment.)

Radio Norfolk's news editor, Ian Hyams, broadcasts a live report from the station's OB vehicle

Although these figures show ILR stations to be more popular than BBC Local Radio, the statistics do not provide the whole picture. There are more ILR stations and several in large markets. There are two in London, for example. BBC Local Radio, on the other hand, tends to be in smaller markets. Generally, BBC Local Radio draws about as well as BBC 4. In locations that boast both an ILR station and a BBC Local Radio station, the BBC station may lead.

While both ILR and BBC Local Radio stations concentrate on producing local news, ILR stations tend to rely on popular music. BBC Local Radio, on the other hand, characterizes its outlets as community-action stations.

Last year, Radio Norfolk became the twenty-first BBC Local Radio station to go on the air — and the first BBC

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Local Radio Scores In U.K.

local station to have stereo facilities (it operates on two channels: 855 kHz AM and 95.1 MHz FM). Radio Norfolk's theme at its opening was "your new neighbor." Manager Mike Chaney explained, "We want our programs to lean over hedges and harbor walls. This can be done because we have reporters and a radio car that can broadcast live anywhere in Norfolk county." As do other local radio stations in the U.K., Radio Norfolk believes that the route to successful, audience-serving programming is partnership with the local community.

Radio Norfolk's staff is similar to those of other BBC Local Radio stations and numbers about 20, plus two secretaries. A manager and deputy manager head the group, which also includes five reporters, a sports manager, a program organizer, and five general-purpose program producers. Three technical persons are on staff. About 70 hours of home-grown material are produced each week. (Hours vary depending on budgets; lately the BBC has cut back in many areas.)

BBC Local Radio stations urge citizens to seek out the station's microphone. Radio Brighton, for example, is experimenting with "do-it-yourself radio," giving groups and organizations a chance to make their own programs under the guidance of a producer.

About two-thirds of local radio programs are talk shows — news, discussions, phone-ins, and documentaries. The rest offer music chosen to serve a range of tastes.

Local radio cares about people. Radio Merseysides and Radio Bristol have been very successful in getting local

Community involvement from the start: Norfolk children "officially" open the station as TV records ribbon cutting

pubs, clubs, and factories to raise money for toys for the underpriviledged; Radio Newcastle helps reunite old friends who have lost contact; Radio Leeds has a program, *Contact*, aimed at helping the handicapped.

Radio Solent covers a wide agricultural area, and its *Advice Line* program has often looked at the problems of rural transport and the closure of village shops. Some Radio Nottingham programs have focused on people who live in remote areas, particularly the house-bound. Radio Carlisle locates foster mothers for orphaned lambs.

Local Radio is also useful to the elderly. Radio Nottingham's *Link Opportunity* is designed to utilize the skills and knowledge accumulated by retired people during their working lives. Putting up a shelf, fixing a gate, knitting, baking a pie, teaching a foreign language, and typing are

Local Radio Scores In U.K.

Cardiff Radio's governing body huddle on a problem. Members are elected by the public within the listening area

vivid examples of this self-help swap shop.

Radio Sheffield runs a community program called *Pack Up Your Troubles* that assists people with problems and tells them about the services of voluntary groups like the Samaritans, the Council for Voluntary Service, and Citizens' Advice Bureaus. So far, officials from more than 50 organizations have taken part.

Local phone-ins allow as many people as possible to debate vital topics. Last year, Radio Nottingham put about 5000 callers on the air during its *Open Line* program. Calls often involve offers of help or ideas to make life easier.

The stations also help people with social and personal probelms. Manchester's *Give and Take* program has benefitted children, old folk, battered wives, the blind, the homeless, and the unemployed. Items ranging from blankets to baked beans, paperbacks to washing machines, boxing golves to lawn mowers, have been donated in response to appeals on the program.

Consumer advice programs are also strong on Local Radio. On Radio Merseyside, about 600 people each year have been helped by the *Town and Around* series.

ILR stations are action-oriented too

BBC Local Radio stations are not alone in serving their communities. ILR stations do so, too, while at the same time earning a profit by selling advertising.

Cardiff Radio has a daily program called *Action Desk*, a cross between a radio newsdesk and an advisory service. With the help of community organizations and individuals formed into *ad hoc* groups, *Action Desk* has focused on such topics as leasehold, conservation, women's aid, therapy services, the Asian community, Gamblers Anonymous, local theatrical projects, and youth unemployment. The program is operated by six paid staff, who are grant-funded plus volunteers. *Action Desk* had funding up to this October, with negotiations underway for a 12-month renewal.

The station is currently planning a show, *Equal Opportunities Worker*, that will concentrate on programs and program inserts for, about, and by women.

Radio Cardiff is a bit unusual for an ILR station in that it is owned by a community group. About $700,000 in initial capital was raised from local companies, local churches, trade unions, and individuals.

While Radio Cardiff might be expected to be more

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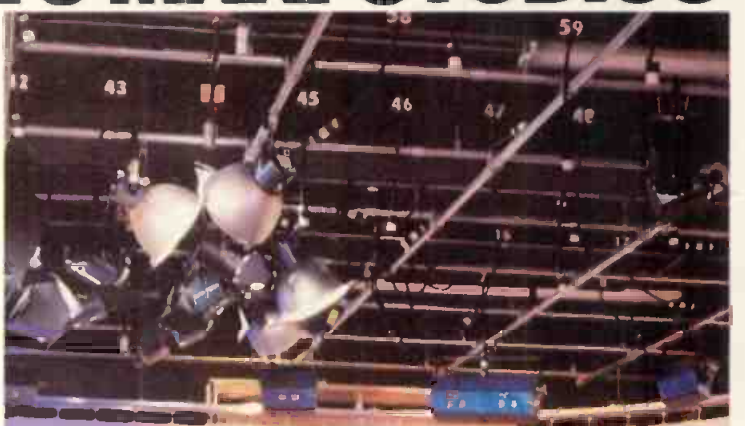

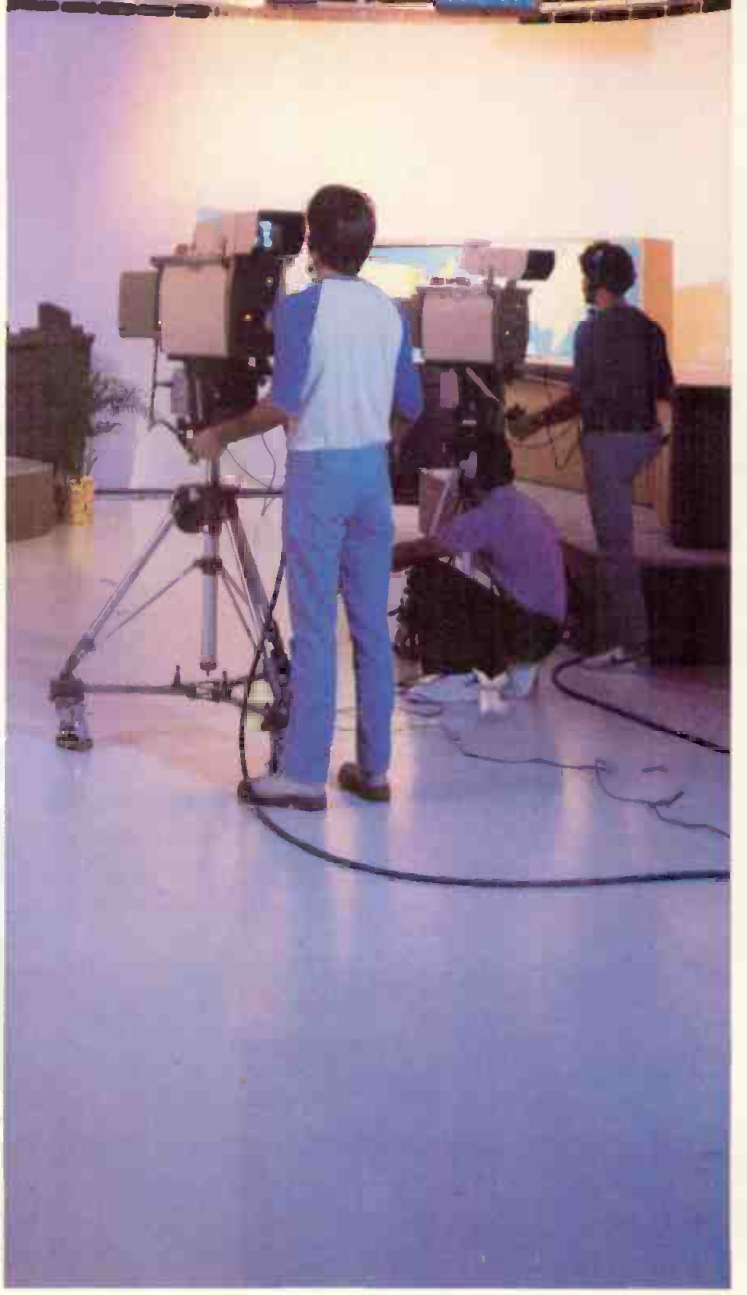

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3M

Local Radio Scores In U.K.

community-oriented than others, community service is expected from all ILR stations. For example, Radio Hallam, a privately owned ILR station, got behind Doncaster's mayor to spearhead an anti-litter drive by organizing a song contest that helped draw attention to the campaign.

Radio Hallam, incidentally, has four different types of vehicles to get it into the community. First is a news car for reporters. A second vehicle is a complete radio car that is equipped to transmit live from the countryside using Moseley remote pickup equipment. The radio car also can act as a relay station. Radio Hallam's pride is a fully equipped recording vehicle that includes a 32-input two program channel Tweed audio console. This unit can serve as a complete control room for picking up concerts on location. Other equipment in the van includes Studer tape recorders, JBL monitors, and Audio and Design Recording's audio processing equipment. In addition, Radio Hallam has a caravan (mobile house trailer) to serve as a studio for on-location community events.

ILR stations boast that over 52 percent of the people residing in their areas tune in ILR stations. With the expansion that is planned, over 80 percent of the population of the U.K. will soon be served.

Local radio councils for BBC stations

One of the reasons BBC Local Radio is successful in meeting community needs is that each station has its own local advisory council. Some, like Nottingham's, have special subcommittees dealing with specific sections of the program content, such as educational and religious programs and programs for minorities. Every effort is made to avoid "stodgy" educational programs. On the political front, Local Radio tries to get local officials on the air to present their views.

Councils are a constant reminder that Local Radio is a cooperative activity between professional broadcasters and the community — not a mere provider of programs for listeners. **BM/E**

Community Stations On The Rise

Local radio did not begin in the U.K. until late 1967, one year after the government authorized the BBC to set up nine local stations. Following a formal assessment toward the end of 1969, 12 more were authorized. Commercial radio began in 1973, again one year after a government White Paper entitled *An Alternative Service for Sound Broadcasting*. With the launching of ILR (Independent Local Radio), the monopoly held by the BBC ended. In a departure from the past, ILR stations were authorized to sell advertising.

At the close of 1981, 22 BBC local radio stations were on the air, with six more under construction. Ten more have been authorized, which will bring the total to 38 when all are completed.

ILR stations on the air at the end of 1976 numbered 19, but an expansion was authorized in 1978 permitting nine more. Then in 1979, 15 more ILR stations were authorized. This number was extended yet again when another 25 got the go-ahead in 1981. This year, franchises were awarded to the 15 authorized in 1979 so that 43 ILR stations will soon be on the air. With 38 BBC Local Radio stations and 68 ILR stations authorized, the U.K. will soon be served by 106 community stations.

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Write to P.O. Box 6600, Buena Park, CA 90622 for complete information. We're confident that the more you know about the PM-2000, the more you'll realize it's the mixer you have in mind. And the PM-2000 is available at select Yamaha dealers now. So you can have it in hand, right away.

YAMAHA

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HOW RADIO OPERATORS GET A REAL LIFT FROM REVERB

Artificial reverberation is helping a substantial number of radio operators to produce sound that will attract listeners and mark the station off from the competition. What some of those operators are doing with reverb, as related in this article, may suggest ways for others to improve sound quality.

MONO VOICES that have a feeling of "space," for a better match with stereo music and automated music with close continuity that "covers" switching gaps, are just two of the gains from reverb that turned up in a survey of radio operations around the country.

The uses fall mostly into two classes: improving an on-air sound (recorded or direct) that is noticeably low in acoustic quality compared with adjoining material; and supplying a wide range of special effects in production, especially in production of commercials. Some applications do not fit either category exactly. But the classification is useful because it is likely to suggest additional uses for reverberation that may be important to radio operators, but not covered in this sampling.

Looking first at improving the quality of on-air signals, we note one typical situation. The announcer for a stereo music broadcast operates in mono, in a small separate booth or other acoustically dead space. The contrast between the voice and the music can be painful — the voice is small, dead, and unattractive.

Several of the reverb systems on the market will not only give the voice acoustic power, but also provide a kind of "acoustic stereo" that seems to spread the space surrounding the voice. The quality will be much more attractive and will come reasonably close to the spread-out character of good stereo.

This applies not only to live concert pickups, but also to broadcasts from stereo recordings. The better stereo recordings carry their own acoustics, their recorded reverb, which gives power to the music. Against these recorded acoustics, a mono voice in a dry space can be ugly indeed.

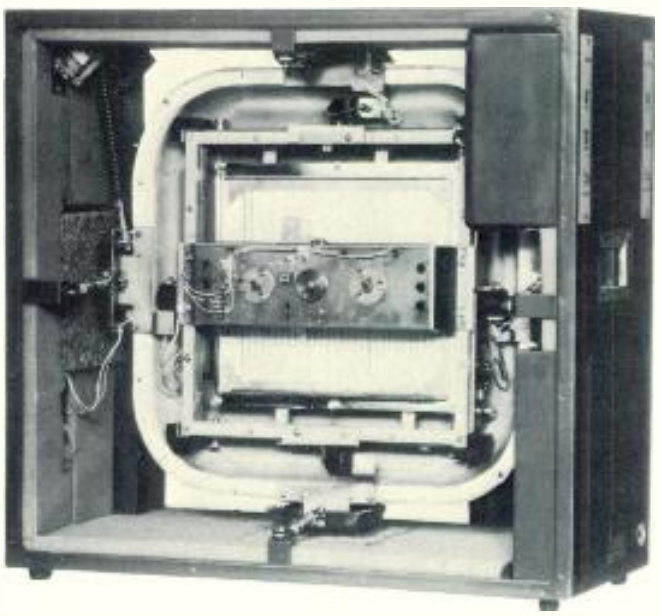
A carefully adjusted amount of reverb on voice strengthens the radio sound in other situations. Some stations use reverb on all DJ mic inputs, setting the amount at the right level for each voice. This can be systematized to the extent of having a small plug-in device that sets the reverb and equalization to the best values for each voice. Each DJ carries a plug-in with him and puts it into the console before going on the air.

Of course, reverb is not just for voice. Stations airing a lot of music from mono carts are likely to be up against competition from FM stereo stations in the market. Even on mono receivers, the cart sound may be poor in comparison with that produced by FM stereo. On stereo receivers the difference can be sharp.

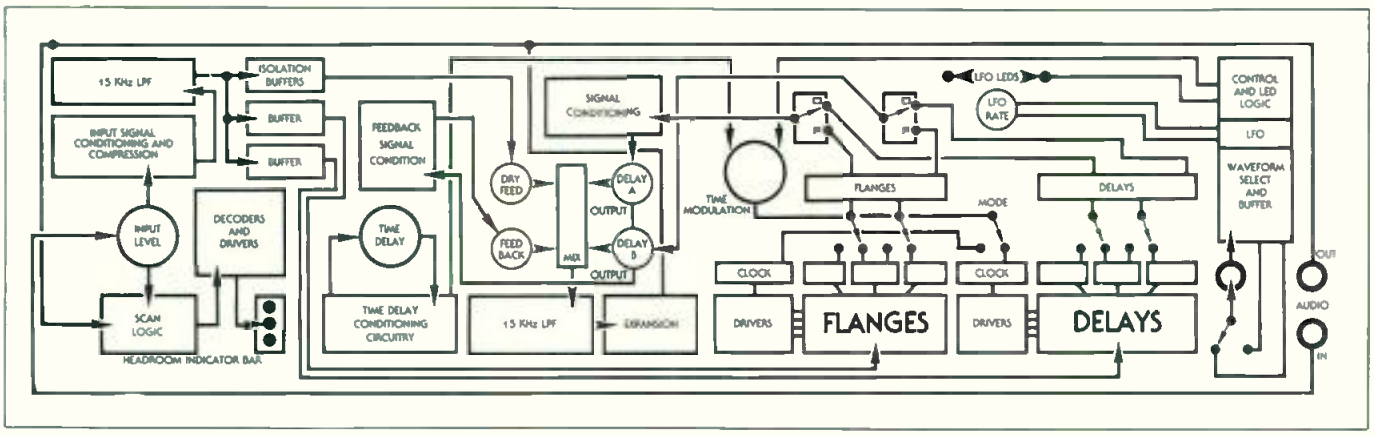
Again, reverb can help, with or without the "reverb stereo" effect (better with it, as a rule). Reverb on a recorded music channel adds a good simulation of acoustic power, but also makes the channel more "forgiving" of frequency weaknesses or bumps, noise, unevenness in levels. These and other technical faults are less obtrusive with well-adjusted reverb in the channel.

On WABC in New York, one of the most successful pop music stations in the country, a plate reverb system has for years functioned in a way that should suggest

A modern spring reverb system, the AKG BX20E, has a multi-spring design and flexible controls to adjust frequency response, decay rate, and other parameters



The "gold foil" plate reverberation unit, EMT Model 240, with back removed to show drive unit (left center) and elaborate suspension system to isolate plate from outside vibration



Simplified block diagram of one of newest delay-line systems, Marshall Model 5402, which supplies artificial reverberation as well as many special effects

another whole range of uses. To make the music sequences and announcements fit more tightly, reverb on all programs "spreads" the sound a little whenever it is abruptly cut off. Thus the sound tends to fill the switching "spaces." Even though these are short, WABC wants the more continuous effect of the reverberated sound. The plate system is well adapted to this, with its highly diffused "decay period" reverb that can be set to hang on for a wide range of periods.

The same approach to continuity could be useful in automation systems of various kinds, but more especially when manual switching involves a human reaction time. Near-total sound continuity is not paramount in every radio operation; but when it is, reverb can help substantially.

Mentioned in the first article of this series and worth repeating here is an important gain that many operators can draw from on-air reverb. It can make the sound seem louder without a corresponding increase in the power level. A station can take a step ahead in the loudness competition without increasing the actual modulation.

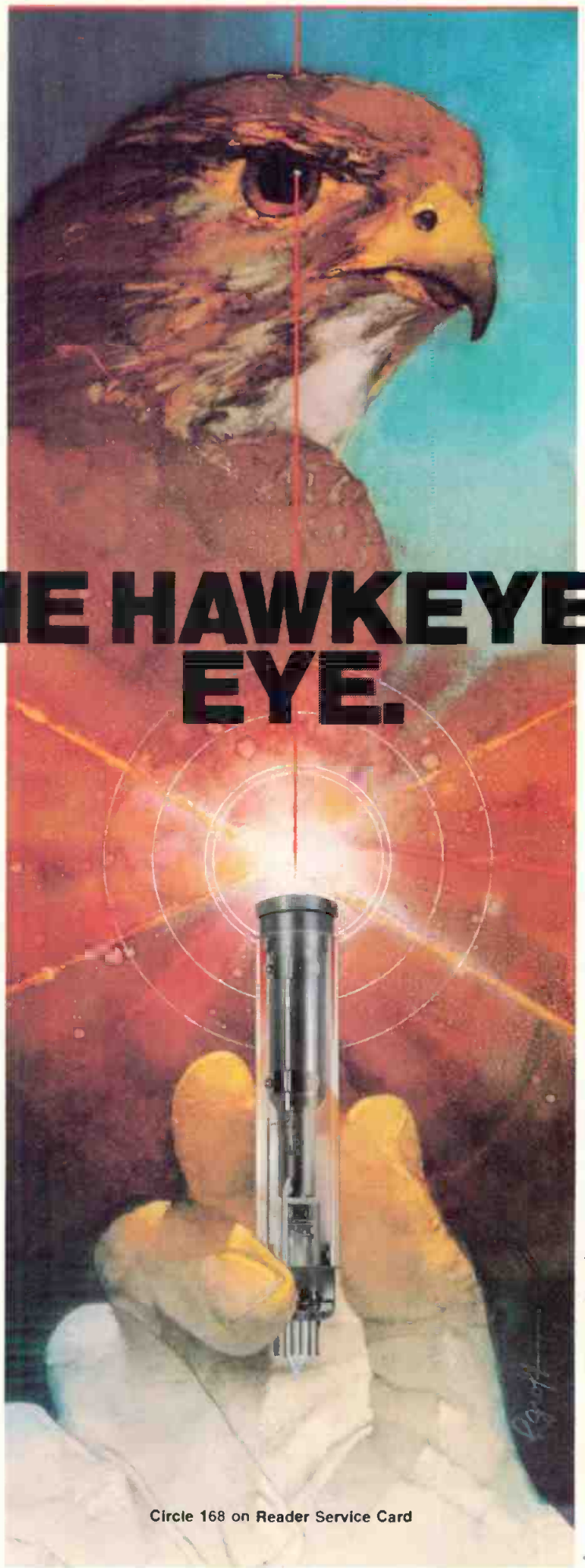
The strong revival of interest in music of the 30s, 40s, and 50s (see the Program Marketplace in this issue, p. 28, for a story on this) has opened up another area of usefulness for reverb systems. Recordings made before 1958 are, of course, all in mono. The stereo "space" that some of the current reverb systems supply can help tremendously, giving these old recordings a resonance that makes them sound fairly close to real stereo. Actual stereo instrument spread cannot be created if it is not on the recording, but the stereo sense of space can be pleasingly simulated. Reverb in this application seems to be another valuable tool in the radio competition of the present and future.

Remote pickup of voice and music from acoustically poor spaces is another large area in which artificial reverb can help strongly. On voice the gain can be much more than just additional resonance and power. Noise, poor frequency balance, and other well-known ills of long-line pickups can be made somewhat less offensive with judicious reverb at the receiving end.

Music at remote pickups will have a very wide range of acoustic settings, from classical concert halls to outdoor bandstands to tiny night clubs. Broadcasters usually try to get the concert hall character itself onto the line along with the music. This is a function of microphone technology, and those broadcasting classical music usually will not add artificial reverb.

The outdoor concert is at the opposite extreme; it has *no* reverb of its own, and the broadcaster may well want to

INTRODUCING



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add some. The reverb can make the music far more impressive and emotionally powerful.

In the average small night club, the first problem is often to get voices onto the line with a good margin above the noise. After that has been tied down, reverb may be useful. Every space has its own peculiarities. The pickup engineer needs ingenuity, perseverance, and a good ear, as well as excellent microphone technique and a feeling for what the station's artificial reverb system can do.

Science fiction programs can use extreme amounts of reverb, as well as the whole panaroma of "special effects," which we are not considering in this article. Very long reverb of the right kind produces the "vast space" effect, now so familiar to moviegoers as well as radio listeners. Serious drama, slowly building on radio, is a most fertile area for creative use of reverb. A sense of distance, or of the difference between inside a room and outside, can be sharpened with the help of reverb; in dozens of dramatic situations, reverb can help create the scene.

Commercials: reverb sells

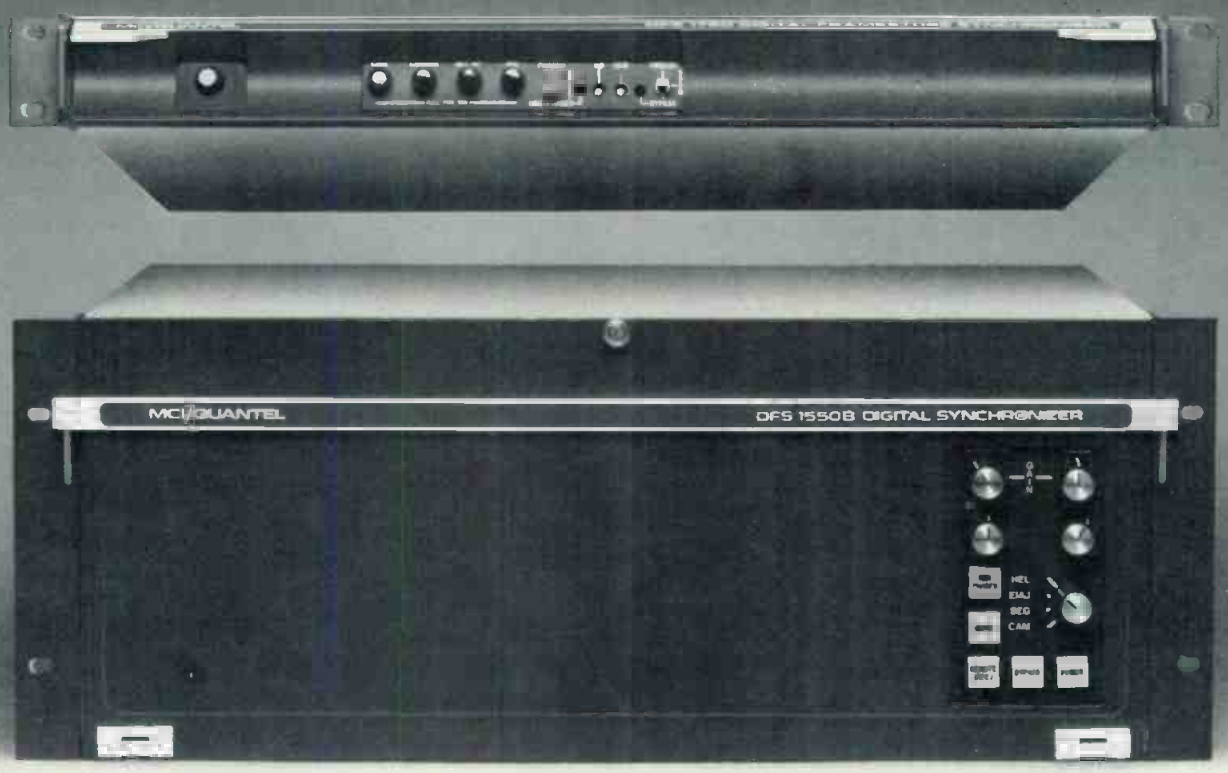
A heavy majority of the radio stations *BM/E* found using reverb used it mostly to add excitement to the ads they produced. At KPLZ in Seattle, chief engineer Lauchy MacMillan reported that the station's MicMix reverb system had become a basic tool in ad production, making ads more impressive to clients and to listeners. The system picks up voices, puts in large space when it is appropriate, and gives the right character to music passages.

Steve Brown, chief engineer at WHBY in Appleton, Wisc. was similarly busy in ad production with the help of his Eventide Harmonizer. He noted that many ad clients want a "big" sound; others want a futuristic sound. The reverb system allows the production crew to satisfy all such demands and many others. A third, similar operation is that of WVJS-WSRO in Owensboro, Ken. Chief engineer Michael Fleming said his Ursa Major Space Station supplies a large array of different special effects for commercials. The Space Station setup of reverb simulating rooms of different sizes often proves useful.

Chief engineer Fred Moore at WYNY, New York, told *BM/E* that his new production studio, to open in mid-November, will include an AKG spring reverb system as basic equipment. This emphasizes a final important point. Although the electronic delay line systems have great flexibility, with the added virtue of supplying scores of special effects, if reverb only is needed the plate and spring systems should still be considered "alive." The better plate systems, as this series of articles has noted, supply an excellent decay-period reverb, with many random, well diffused reflections. The best spring systems come very close to this at a fraction to the cost of a top-grade plate.

The electronic delay systems are just moving into real competence in producing the randomness and diffuseness needed for smooth, convincing reverb. This takes very smart technology, and it is beginning to arrive. So the long future belongs here, in a price bracket well above that of the other kinds of reverb system. For smaller budgets the mechanical systems seem to have staying power. **BM/E**

The Quantel 1750 and 1550.



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BM/E
NEWS FEATURE

Satellites And Computers Star At RTNDA

AS WITH PAST RTNDA Conventions, this year's gathering in New Orleans (September 10 through 12), featured the same chicken-and egg debate over which controls the industry — technology or journalism. But unlike last year where all the discussion of technology was confined to the exhibit floor, this year's convention seemed to embrace technology like a long-lost relative. Two evening sessions on news computers were packed, and an overflow session on satellites caused so much comment that RTNDA attempted to put together a second session.

In addition, the reporting of weather, with its increasingly sophisticated graphics and computer simulations drew attention in a session and on the exhibit floor.

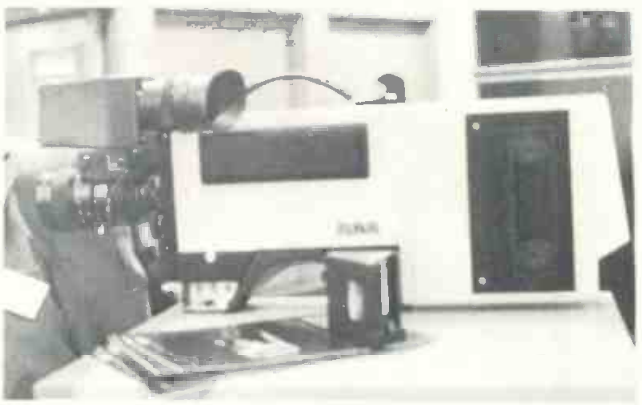
In fact on the exhibit floor, the booths that dealt with weather graphics and newsroom computers got heavy traffic. Several new companies have swelled the number of vendors hawking weather systems and newsroom computer functions. A few of the newcomers were offering scaled-down versions for less money.

Camera ware

RCA was the only camera manufacturer showing a one-piece camera/recorder. Unfortunately, many news directors were under the mistaken impression that the Hawkeye system is not compatible with the U-Matic and one-inch formats and with other manufacturers' edit controllers. RCA demonstrated the playback and record unit with a Sony BVE-500A controller. RCA, in fact, had the interface for the Sony controller ready before the Hawkeye introduction at Las Vegas in April. Shortly after NAB, CMX/Orrox, Datatron, and Convergence made commitments to build interfaces for their controllers and the Hawkeye playback unit.

RCA also has an interface for its own AE 800 editor, along with a composite video converter that allows existing ENG cameras to record with the Hawkeye portable recorder.

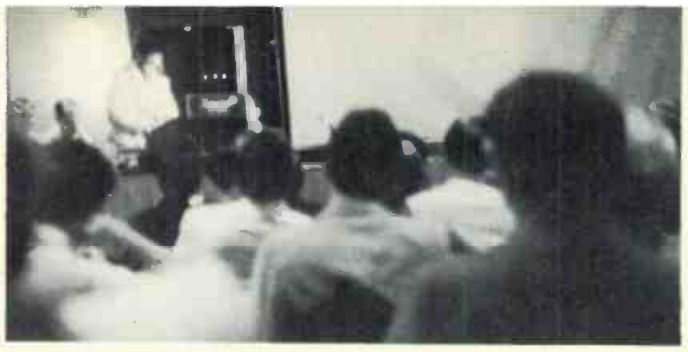
With all this versatility, some news directors were unaware of Hawkeye's compatibility. For instance at a meeting of the CBS affiliates there were loud



The RCA Hawkeye camera/VTR sparked a lot of interest on and off the exhibit floor

Newsroom computers and weather graphics systems continue to be popular among news directors. McInnis-Skinner & Associates markets both a news computer and a weather system

complaints about the apparent push to change ENG formats. Moreover, during an RTNDA business session, a resolution reached the floor asking the organization to oppose formally the introduction of a new format. The resolution was soundly defeated, but as one industry observer noted, "it's not an engineering problem with the one-piece cameras — it's a communication problem."



BM/E Senior Editor Stephen Miller explained the history and probable future of news computers to RTNDA members at the first of the computer workshops

Speakers address variety of topics

Another interesting change from last year's convention was the tack taken by the luncheon speakers. There was little of the technology-is-getting-away-from-us rhetoric. Richard Wald of ABC went so far as to say that the networks have stolen ideas from local stations on the look and feel of newscasts, while at the same time disdaining the contribution of local news. Wald's main thrust was for more, not less, competition in news. He complained, however, about what he termed "terminal perky-ness" from some local newscasters. He thinks that the content sometimes gets lost.

Lem Tucker of CBS news gave this year's "mea culpa" speech, offering the assembled broadcasters something to feel guilty about. Tucker came as a substitute for his colleague Ed Bradley. "Being a halfway smart reporter . . . I think I know what they want me to talk about," Tucker admitted. He pointed out that while strides had been made in putting minorities in front of the camera, few minority persons were in decision-making positions such as news director.

The star of the speakers was Walter Cronkite, who was receiving his second Paul White Award. Cronkite expressed concern about some of the sloppiness that he saw running through the journalistic community with the too-frequent use of unnamed sources. He told the news directors that they should be more diligent in keeping comments on the record and with attribution.

Satellites an "up" topic

The two technical sessions that got the most interest from the RTNDA members were those on satellites and newsroom computers.

The satellite session was filled to overflowing, indicating the intense interest in the application of satellite technology in news gathering. All the panelists agreed that satellites were enormously useful, but most of the users felt that it was difficult for a news department alone to justify the cost of an earth station.

Jack Gallivan of KUTV-TV, Salt Lake City, said, however, that his station's dish gets a daily workout. A daily feed comes in from the station's Washington, D.C., bureau, opened early this year. The dish also takes in frequent feeds from around the world as the station covers the activities of the head of the Mormon Church. Those feeds have come from as far away as Israel. The programming department also brings in

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some syndicated material on the dish. When the dish is not being used by other departments, the news department monitors Cable News Network.

Gallivan says the dish is in such demand that KUTV is "about ready to go to a second dish."

Dick Mallary of WSB-TV, Atlanta, expressed concern that satellite technology may be "ahead of our ability to use it well."

Because of the popularity of the satellite session, RTNDA officials unsuccessfully attempted to schedule a second session before the convention ended.

Newsroom computers a big draw

They didn't have that problem with the session on computerized newsrooms. The group planned from the beginning for two evening sessions of two hours each. Both sessions drew full houses, even though the first night's session had to compete with the ABC affiliates meeting.

Larry Cooper, CBS Radio, explained to the overflow crowd his experience with a news computer at KCBS

The general tenor was that the computer will be a news room fixture. Howard Kelley of Harte-Hanks Communication opened the first session by telling the group, "it's not a question of *if* you will computerize but *when*. If it's not cost-effective now, it will be. It may not be a competitive advantage now, but it will be — and sooner than you think."

Stephen Miller, *BM/E* senior editor, predicted, "The quality of reporting and production that will be available to those who use computers properly will be lightyears ahead of the competition."

Bill Ballard of Jefferson Data Systems explained that computers will drastically alter the way broadcasters do business. Those that understand this will survive, he said, "but broadcasters who see computerization as just another gadget will not."

Ron Hudson of McInnis-Skinner Associates pointed out that a background in computers is not necessary for the wise choice of a system. "How a system does what it does," said Hudson, "is not nearly as important as the fact that it does what you need it to do."

At the second session, Larry Cooper of KCBS Radio, San Francisco, gave a compelling arguement for a computer in the newsroom when he related the story of how his station was able to get on the air a full five minutes before the network with news of the attempt on President Reagan's life. Cooper said his anchor was able to read the bulletin off the terminal as soon as it came off the wire because he didn't have to wait for someone to write hard copy.

One function of the second panel was to answer many of the questions raised at the first session. George Pupala of Station Business Systems was able to prepare a detailed list of arguments to support the value of a newscomputer. The list was made available to any news director who visited the SBS booth — printed out of course, the firm's newscomputer.

Jazzing up the weather

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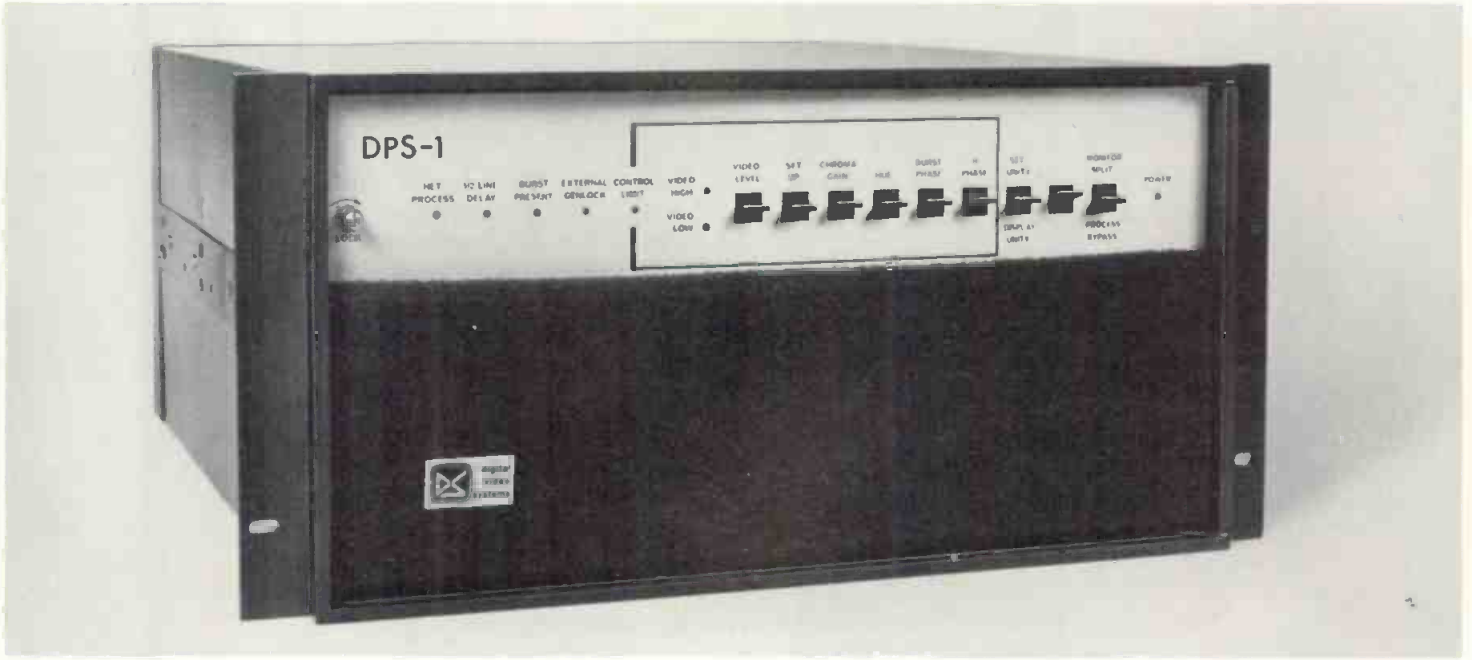

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NEWS FEATURE

The number of companies marketing weather graphics systems increased by 60 percent

an increasing number of companies are getting involved in the marketing of weather systems. At last year's convention, five companies displayed their systems. This year, there were eight.

Arvin/Diamond made its first appearance at RTNDA to show off its new Sat-Weather 3 system. The system accepts digitized weather information from NOAA and processes it into a color video weather display. Arvin/Diamond announced that it has begun shipment of the Sat-Weather 3 system to a number of stations.

Synsat Communications, familiar from previous RTNDA shows, this year introduced a low-cost weather system. This system takes the NOAA information directly from the satellite via a two-meter dish. The system can only furnish a black and white picture with cassette storage, but John Uldrich stressed that the system is for those stations in the smaller markets that can't afford the more expensive colorized systems. The Synsat system costs about $7000.

A newcomer to RTNDA was Weathercaster, which previously made its first appearance at this year's NAB. The company's system actually forcasts weather based on past history of the region and remote sensors placed at various points in the coverage area. The dual processor system has one computer to handle the incoming information while the other processes the information for on-air display.

Other weather services on exhibit were Colorgraphics, IPS, TSC, WeatherGraphics™, and Weathermation.

Newsroom computer services

Added to the current news computer systems were several companies that offered some aspect of computer services for newsrooms, but fell short of full-blown systems. The most intriguing new vendor was McHugh and Hoffman, of news consultancy fame. McHugh and Hoffman did not exhibit on the floor, but showed their new Master news computer system in a suite.

The system is designed for first entry into the news computer field and handles simple housekeeping chores, such as cataloging stories, videotape, slides, artwork, and lists of area schools for use during snow emergencies.

The Master system uses an Apple II Plus microcomputer and, with the McHugh and Hoffman software and one day's on-site training, costs $5000. Following the show, McHugh and Hoffman announced that they will make the software available for those stations that already have Apple II Plus microcomputers for $2000.

Integrated Technology did not exhibit either, but several of its customers were in New Orleans so the company used its suite to show its new terminal, which will be installed at WRC Radio by the time this is published. One of the plusses of ITI has been its speed of retreival. The new terminal has been redesigned to cut down on keystrokes, reducing even further the time it takes to perform some functions.

Basys announced that it has been awarded the contract to computerize CNN's second network. The company also said it had made its first international sale and will be furnishing a system for ITN in London.

A surprising exhibitor was Newsgame, a promotional device for news departments. Newsgame is a board game in which the players pretend that they are reporters in the field charged with the responsibility of covering four news stories, with all the pitfalls, and getting back to the station first.

The game is customized with the station's talent and logo and is promoted for sale in local stores with the profits going to charity. WKBW-TV, Buffalo, N.Y., used the game last year and sold 8000 in two weeks. The proceeds, over $30,000, went to a local children's hospital. **BM/E**

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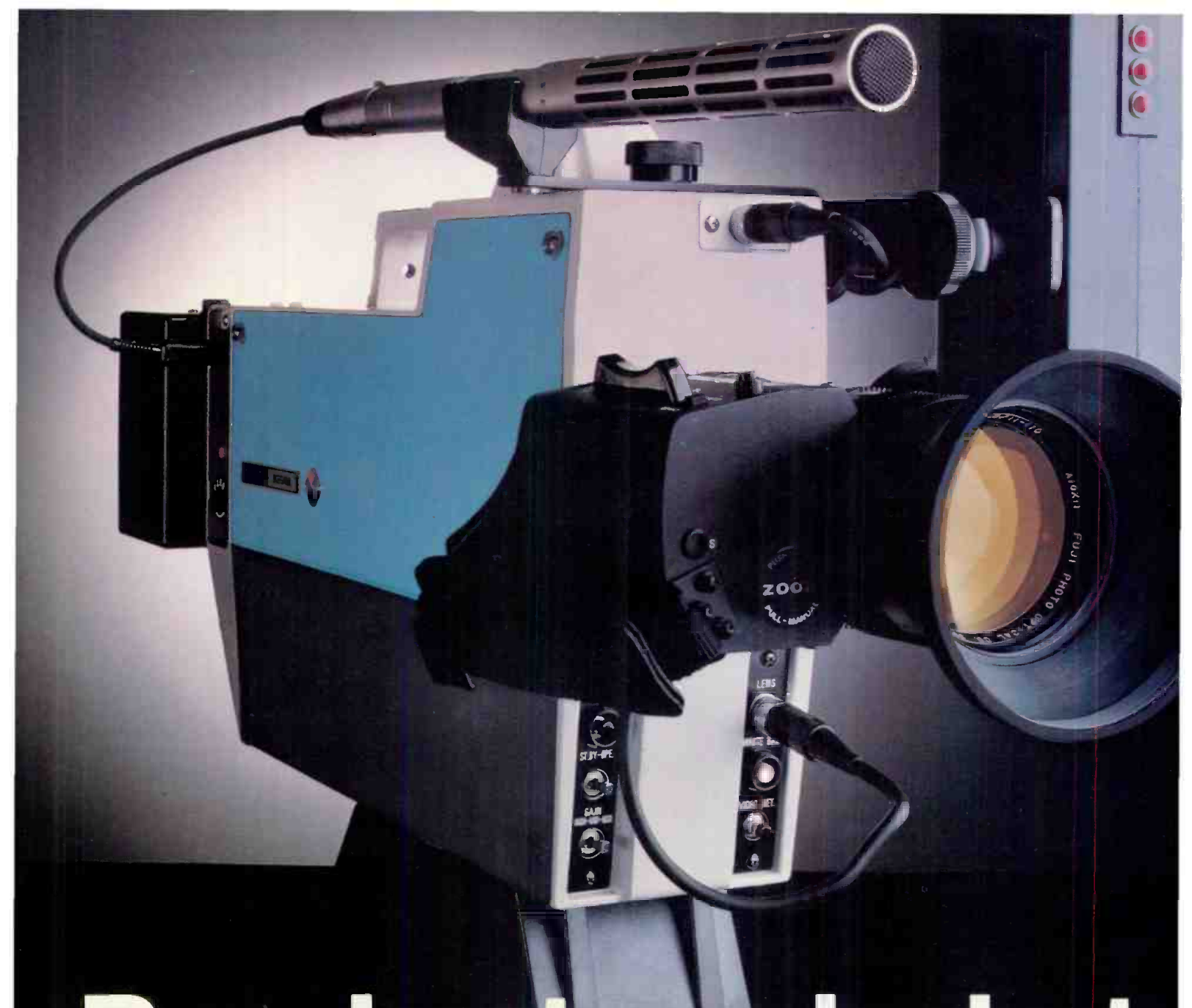

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And, the ITC-350 is versatile. it could be the only camera you need to cover fast-breaking news, manage field production, and handle studio origination. Its light weight (13 lbs. with battery and viewfinder) and low power consumption (15W) make ENG applications a natural. Add an optional CCU and 5" viewfinder (both powered from the camera battery) and you're ready for EFP/Studio use in minutes.

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BM/E NEWS FEATURE

NRBA: Network Star Wars

MUCH OF WHAT went on outside the formal sessions at this year's NRBA in Miami Beach could be summed up in one word — satellite. Every program syndicator worth his weight in transponders was hawking a radio format distributed by satellite, and because of the distribution system, each was portraying itself as a network.

The other topic of hallway conferences, which did come out at one of the sessions, was how to take advantage of cable. Unlike most television broadcasters, the radio broadcasters saw an opportunity to use cable as a way of expanding the marketplace.

During a session entitled, "How Radio Will be Changed by New Technology and Services," the panelists agreed that cable was not going away and that those broadcasters who took advantage of it could prosper. Kent Burkhart of Satellite Music Network said that cable has the potential to bring in distant signals and increase competition in the market. The main thrust of the panel seemed to be that cable and satellites can alter the face of radio while at the same time offering new opportunities for those broadcasters who prepare for it.

The satellites are bringing radio stations greater access to program sources than ever before. At this year's convention there were, according to one source, 16 companies offering 29 network services, and those that weren't on satellite soon would be. At last year's NRBA the number of networks available on satellite could be counted on one hand.

Even though satellite networks are booming, transponder space is still a problem. The new launchings this year and in 1982 should ease the situation.

Sessions cover familiar ground

Digital audio, audio processing, and satellite technology were the main topics of the engineering sessions, which

The number of exhibitors was down slightly this year, but many said that traffic on the floor was up

Processing Plus made its first appearance at NRBA with a low-cost audio processor

for the most part covered familiar territory.

In the panel on digital audio, the discussion continued to center around the various approaches for proposed standards. Despite lengthy explanations concerning the work of the various SMPTE and AES committees, there was no agreement on when a standard would be reached.

The audio processing panel did come up with one interesting consensus on what would give a station better sound: cleaning up the signal path of the station from top to bottom. According to Bob Orban, "Cleaning up the system is as important as any kind of processing."

Ed Buterbaugh, director of engineering for CKLW, did come up with a reason to go for a better quality of sound, other than the program director's wish for more "thumps." Buterbaugh said that cleaner sound was causing his station's listeners to stay with the station longer, boosting their rating from a 2.5 to a 4. He said the rating rise could be directly traced to better engineering. It seemed to be the first time that someone other than programmers could take credit for higher ratings.

Bill Clark, president and general manager of KABL, San Francisco, was elected NRBA board chairman. Clark replaced Bob Herpe who retired after holding the post for seven years

The satellite session also covered familiar ground, but in the face of the huge number of programmers offering satellite-delivered formats, it had a greater interest. One recommendation that came out of the panel was the possibility of the stations in a market pooling resources for an earth station to cut down on individual costs.

Programmers up, exhibitors down

With the NAB programming conference preceding NRBA by less than a month, the number of exhibitors at this year's conference was slightly less than last year.

Processing Plus, a new exhibitor at NRBA, unveiled a new tri-band audio processor called the IMP-3. The voltage-controlled amplifier (VCA) design seems to offer, if the specs are as good as the company claims, a good buy at $2250.

Harris Corp.'s Broadcast Products Division introduced a powerful text editor and word processing option to its Autotron™ Star business system. The advantage to current users of the system is the new option makes full use of the existing database to upgrade without going to separate word processors.

McMartin Industries introduced a new IF demodulator for microwave and satellite reception. The SPR-3 claims to track transponder frequcney error of up to ±40 kHz with a frequency range of 52–88 MHz.

Broadcast Audio Corp. showed a new compact amplifier with excellent specs that takes up one rack space. It comes in dual and quad 35 W models.

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Audio Technologies, Inc. (ATI), showed its Emph' a Sizer, introduced at NAB, but had production models at NRBA and was geared up to make normal deliveries.

Delta Electronics Inc. featured its RCS-1V remote control system. The company said that it was in the process of delivering nearly 20 of the systems and was beginning its second production run.

Most of the panels drew large and attentive audiences. This year's convention attracted 4000 persons

No entirely new products graced LPB's booth, but the company is offering its Citation series audio consoles with optional slide attenuators.

The syndicators who were offering satellite networks as a means of distributing their products seemed to please many broadcasters with the abundance of available options.

Satellite Music Network (see *BM/E*, September, 1981 p. 23) seemed to mount the biggest offensive for the attention of the attendees. A dish in the parking lot brought in a live broadcast of SMN's Country format from Chicago, as well as continuous messages on the hotel's closed circuit television channel.

CBS's new contemporary network, RadioRadio, is geared for the 17 to 34 year old market. The service, which goes on satellite in 1982, will feature a two-minute hourly newscast. The news will be aimed at the younger listener but will be backed by the expertise and prestige of CBS News.

RKO was pleased that it could offer the conventioneers samplings of RKO Two, which had gone on the air two weeks earlier. RKO Two offers news, sports, and features geared to the 25-54 year old audience. It also offers the all-night talk show, *America Overnight*.

United Stations Country Music Network (US) was introducing itself with the help of one of its partners, Dick Clark, who spent much of the convention posing for pictures with anyone who came by the suite. US is a partnership of Clark, Nick Verbitsky, Frank Murphy, and Ed Salamon. Verbitsky and Murphy joined the company after successfully programming WHN, New York City's first Country music station. US plans to satellite a 24-hour, seven-day, stereo Country format.

ABC Radio Enterprises featured its two new satellite services, Talkradio and Superadio. The first is self-explanatory; the second is a 24-hour contemporary music format. Both will be distributed live.

Continental Radio (*BM/E*, September, 1981, p.23) featured its Adult Contemporary format, which is available via satellite. **BM/E**

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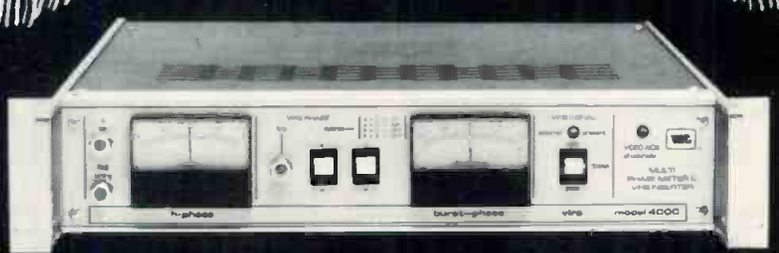

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GREAT IDEA CONTEST

Just one month remains in the 1981 Great Idea Contest. ENTER NOW. You may have the idea that every broadcaster has been waiting for – and if you do, you could win your own programmable calculator.

Editor's Note: Before attempting to implement any Great Idea involving the modification of equipment, station personnel should check with the equipment manufacturer to insure that no violation of warranty will occur.

If the Great Idea involves any technical standards governed by the FCC, stations should make sure that the idea will in no way cause a violation of FCC rules.

25. Editing Tape Directly To Cart

Marshall P. Brown, Chief Engineer
KCEE-AM, Tucson, Ariz.

Problem: The KCEE news department needed a fast way to edit tape directly to cart, without splicing. It was important that any modifications not interfere with normal operation of the ITC PD-11 recorders.

Solution: The simplest way to edit on cart is to have a method of starting and stopping the cart, in the record mode, without recording undesired cues. This is easily accomplished with the PD-11, and should generalize to other models and makes. All that is required is shorting the slider contact of R-317 on the oscillator PC board to ground. This reduces the cue oscillator output to zero and allows the recorder to be started without placing a detectable cue on the tape.

The physical modification is simple and quick. Remove the plate at the rear of the machine that covers the transformer and PC board. Remove the oscillator board and note that R-317 is the top component on the right when viewed from the foil side with the connector to your left. The trace that leads up and to the right from the leftmost pin of R-317 is ground, and the center terminal is the second point of interest. Route the cable from these two points along the foil side of the board, under the top support bar, along the side of the pinch roller solenoid to the front of the machine.

Although the placement of the switch is not critical, I mounted ours just in front of the "cart inserted" microswitch with a couple of drops of epoxy cement. One note

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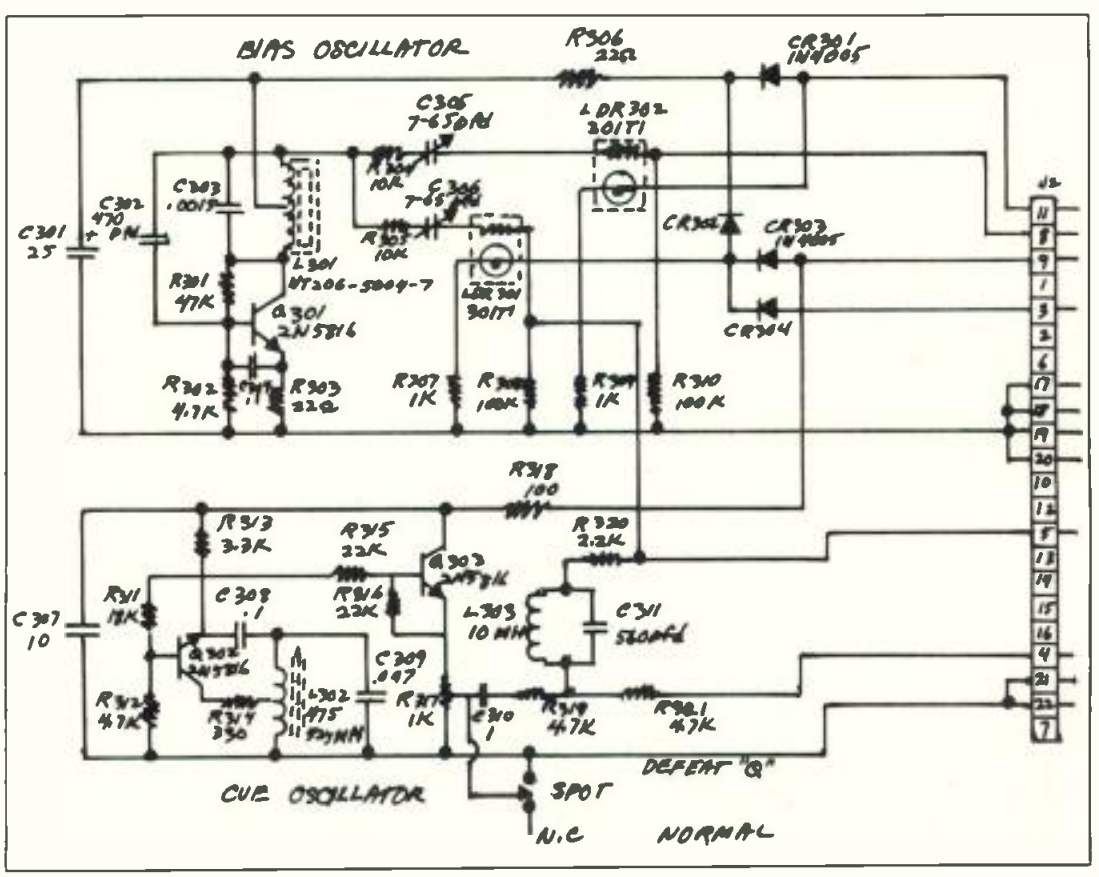
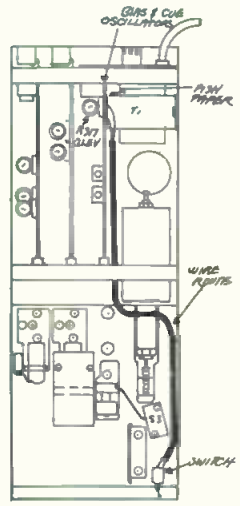
Brown's idea for editing on cart





The switch was mounted just in front of the "cart inserted" microswitch

of caution: make sure that the fish paper is both intact and properly located on the side of the poser transformer nearest the PC board, as the clearance is close.

26. Simple Audio Tracing System

Phil Wells, Chief Engineer
KPSI-FM, Palm Springs, Calif. 92262

Problem: To design a simple, passive audio tracing system.

Solution: I started implementing this simple audio tracing idea when I was in professional sound field work. Get a large, in-line stereo female quarter-inch phone jack. Wire to the tip terminal the largest value non-polarized capacitor you can fit inside the jack. If you cut the terminals as close to the jack as possible, you'll have more room for the capacitor. You may totally remove the "sleeve" terminal. Make a cable, maybe a foot long, of two wires twisted and tie-wrapped together. For each wire, connect gator clips at one end. Connect the free end to the free capacitor lead, and the other to the ring terminal. Don't forget to slide the connector shield on first! (How many times have I done that?)

Now, with a pair of high-Z phones such as Sennheiser HD-414s, you have a relatively high-Z signal tracing system. As long as you avoid obvious high voltages, like tube amp plate circuits, you can listen in satisfactory fidelity to preamp outputs, interstage coupling, wiring harnesses and patchbays, and even telephone blocks. A series resistor might be helpful to increase the impedance even more. But without the resistor and with the HD 414s, the system impedance will be 2000 ohms, which is satisfactory for most situations.

27. Remote Control Telco Failure Sensor

Jeremy R. Burnham, Engineer
KIIS-FM, Los Angeles, Calif.

Problem: KIIS uses a Moseley TRC-15 remote control. Occasionally noise and brief intermittents on the telco line have caused the R/C transmitter unit to step

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randomly, operating devices associated with the transmitter at inopportune times. The unit would not squelch because it saw lots of signal in the form of noise.

Solution: I constructed a dual tone sensor and used an "exclusive OR" circuit to detect loss of an ideal operating condition. As the TRC-15 uses audio FSK, the transmitter unit should constantly see either a 300 Hz or a 380 Hz tone, one at a time. The KIIS R/C failure sensor activates if neither tone is present or if line noise causes both frequencies to appear simultaneously. The output relay then disconnects most control functions. It can be reset from the studio when the telco problem is fixed or when a control function is needed. Status of the failure sensor appears on a metering position.

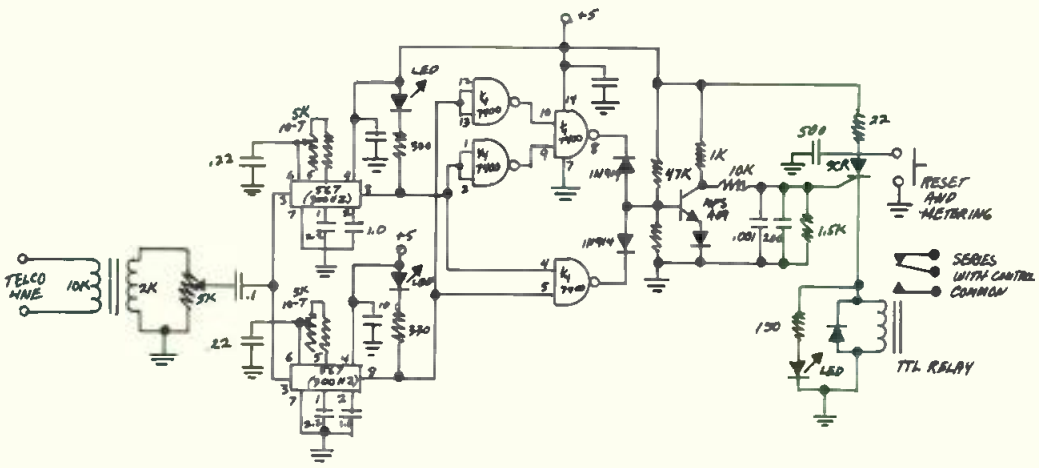

Diagram shows the remote control telco failure sensor

Continued on page 124

HOW TO ADD SPICE TO YOUR VIDEO PICTURE

"It adds spice to our commercial production."

That's what Bob Donahue said about his station's NEC Digital Mix Effects System. Bob is Vice President and Director of Engineering at WMAR-TV, Baltimore, where producing commercials is a big part of the business.

"DME makes our commercial production salable," Bob said. "Before we installed it, we could not flip, tumble or electronically shrink our picture and move it where we wanted in the frame. It makes our entire picture more interesting, because it gives us a lot more flexibility."

Sophisticated video effects are only one of the advantages that NEC's complete DME family of products offers the TV station. It provides full frame synchronization, plus intelligent digital control—all in a simplified, cost-efficient package. It's a highly flexible modular component system, designed to meet today's need for advanced production techniques. And you can expand its functions as your broadcast needs expand.

It's doing something like that for WMAR today. "We can now manipulate the information we have stored," Bob said, describing how DME's exceptional versatility promises to keep pace with the station's continuing growth.

"We also use our DME for our news programs and for smooth transitions between segments of shows," Bob continued. "The fact is, we've still not exhausted its potential, and we're looking forward to exploring new ways to use it."

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Here's a chance to share your own personal solutions to some of broadcasting's most vexing engineering needs: end-of-tape sensing . . . cart deck synchronization . . . on/off-air indication on the mixing board . . . distributing timing pulses . . . and the like.

Each month we will present a specific engineering problem and you are invited to submit ideas on how to solve it. You can send in descriptions and diagrams of equipment you have already built or else ideas on how you think the problem ought to be solved. *BM/E's* editors will read the entries and select some for publication — giving readers an opportunity to vote for the idea they consider best.

To attract the most original solutions possible, we will pay $10 for each entry we print. In addition, the winner of each month's competition — the one voted for most often on our Reader Service Card — will receive an engineering slide rule calculator as a prize.

So put on your thinking cap — and get ready for the first contest problem, which will be presented *here* in the December issue.

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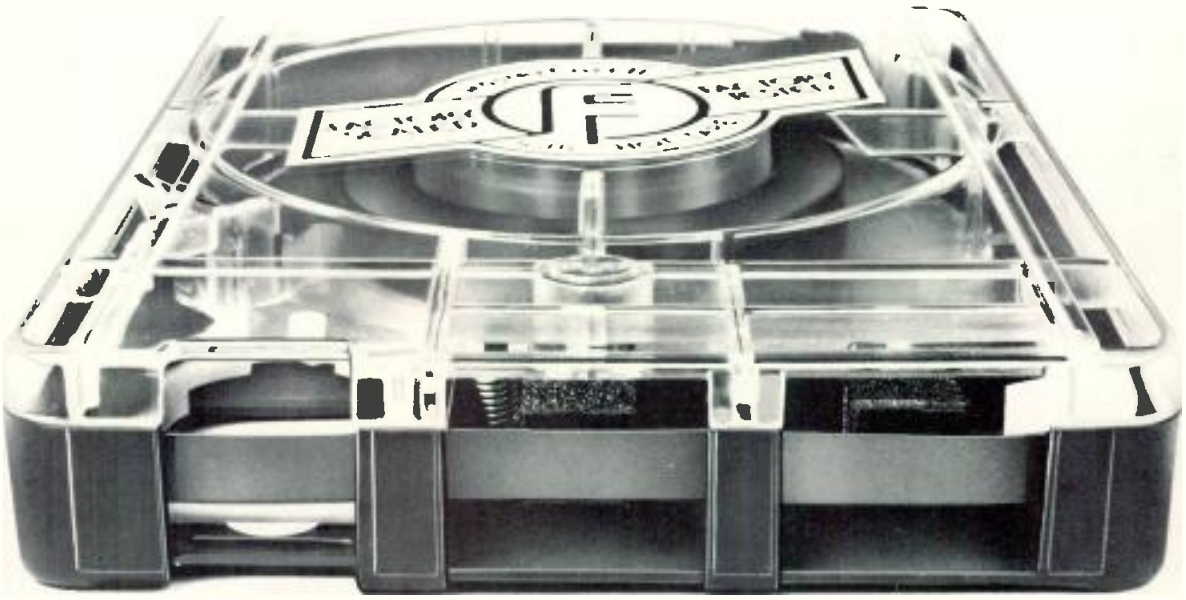

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INTERPRETING THE

FCC RULES & REGULATIONS

Section 315: The Equal Opportunity Doctrine

By Frederick W. Ford and Lee G. Lovett; Lovett, Ford, Hennessey, Stambler & Siebert, P.C., Washington, D.C.

THE NEW CHAIRMAN of the Federal Communications Commission, Mark Fowler, has made it a mission to have Congress repeal Section 315 of the Communications Act, as amended. If not repealed outright, he would seek to have it changed substantially. The two, key components of Section 315 are the so-called "equal time" provisions and the "fairness doctrine." Chairman Fowler and his new majority on the Commission, along with many broadcasters, believe that these two provisions conflict with the First Amendment rights of broadcasters. However, since the passage of the Radio Act in 1927, the Congress has disagreed.

At this time, the outcome of the likely battle in Congress over these two issues is very much in doubt. In the meantime, it is important to recognize each broadcaster and cable operator's responsibility under Section 315. In the next two issues, this column will review the very important responsibilities outlined in Section 315. In this issue, we will review the requirements for equal opportunities for legally qualified candidates to use broadcasting and cable casting facilities. We will discuss the background of the legislation in Congress as well as the court interpretations of that statutory mandate. Next month, this column will examine the fairness doctrine in similar detail.

The statute

Section 315 of the Communications Act, as amended, requires that licensees give all legally qualified candidates equal opportunities to use these facilities once an opposing candidate has been allowed to "use" the facilities.[1] Under Section 315(a), four types of appearances by candidates are exempted from this requirement: (1) newscasts; (2) news interviews; (3) news documentary programs (see below); and (4) on-the-spot news coverage.

Section 315(b) sets forth the requirement that you have come to know as the "lowest unit rate." In brief, stations must charge candidates the lowest prevailing rate for a segment of comparable air-time around elections. Section 315(c) specifically includes cable television operators within this section.

The statute (§315) reads as follows:

(a) "If any licensee shall permit any person who is a legally qualified candidate for any public office to use a broadcasting station, he shall afford equal opportunities to all other such candidates for that office in the use of such broadcasting station: provided, that such licensee shall have no power of censorship over the material broadcast under the provisions of this section. No obligation is imposed under this subsection upon any licensee to allow the use of its station by any such candidate. Appearance by a legally qualified candidate on any (1) bona fide newscast; (2) bona fide news interview; (3) bona fide news documentary (if the appearance of the candidate is incidental to the presentation of the subject or subjects covered by the news documentary); or (4) on-the-spot coverage of bona fide news events (including but not limited to political conventions and activities incidental thereto), shall not be deemed to be use of a broadcasting station within the meaning of this subsection. Nothing in the foregoing sentence shall be construed as relieving broadcasters, in connection with the presentation of newscasts, news interviews, news documentaries, and on-the-spot coverage of news events, from the obligation imposed upon them under this Act to operate in the public interest and to afford reasonable opportunity for the discussion of conflicting views on issues of public importance.

(b) The charges made for the use of any broadcasting station by any person who is a legally qualified candidate for any public office in connection with his campaign for nomination for election, or election, to such office shall not exceed (1) during the forty-five days preceding the date of a primary or primary runoff election and during the sixty days preceding the date of a general or special election in which such person is a candidate, the lowest unit charge of the station for the same class and amount of time for the same period; and (2) at any other time, the charges made for comparable use of such station by other users thereof.

(c) For the purposes of this section: (1) the term "broadcasting station" includes a community antenna television system; and (2) the terms "licensee" and "sta-

[1] 47 U.S.C. §315.

tion licensee" when used with respect to a community antenna television system, mean the operator of such system.

(d) The Commission shall prescribe appropriate rules and regulations to carry out the provisions of this section.

Historical interpretation of Section 315

Congress adopted an equal opportunity provision for broadcasters as early as 1927 when it included Section 18 in the Radio Act.[2] The authors of the statute wished to avoid abuse of the radio by candidates for public office, which even then was recognized as a very powerful communications medium.

In the Radio Act of 1927 and the Communications Act of 1934, Congress essentially took steps which resulted in some limitation of the absolute freedom of broadcasters because Congress had determined to regulate the distribution of frequencies on the airwaves, themselves a public resource. Congress has also determined to regulate railroads, air traffic, and use of public waterways. Although not common carriers, broadcasters still have a duty to serve the public interest, convenience, and necessity. Furthermore, broadcast facilities are limited by the technical fact that only one broadcaster may use a particular facility in a particular location at one time. Thus, a broadcast license signifies a public trust requiring that broadcasters serve the general public interest.

Some argued then (and many people, including chairman Fowler continue to do so) that Section 315 conflicts with the freedom of the press protected by the First Amendment of the United States Constitution. In the *NBC* case, the U.S. Supreme Court drew a distinction that the court applied to the licensing process as a whole:

> "Freedom of utterance is abridged to many who wish to use the limited facilities of radio. Unlike other media of expression, radio inherently is not available to all. That is its unique characteristic; and that is why, unlike other modes of expression, it is subject to governmental regulation. Because it cannot be used by all, some who wish to use it must be denied . . . . The standard provided for the licensing of stations by the Communications Act of 1934 was the 'public interest, convenience, or necessity.' Denial of a station licensed on that ground, if valid under the Act, is not a denial of free speech."[3]

That distinction applies to a broadcaster's responsibilities under Section 315. In 1969, the Supreme Court held specifically that Section 315 did not violate the First Amendment rights of broadcasters. Specifically addressing the Fairness Doctrine, the Court stated that primary right protected by the First Amendment was the *public's right to be informed*. According to Justice White, "it is the right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and expressions which is crucial here."[4]

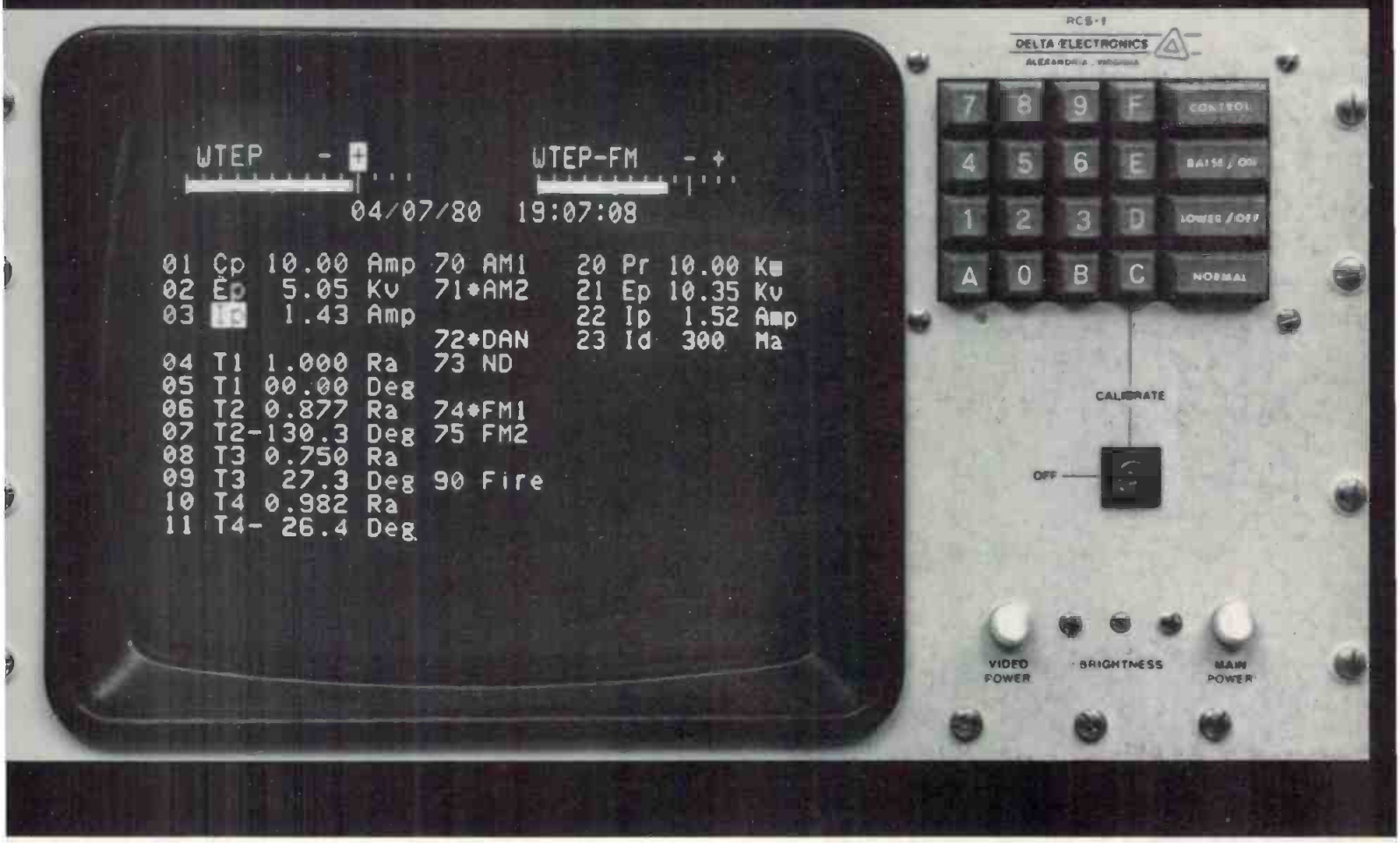
Licensee discretion

Congress has historically not considered this legal re-

Continued on page 130

[2] 44 Stat. 1162, 47 U.S.C. §99 (1927). Repealed and superseded by the Communications Act of 1934.
[3] *National Broadcasting Co.* v. *U.S.*, 319 U.S. 190, 63 S. Ct. 997, 1014, 87, L.Ed. 1344 (1943).
[4] *Red Lion Broadcasting Co.* v. *FCC*, 395 U.S. 367, 388, 89 S. Ct. 1794, 1806-07, 23 L.Ed2d 371, 388 (1969).

LISTEN TO THE DIFFERENCE.



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quirement to be a particularly restrictive one for broadcasters. Indeed, review of the legislative history[5] reveals that Congress all along has sought to give licensees as much discretion as possible when dealing with uses by candidates of radio and television.

In 1959, Congress added the four exemptions to the equal opportunities requirement of Section 315 noted above: newscasts, news interviews, some news documentaries, and on-the-spot news coverage. In doing so, Congress noted specifically that it sought licensee's discretion in matters pertaining to the news coverage of candidates and electoral campaigns. Up until 1959, Commission policy had been confusing. Too often, the FCC decided on the absolute rights for equal opportunities for opposing candidates even when the "use" in question was clearly a news item. The Congress saw the 1959 amendments as a balancing feature which would retain the essential features of the statute:

> "It seems to the Committee that the principle of substantial (as distinguished from absolute) equality of opportunity for qualified political candidates, with respect to appearances on radio and television broadcasts, is a sound principle bearing in mind (1) the importance of radio and television in connection with our political process and (2) the fact that broadcasting facilities, and particularly television broadcasting facilities, are limited in number and subject to government licensing. Therefore, in the opinion of this Committee, an outright repeal of Section 315 would not be in the public interest."[6]

The exemptions to the rule would serve the public interest by informing the public of newsworthy events while avoiding pernicious uses of the media by electoral candidates. In the process, broadcasters would be expected to exercise their news judgement.

The Commission and the U.S. Court of Appeals further increased licensee discretion in matters of equal opportunity as a result of the *Aspen*[7] case. The Court of Appeals acknowledged the Commission's opinion in *Aspen* that "any appearance by a candidate on the broadcast media is designed, to the best of the candidate's ability, to serve his own political end."[8] However, the public does have a right to be informed. The Court held that the principal criterion for evaluating appearances by candidates in one of the four exempted categories was the broadcaster's good faith judgement of the news-worthiness of the event. The Court of Appeals most recently upheld this view in a 1980 case involving the presidential campaign of Senator Edward Kennedy, which tried to show that what it considered a purely partisian press coverage by President Carter merited an equal opportunity to respond.[9] The Court disagreed on the grounds that the major networks exercised

Continued on page 133

[5]Legislative history includes the U.S. Senate and House Reports, hearing transcripts, and remarks by individual members of Congress which accompany the passage of most bills. In and of itself, legislative history is not the law but courts often refer to it in order to determine Congressional intent in a particular law.
[6]House Report on 1959 Amendments to Section 315. House Report 802, 86 Cong., 1st Sess., submitted August 6, 1959.
[7]*Aspen Inst. Program on Communications and Society*, 55 FCC 2d 697 (1975), *aff'd sub. nom. Chisholm* v. *FCC*, 538 F2d 349, 176 U.S. App. D.C. 1, *cert. denied*, 429 U.S. 890 (1976).
[8]*Chisholm*, 538 F.2d at 359.
[9]*Kennedy For President Committee* v. *FCC*, 636 F.2d 417 (D.C. Cir. 1980).

MARQUEE 2000
HIGH QUALITY CHARACTER GENERATION

MADE AFFORDABLE BY B.E.I.

FONT LIBRARY:
A wide range of character styles and sizes is available for the "2000", including a selection of language characters.

Fonts are being added in a continuing basis, and we will be happy to create and supply special fonts to customer specifications.

INTEGRAL FLOPPY DISC STORE: As well as carrying out the various font-loading functions, the integral floppy disc store provides fast memory access.

FONT COMPOSE UNIT (optional): The camera, Font Compose Unit provides the operator with the ability to create his own unique character sets, logos and graphic shapes.

RS-232-C INTERFACE:
A standard feature of the "2000" is its ability to receive asynchronous data from external data processors and computers, via its RS-232-C interface, 20mA current loop, or TTL level input.

COMPACT SIZE:
The "2000" mainframe, which includes the power supply and disc drive unit, measures only 19" (483mm) wide x 14" (356mm) high x 18½" (470mm) deep, and weighs only 61.5 pounds, making it ideally suited for use in a mobile unit.

FONT STORAGE:
The "2000" will display up to four standard fonts, each selectable on a character by character basis from the font memory.

Fonts are stored on floppy discs and entered into the font memory, via the integral disc drive unit.

INTERNAL COLORIZER:
Both background and text can be separately colorized by the internal colorizer in red, green, blue, cyan, magenta, yellow, white and black. Background color can be changed for each row, and text color can be changed for each word. An NTSC encorder is required.

EDGING:
Text, including logos, etc., can be displayed with either surround edging, drop-shadow edging or no edging on a line by line basis, each selectable from the keyboard.

BEI BESTON ELECTR

DOUBLE LOGOS:
A feature of the "2000" is its ability to display rows of characters immediately to the right of the logo or graphic symbol. Double logos are associated with 2 rows of characters.

LOGOS:
Logos and graphic symbols can be created to special order from customers' artwork.

CHARACTER RESOLUTION:
High-speed circuitry enables the "2000" to display characters having start-stop increments of 31.25 nanoseconds.

INTER-CHARACTER SPACING: In order to display captions of correct density and weight, each character is assigned a unique spacing element, ranging from 500 nano-seconds to 8 microseconds, in 31.25 nanosecond steps. In addition to this, individual characters can be shifted to the left in 125 nanosecond increments to achieve true character overlap.

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In fact, even though we're introducing a whole new line of Z6000 editors, the very first Z editor we ever built can be fully upgraded to Z6000 capability for less than $4,500!

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their journalistic judgement in good faith.

Finally, it is important to understand, as briefly noted above, that Section 315 does not grant absolute rights to candidates and impose absolute responsibilities on broadcasters and cable operators. Conceivably, a broadcaster or cablecaster might not grant any opportunities at all to candidates during election campaigns. In this way, no rights of candidates would be abridged. However, the American public would suffer from a lack of information about candidates for public office. The rights of candidates are only conditional ones, that is to say, they only come into effect once another candidate has used the radio, television, or cable television facilities. As the Court of Appeals noted in another decision involving the Kennedy campaign:

> "Since Section 315(a), as its proviso specifically states, does not impose an unconditional obligation on broadcasters to allow use of their station facilities by any candidate, the equal-opportunity grant has aptly been characterized as a contingent right of access. It does not compel a broadcaster to afford access to any candidate, in the first instance, but it does mandate parity for all candidates for a given office once access by one is permitted."[10]

Conclusions

Section 315, like all of the Communications Act itself, seeks to balance several interests in regulating the conduct of licensees. In recognition of the qualities of the airwaves as a public good, Congress and the courts have sanctioned the regulation of broadcasting. In the case of Section 315, the Congress has imposed requirements on broadcasters to grant legally qualified opposing candidates access to broadcasting and cablecasting facilities whenever they are first used by a candidate for the same office.

Beginning in 1959, both Congress and the FCC began granting substantial deference to the discretion of broadcasters in evaluating what is and what is not a newsworthy item. Furthermore, candidates' rights are *not* absolute. Broadcasters might choose to ignore all requests by candidates for broadcast time. Candidates exercise their rights under Section 315 only after another candidate has used the facilities.

We have attempted to discuss the issues involved as discussion mounts over whether or not to retain Section 315. In closing, it is important to remember the particular impact of the broadcast media on information which the American public receives today. "Since 95 percent of our people operate a television set for an average of over five hours a day, and 60 percent rely primarily on television for news, it would be hard to overestimate the importance of television to our political processes."[11]

The impact of the broadcast media is such that if and when Section 315 is ever repealed, it will not happen without substantial discussion in the press, in the Congress and in the courts. **BM/E**

[10] *Kennedy For President Committee* v. *FCC (Kennedy II)*. 636 F.2d 432 (D.C. Cir. 1980).
[11] *Wick*. "The Federal Election Campaign Act of 1971 and Political Broadcast Reform." 22 DePaul L. Rev. 582. 1973.

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BROADCAST EQUIPMENT

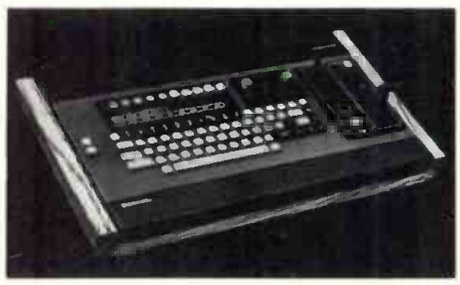
Reel-to-Reel Recorder/Reproducer 250

The 770 Series reproducer and recorder/reproducer, designed to meet or exceed NAB standards, are available in a variety of configurations including one or two-track, mono or stereo, with tape speeds of 3 ¾, 7½, and 15 ips. The reproducer is suited for program auto-

mation system applications, while the recorder/reproducer is a moderately priced general-purpose machine. Both are constructed with a heavy half-inch thick aluminum tool plate deck for stability and have a unique, high-quality professional head assembly with two torque motors for supply and take-up reel handling and dc servo capstan motor for tape drive. Other features include cast stainless steel turntable; long-life, positive action control switches; multispeed dc servo capstan motor; automatic cue lever and tape lifter; and improved magnetic playback head. INTERNATIONAL TAPETRONICS CORP.

Character Generator 251

KR6000 is a new post-production character generator that can operate as a standalone or with a computer-aided editor. It may be operated manually with any video source (heterodyne or RS-170) without sync generators, switchers, or keyers. It will also serve as a full alphanumeric keyboard for the maker's Z6000 editing system. The



character generator automatically genlocks to any color input signal and produces composite sync and burst even if there is no input signal. A built-in downstream keyer dissolves graphics and titles onto the incoming signal; the entire composite picture can be faded to or from black. The fade and dissolve durations can be either user-programmed or manually controlled. The unit has one fixed and three interchangeable cartridge-type fonts, which may be ordered in any size; character spacing is proportional. Up to 16 colors can be selected, character by character. From $13,500. VIDEOMEDIA, INC.

For more information circle bold face numbers on reader service card.

Audio Delay 252

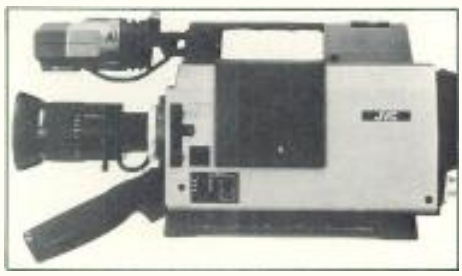
Model 4502 Time Modulator, offering delay capabilities of 400 ms, has two isolated delay lines with three taps each, assignable to two processing buses, one positive and one negative. The digital-assisted control format makes the unit easy and fast to operate, the maker states. Features include 2000:1 delay range, from under 200 μs, with comprehensive mixing facilities; full 15 kHz bandpass and 95 dB dynamic range at all delay settings; full 72:1 continuous sweep range; programmable locked sweep delay ratios of the internal delay lines; separate modulation waveform selection switch, LFO high and low sweep LEDs, isolated flange and delay sections; ultra fast headroom indicator; independent output level (mix) controls for each assigned delay tap; expanded effects catalog. MARSHALL ELECTRONIC.

Video Camera 253

Model KY-1900U is a three-Saticon® video camera with 500-line center resolution and specifications equal to the

Broadcast Equipment

first-generation KY-2000U at nearly half the price. Weighing 7.7 pounds, the camera has S/N of more than 52 dB and 230 fc sensitivity at f/4.0. A +9 dB switch provides greater sensitivity



under low light conditions. Other features include automatic beam control, automatic white balance, and automatic iris. The camera comes with a 6:1 zoom lens and will accept a 10:1 or 14:1 servo zoom. Dichroic optics and a C-mount configuration permit the use of many 35 mm or 16 mm camera lenses. Power consumption with viewfinder is 15 W. $4900 with 6:1 lens; $5700 with 10:1 servo lens. U.S. JVC CORP.

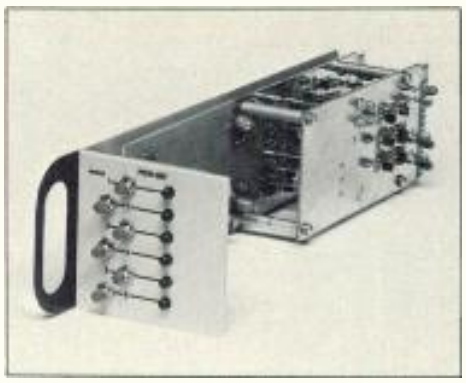
Stereo Measuring Decoder 254

The SMD-203 stereo measuring decoder, a companion unit to the maker's SC-200 series digital stereo generators, is designed to detect even minor changes in amplitude or phase charac-

teristics of transmission systems using FCC-encoded stereo multiplex signals. Specifications of the decoder include: frequency range, 30 Hz to 53 kHz; input level, −12 to +12 dBm, input impedance, 2 x 20 Kohm balanced; common mode rejection ≥ 50 dB; output level, +6 dBm (other values on request); output impedance, 20 ohm maximum; crosstalk rejection L/R, > 60 dB; distortion, < 0.1 percent; SCA rejection, ≥ 74 dB; S/N, > 80 dB. The unit runs on 110/240 V ac, 40/60 Hz and is rack-mountable. C.N. ROOD B.V.

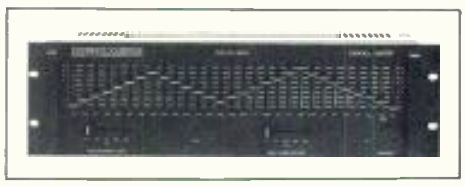
Vertical Interval Switcher 255

PSW-367 is a six by one vertical interval switcher for use in the maker's modular Series 300 video test system. The new switcher combines the capabilities of a test signal switcher and a six-input video switcher, providing an economical method of selecting the various output signals from the 300 system or any other six external video signals. From the single module, any one of the six external inputs may be selected by a front-panel pushbutton. The unit has two 75 ohm source-terminated outputs. LENCO, INC.



Graphic Equalizers 256

The 1651A active graphic equalizer is a single-channel model with 10 munimum phase shift, active band rejection filter sections. Enter-detented slide controls provide ±12 dB boost/cut at ISO-preferred one-octave frequencies (31.5 Hz to 16 kHz). The 1652A is a stereo version with the same features; both models incorporate a continuously variable high-pass filter with 18 dB/octave roll-off and user-selectable lowpass filter with 6 dB roll-off at 12.5 kHz. Model 1653A, the top ot the line, is a fourth-generation ⅓-octave EQ device with 29 minimum phase shift, active band rejection filter sections (25 Hz to 16 kHz) and continuously variable high-pass and low-pass filters providing roll-off at 18 dB/octave from off position to 20 through 160 Hz (high-pass) and from off position to 5 kHz through 20 kHz (low-pass). ALTEC LANSING.



For more information circle bold face numbers on reader service card.

Film Editing System 257

EPIC is a video-assisted film editing system that overcomes the problems of matching film frame rates with video frame rates by updating the videotape vertical interval time code every field, rather than every frame. Film edge numbers, frame numbers, and other data are stored in user bits in the time

Cherokee Studios, Hollywood, California.

JBL 4313 Studio Monitor.
It flattens the competition.

Introducing the 4313.

Flat frequency response. It means accuracy. Naturalness. Reality.

JBL gives it to you without the bigger box that you'd expect along with it, since the 4313 only measures about 23" x 14" x 10"!

This new, compact professional monitor produces deep, distortion-free bass. And does it with a newly developed 10" driver. Its massive magnet structure and voice coil are equivalent to most 12" or 15" speakers. Yet it delivers heavy-duty power handling and a smoother transition to the midrange than most larger-cone speakers.

The 4313's edge-wound voice coil midrange accurately reproduces strong, natural vocals and powerful transients.

Up top, a dome radiator provides high acoustic output with extreme clarity and wide dispersion. A large 1" voice coil gives it the ruggedness needed in professional use.

Working together, these precision matched speakers offer superb stereo imaging, powerful sound levels and wide dynamic range.

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We think you'll agree that its combination of flat response, power and moderate size flattens the competition.

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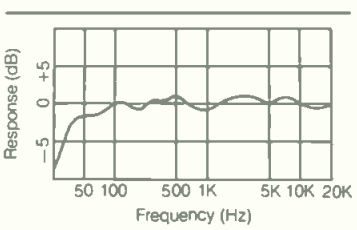

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Broadcast Equipment

code for use in conforming the film negative after editing. In operation, the film takes are transferred onto videotape; at this time, edge, scene, take, and reel numbers are multiplexed into user bits and stored in time code. The tapes are then loaded into the editor and each decision recorded on disk. After editing, EPIC prints out a list, in film terms, of takes, reel and scene numbers, and the type and duration of edits. The editor controls up to two switcher M/E banks and can handle up to eight audio or video recorders. Other capabilities are master-slave, sync-roll-mark, full look-ahead, and auto assembly. HARRIS VIDEO SYSTEMS.

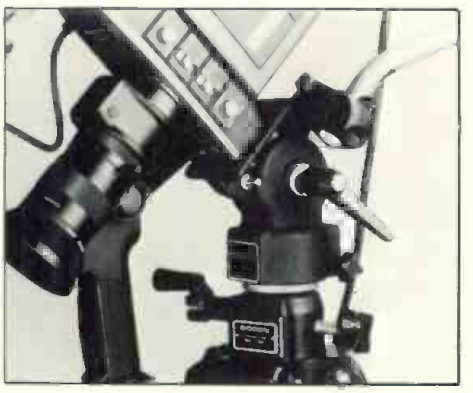
Weather Satellite Display 258

Developed by physicists at the University of Minnesota, this low-cost weather satellite display system includes a two-meter dish and receives weather

pictures and charts directly from GOES satellites. Television users with videotape or disk systems can record successive pictures for playback as a continuous satellite picture loop. Manufactured by Northern Video Graphics, the system stores satellite pictures on audio cassettes and features a times-two zoom to allow users to closely examine the high-resolution satellite images on a region-by-region basis. The system can also display standard weather facsimile information from land-line sources. Under $7000. SYNSAT COMMUNICATIONS, INC.

Mini Fluid Head 259

A new lightweight mini fluid head for cine and video cameras measures five inches high by five inches deep by five inches wide. It smoothly pans a full 360 degrees and features a camera platform

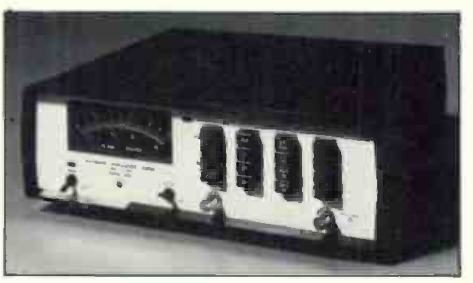


measuring 2¾ by three inches. Its three-in-one handle is positionable on either side and can be separated into two individual nine-inch segments. The head can be tilted continuously 45 degrees up and 90 degrees down, features detent at 45 degrees, and has separate pan and tilt locks. It weighs three pounds. $99.95. BOGEN PHOTO CORP.

For more information circle bold face numbers on reader service card.

Modulation Meter 260

Model 4101 is an automatic tuning modulation meter capable of automatically measuring either AM or FM modulation of RF signals in the 1.5 MHz to 2.0 GHz range at levels as low as 3 mV. It can measure either plus, minus, or



difference modulation (the last useful for balancing transmitter modulators). Pushbutton control determines operating mode, range, audio filters, and deemphasis networks. The user can select standard deemphasis networks of 50, 75, and 750 μs, making the unit useful for checking FM broadcast transmitters and hand-held two-way

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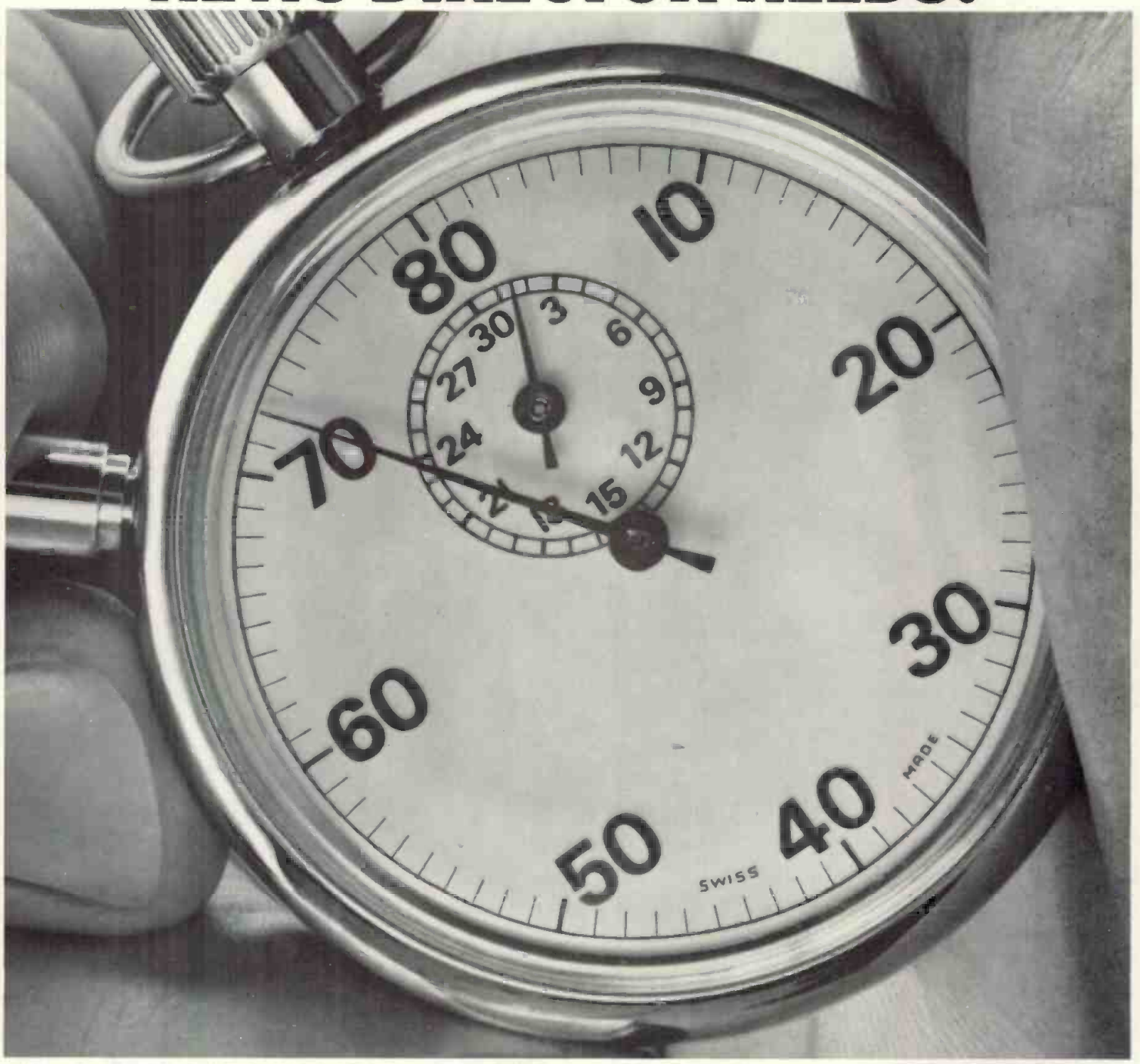

A LITTLE MORE TIME BEFORE AIR TIME.

Now there is a faster processing method for video news film than the widely used Process VNF-1. This alternate processing can reduce, by 8 to 18 minutes, the time formerly needed to process 1000 feet of film, depending on your processor speed.

What news director wouldn't like to move the film deadline as much as 18 minutes closer to air time? Or have those extra minutes to use for editing, screening and rehearsal time?

Process RVNP uses most existing film processing equipment. The conversion is easily implemented by your personnel. To learn more, ask your Kodak Sales and Engineering Representative, or write Eastman Kodak Company, Dept. 640, Rochester, New York 14650.

Kodak

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transceivers. Deemphasis networks may be turned off for checking signal generators or other linearly modulated signals. A rechargeable battery pack option provides up to seven hours continuous operation. $1095. WAVETEK INDIANA, INC.

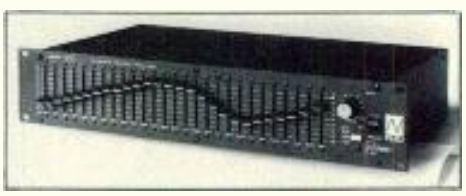
Digital Delay 261

Model 3050 is a low-cost digital delay that features delay or echo time selectable in 10 steps from 0.13 ms to 270 ms. Modulation width can be adjusted to a maximum ratio of 1:4, making excellent flanging/chorus ef-

fects and double tracking, according to the manufacturer. Modulation can be externally controlled by feeding a control signal into the "external" jack. The unit has separate output level controls for both "dry" signal (unaffected sound) and the effect so they can be adjusted for the optimum output blend. LEDs indicate signal present, normal, and limit. Height is 1¾ inches. $450. FOSTEX CORP. OF AMERICA.

Graphic Equalizer 262

Model 2711 supplies 12 dB of boost or cut on each of the ⅓ octave standard ISO center frequencies. The controls have center detents and oil damping. EQ in/out control, input gain control, and balanced/unbalanced input/output are also provided. NEPTUNE ELECTRONICS, INC.



For more information circle bold face numbers on reader service card.

Random Select Programmer 263

Control-3 is a new random select programmer for carousels, Instacarts, or Go-Carts. It has facilities for over 900 programmed events and provides full audio switching necessary to operate independently or to expand available

MAGNECORD MC-II
Modern Performance with Traditional Quality

The Magnecord MC-II is a rugged, precision tool for the broadcast control room—be it fully automated or D.J. assisted. The MC-II is made that way, by design, in the Magnecord tradition. Of course, it meets or exceeds NAB standards with IEC equalization on request.

Superior dc Servo Drive
The dc servo, Hall effect motor with flutter-filter belt drive, provides exceptional speed stability (to 0.05%), totally unaffected by line voltage or frequency fluctuations. And it runs so cool, no ventilation is required.

Full Broadcasting Features
Unlike some other cart machines, the Magnecord MC-II comes with the extra features broadcasters desire at no added cost. Built-in full remote control capability. Automation compatible cue tones (stop, secondary, tertiary) with LED indicators and contacts for external cue switching. Cue track input and output access for FSK logging. A universal mic/line input and front panel headphone jack to "preview" or time new carts and for servicing convenience.

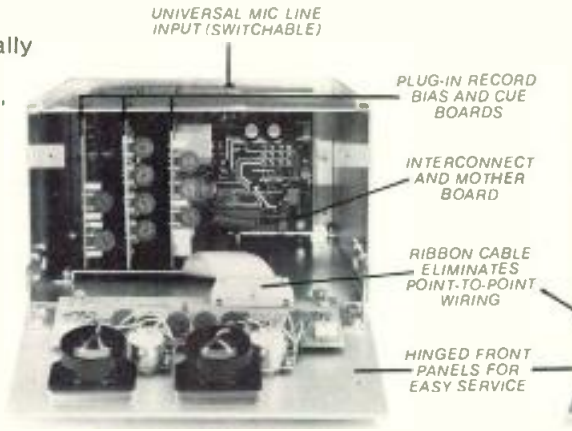
Flexible Broadcast Use
The MC-II is so flexible it virtually defies obsolescence. You can choose mono or stereo models, play only, or with record capability. Best of all, play models are field-convertible to record/play. The record electronics come in a separate housing for convenient, space-saving installations.

Rugged Magnecord Design
As with all Magnecords, the MC-II is designed to work long and reliably. For example, the woven polyester drive belt and polyurethane pressure roller are virtually indestructible. The regulated dc power supply has universal line capability (100-140V, 200-280V, 45-65Hz), consumes nominal power and is brown-out proof. Computer grade push buttons are rated at 10 million operations. A single piece chassis and machined base plate assure positive alignment of all tape transport parts. Hard core, long life heads are mounted on unique, glass-filled Lexan® head brackets with precision, phase-locked tape guides. Carefully designed circuit boards and a Mu-metal shield make the MC-II immune to RFI, even when operated directly under a transmitting tower.

Convenient Service Access
When a Magnecord MC-II needs service, downtime is minimized. The covers and front panels are hinged for convenient access. All solid state circuitry is on plug-in epoxy boards. Plug-in ribbon cables eliminate point-to-point wiring. And, of course, the Magnecord MC-II is made in the U.S.A. so parts are readily available.

HEAD ASSEMBLY

When you compare performance, reliability, and cost, the MC-II is indeed a modern tool worthy of the name Magnecord, because it's made in the tradition of rugged excellence.



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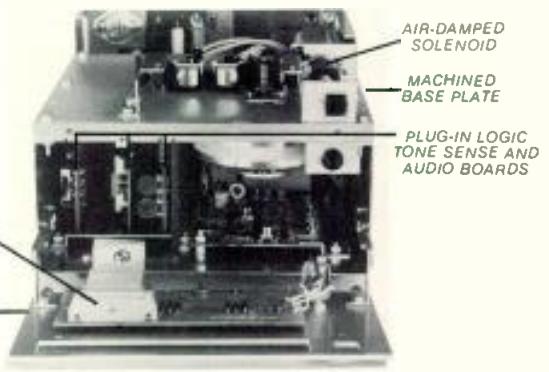

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Broadcast Equipment

source inputs of existing automation. Other features include four large display windows for easy memory review and battery backup for memory retention. MEI.

Camera Dollies 264

Two new lightweight, collapsible Gitzo dollies accept all Gitzo and many other tripods for cameras up to 65 pounds. The three shoes easily fix the tripod legs to the dolly and can be moved inward

for five different positions. Two foot-pedals provide tight locking and release of each wheel. A center screw permits mounting of tripod heads and cameras for extra low positions, or of a pan-tilt cradle for ATRs, VTRs, monitors, or other equipment. Model 391 weighs eight pounds and has three-inch wheels; model 392 weighs 13 pounds and has five-inch wheels. $299.95 and $359.95, respectively. KARL HEITZ, INC.

Cassette Mixer/Recorder 265

Studio 4 is a four-track cassette mixer/recorder combination that can be mounted in a standard 19-inch rack. It features six electronically balanced XLR mic input channels, switchable to line inputs, each with Studiomaster three-band semi-parametric EQ, two auxiliary sends, and direct in/out effects jacks. Special design record head allows simultaneous four-track recording with Dolby noise reduction. The heavy-duty transport mechanism has a Hall effect capstan motor and dc reel motor, both direct drive. Other features include full recorder remote control capabilities and foot-switchable punch in/out facility. Chassis is all steel, with heavy aluminum control panel. STUDIOMASTER, INC.

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THE TASCAM 122 STUDIO CASSETTE RECORDER.

Tascam. Now we've designed a cassette recorder for the studio. One that has everything you need to reproduce your studio sound faithfully.

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Three-head System. Separate record and reproduce heads are mounted in a single housing, eliminating azimuth error.

Front Panel Trimmers. The kind of fine-tuning you're used to having on studio machines. Notice the parallel line inputs in place of hi fi microphone inputs.

Plus Options. Like full transport remote control and dbx.* Check out the 122's qualifications at your Tascam dealer. When you want the best you can get, it pays to use a professional.

Two-speed Transport. You get $1\frac{7}{8}$ ips plus $3\frac{3}{4}$ ips, a two-position pinch roller for cueing in the pause mode and a capstan motor that doesn't idle needlessly in the stop mode, for long-term reliability.

TASCAM STUDIO SERIES
TEAC Production Products

Circle 220 on Reader Service Card

Broadcast Equipment

Modular Mixer/Amplifiers 273

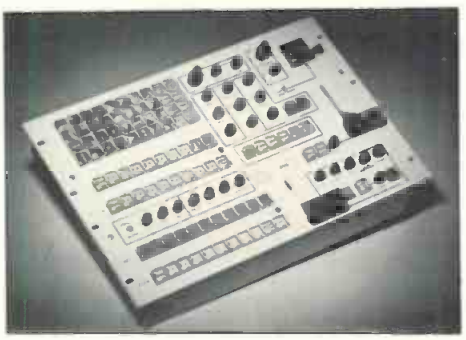
A new series of modular mixer/amplifiers includes models MA 35, MA 65, and MA 125 (35 W, 65 W, and 125 W, respectively). All models are

available in transformer output or direct output versions, with 220 V operation available as a no-cost option. The series has been designed for portable or rack-mounted applications, with no rack-mounting kit required. A twin accessory in/out jack is standard and S/N has been significantly improved over previous models. Each unit has six input gain controls; all operate satisfactorily down to 85 V. EDCOR.

For more information circle bold face numbers on reader service card.

Production Switcher 274

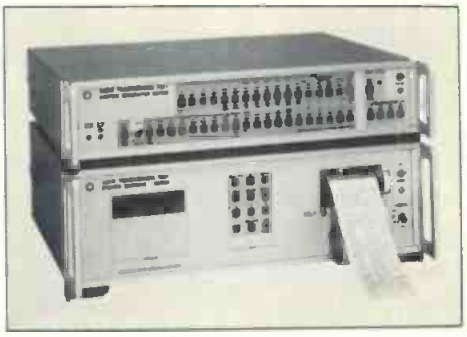
The Model 210 video production switcher, compact enough for small EFP trucks, is capable of the same types of effects as the maker's larger switchers. Standard features include 10 inputs, including color black and color background; four input buses; 32 effect patterns; three types of pattern modulation with freeze; mix, wipe, key, mix-



key, wipe-key, and fade through auto black effects; midstream keyer with edging and key mask using effects patterns; flip-flop mixer with take bar; control provisions for downstream character generator; master fade-to-black with pulse processing; non-sync inhibit system; and rack-mount 19-inch by 12¼-inch control panel. ISI.

Transmission Test System 275

The AWA S1100 audio transmission test system, manufactured by Amalgamated Wireless (Australasia) Ltd., automatically measures 46 significant parameters of mono and stereo transmis-



sion chains and equipment in 3.5 seconds. With the system, performance measurements may be carried out virtually without interruption to program in both radio and TV sound channels. It incorporates a single test mode for production testing, alignment, and servicing. For more complex requirements, the generator and receiver units may be controlled through an RS-232C interface or through the generator's IEEE-488 bus interface. A printout provides a means of logging performance for maintenance and recording purposes. Typical system, $13,200. MARCONI INSTRUMENTS.

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Exceptional Audio Quality
Studer consoles are designed for quiet operation, the utmost signal clarity, and precise tailoring of the sound. The inputs feature 3 section EQ, the overload margins are generous throughout, and each master module has a built-in limiter. As for S/N, well, it's no surprise that the 169 has been used for many digital classical recordings.

Total Flexibility
Pick a frame size and outfit it to suit your needs: portable remote, OB van, or studio production. Module selections include basic input (mic/line), stereo high level, master, monitor, reverb/foldback, and aux monitor. Optional linking kits provide extra I/O flexibility. On the 169/269, power supply options allow operation from mains cable, vehicle battery, or built-in NiCad batteries. All three consoles are available with either VU meters or, at no extra charge, one of two PPM types.

Long-Term Reliability
Studer consoles are built for the long run. They'll take years of hard knocks in remote or OB van use. The Studer "family tradition" of reliability is the result of thoughtful engineering and careful Swiss craftsmanship.

Introduce yourself to the Studer family of consoles. They're quietly setting the standards.

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