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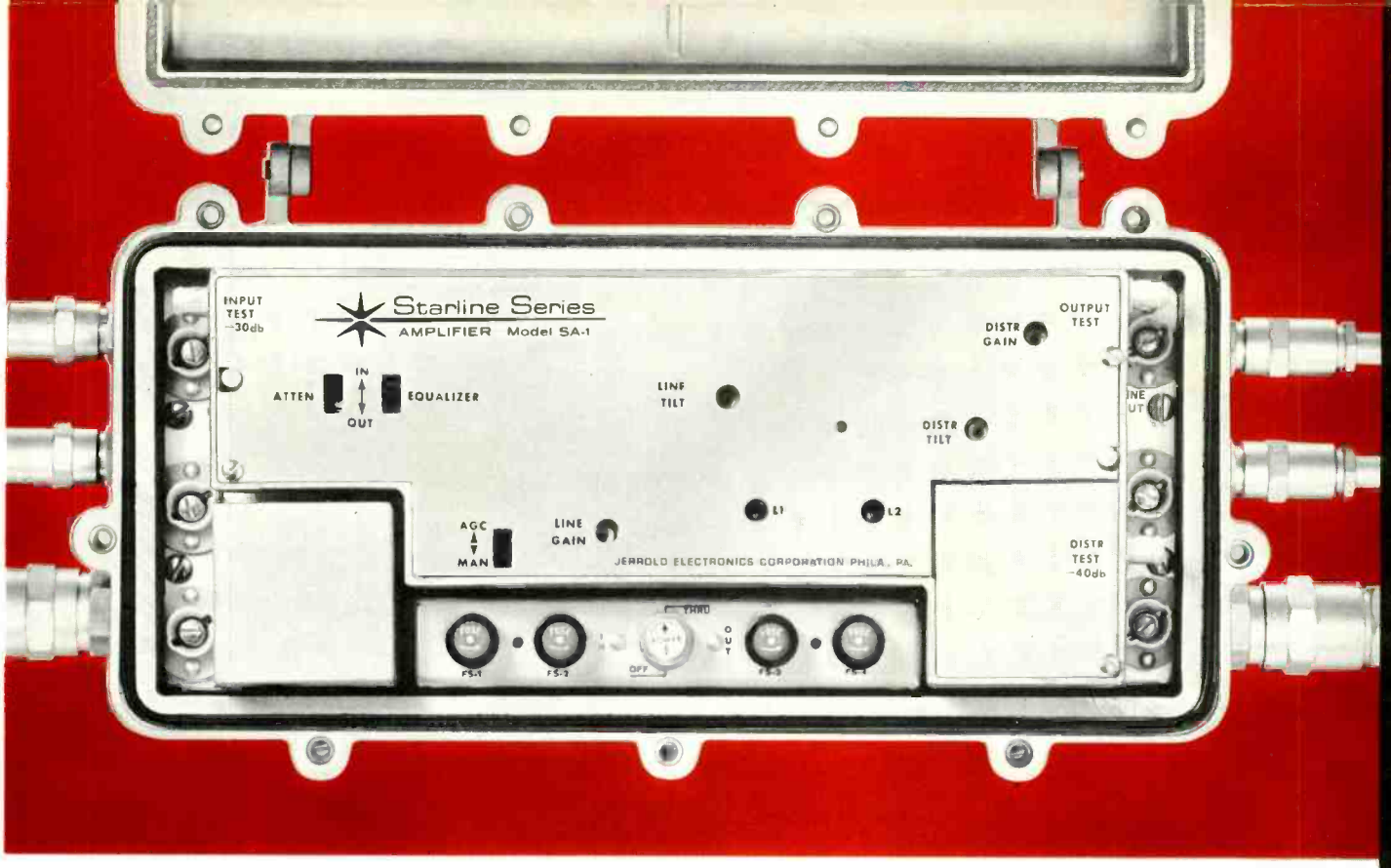
BM/E

THE MAGAZINE OF BROADCAST MANAGEMENT/ENGINEERING

In This Issue

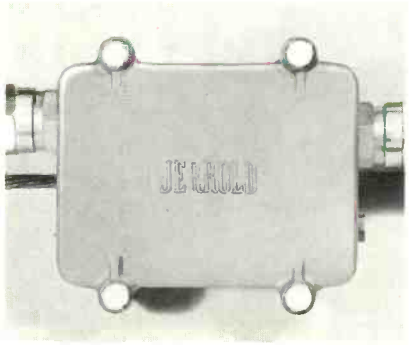
DA Antenna Systems for FM □ Promote Audience-Sales

Planning Color TV Facilities □ NCTA Convention Report



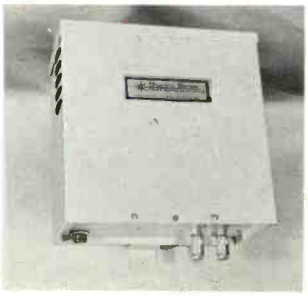
CATV's MOST ADVANCED SOLID-STATE EQUIPMENT

STARLINE LINE EXTENDER



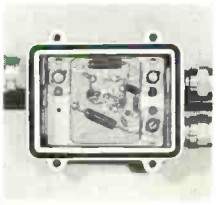
MODEL SX-1. Amplifier used on feeder lines. Min. 24 db gain, high output, flat response, variable gain and tilt controls, plug-in fixed-gain pad. Cable-powered with optional ac bypass.

STARLINE POWER SUPPLY

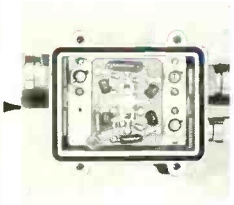


MODEL SPS-12
Can power up to six completely-loaded Starline main-trunk stations. Mounts on pole or crossarm. Power (30 volts ac, 12 amp.) may be placed directly on the trunk-line or fed via cable and a Model SPJ-2 power combiner. RF power filter, circuit breaker, and convenience outlet included.

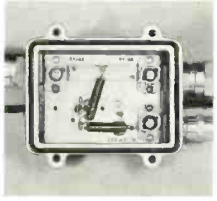
STARLINE MESSENGER-MOUNTED ACCESSORIES



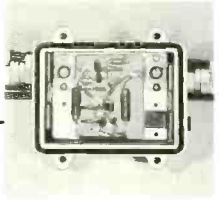
MODEL SHS-2. Two-way, power-passing hybrid splitter, nominal 3.5 db insertion loss.



MODELS SDC-8, 12, and 16. Directional couplers. Low loss to line, high line/tap isolation. Nominal tap loss: SDC-8, 7.5 db; SDC-12, 12.5 db; SDC-16, 16 db.



MODEL SPJ-2. Power combiner transports 30 vac to trunkline from remote SPS-12 power supply.



MODEL STE. Thermal equalizer, for every third trunk-amp location. Equalizes for 17 db of cable at 216 mc at 70°F, compensates for temperature changes of 58 db of cable from −40 to +120°F.

STARLINE PLUG-IN "FEEDERMAKERS"

These plug in to the unitized Starline stations to create the desired number of feeder-line outputs at any main-trunk location.

MODEL SO-1 creates one feeder line with only 0.2 db (max.) insertion loss. **SO-2,** two feeder lines; 3.5 db loss. **SO-3** (illustrated), three feeder lines; 3.5 db loss to one, 6.5 db loss to each of the others. **SO-4,** four feeder lines, each with 6.5 db loss.

Circle 2 on Reader Service Card

JERROLD...FIRST IN CATV

NEW JERROLD Starline™

Here is the exciting new Jerrold *Starline*™ Series—a revolutionary new concept in CATV signal distribution.

New SA-Series station locations give you, for the first time, all the active solid-state equipment for each distribution function within a single weather-proof, radiation-proof housing—ready for easy mounting on messenger, pole, or crossarm. Look at these exclusive features:

- 50-amplifier main-trunk cascadability for 12 channels, with cross-modulation down 57 db
- Main trunk runs in excess of 1,100 db
- All silicon transistors
- Option of 1, 2, 3, or 4 outputs from built-in bridger
- Full-wave rectification, permitting *Starline* power supply to handle more amplifiers
- Completely radiation-proof housing

The *Starline* Series ushers in the Golden Age of CATV. Prepare now for increased subscriber demands—talk to the man from Jerrold, or write for complete information about *Starline* unitized distribution stations.

Patent Pending

Starline Stations

MODEL SA-1 (illustrated)

All-band trunkline amplifier with AGC, plus bridging amplifier to feed one to four feeder lines.

MODEL SA-2

All-band trunkline and bridging amplifiers to feed one to four feeder lines.

MODEL SA-3

All-band trunkline amplifier with AGC.

MODEL SA-4

All-band trunkline amplifier.

MODEL SA-5

Intermediate bridging location on main trunk to feed one to four feeder lines.

All units in same rugged housing.

JERROLD

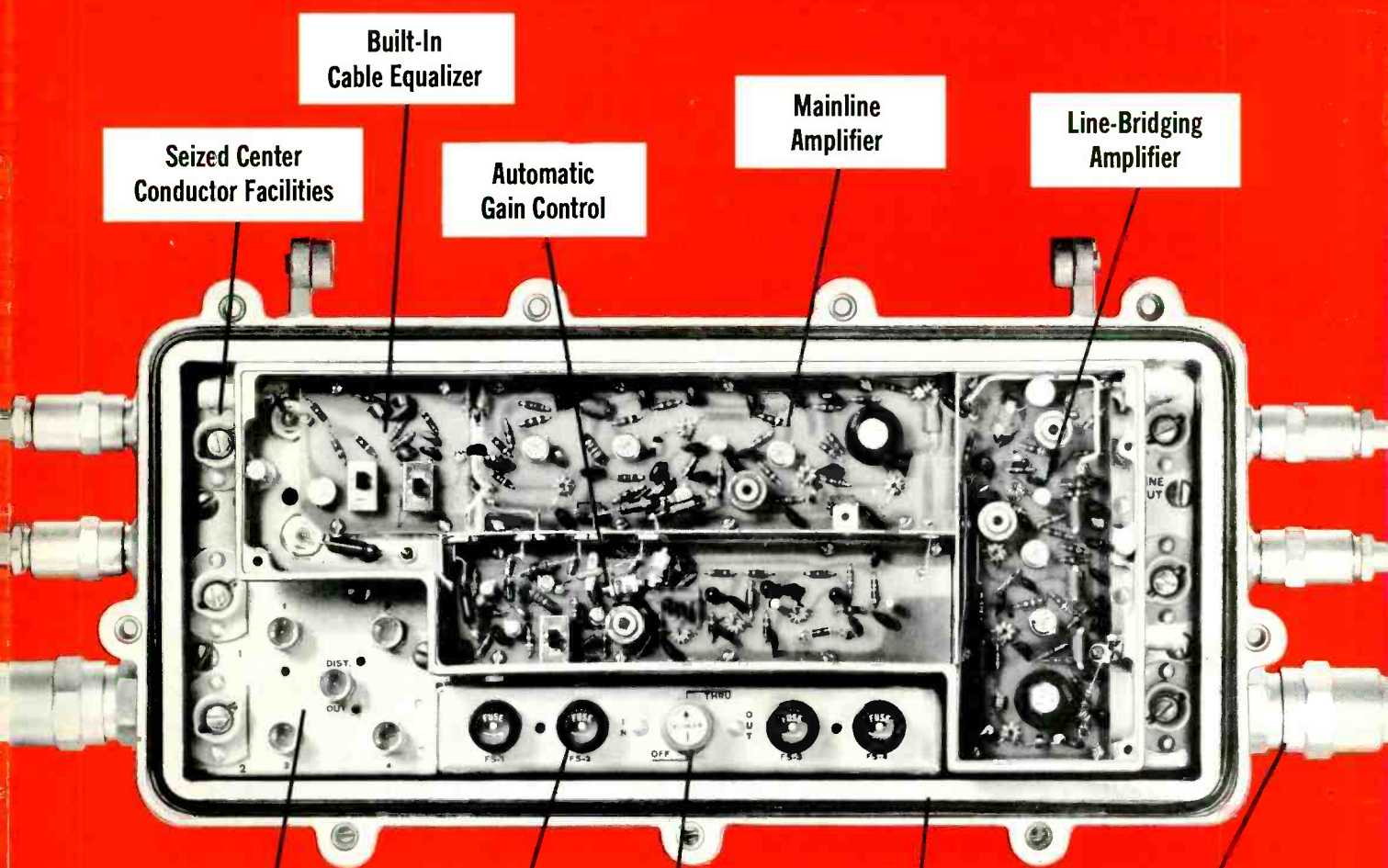
ORDER THE QUALITY YOUR DOLLARS DESERVE

CATV Systems Division • JERROLD ELECTRONICS CORPORATION • 15th & Lehigh Ave., Philadelphia, Pa. 19132

The nation's largest, most experienced manufacturer-supplier of CATV equipment and services

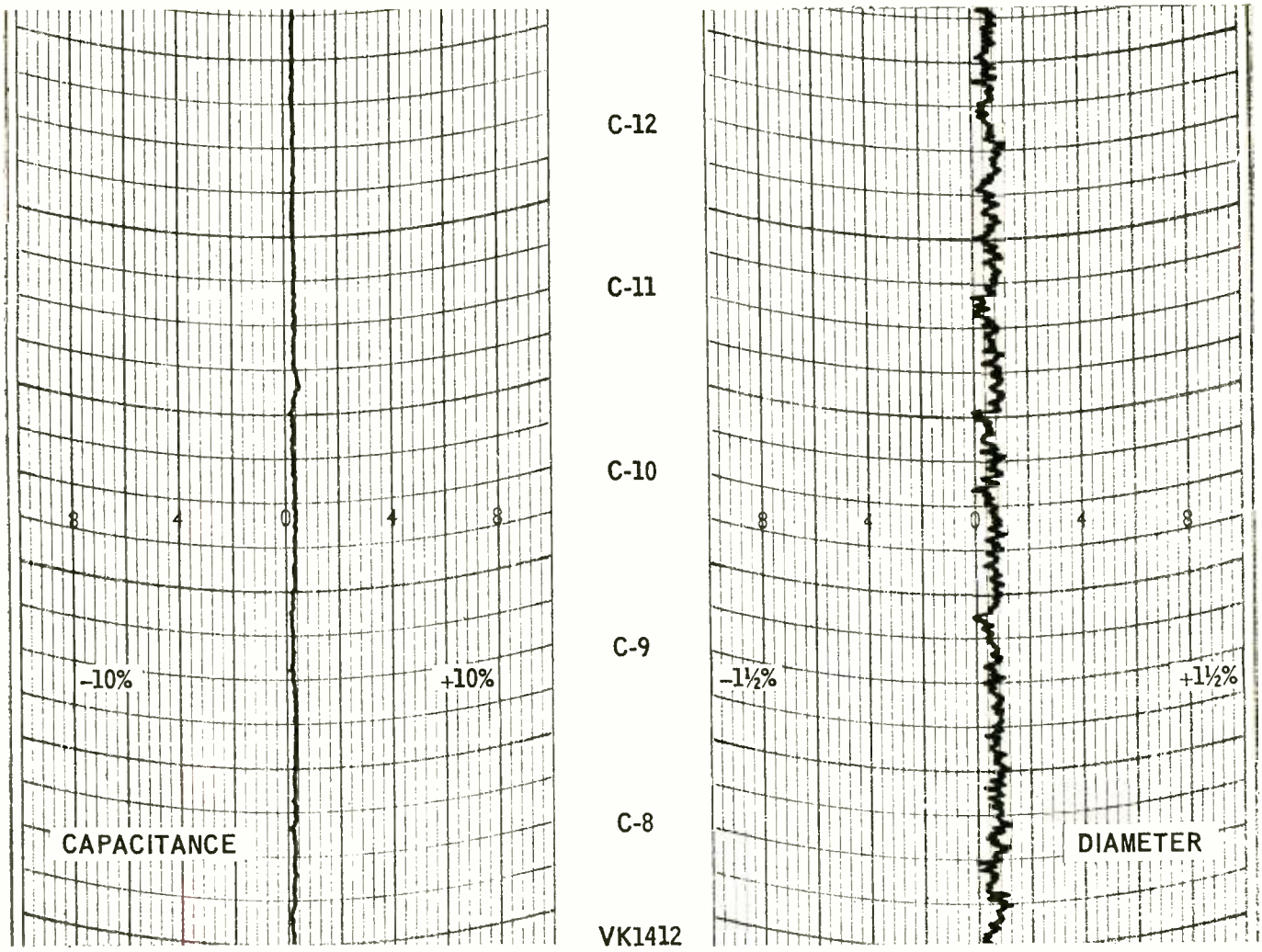
ANNOUNCING

the first totally unitized CATV EQUIPMENT STATIONS



This compact unit is a complete Jerrold Starline station. It provides AGC controlled trunkline amplification plus bridging amplification to feed one to four feeder lines.

SEE INSIDE FOR OTHER STARLINE STATIONS ➡



CAPACITANCE AND DIAMETER: every inch quality controlled

Developing Viking's precision testing program on Catv cables was not easy. Obviously, testing for dimensions, impedance, attenuation (vs. frequency) conductor resistance, capacitance and return loss (vs. frequency) effectively characterizes cable behavior in the field. And these tests were instituted immediately! These finished cable tests supplement Viking's rigid incoming inspection on raw materials and in-process inspections to offer a high degree of quality assurance to the customer.

To further insure the overall production uniformity of Vikal cables, Viking maintains a system of continuous measuring devices to monitor and record cable properties during the foam extrusion process. Utilizing this system, every inch of cable extruded is measured for density, concentricity, (in two perpendicular planes), diameter (which is also controlled automatically) and capacitance. With this data feedback, Viking assures its customers of reproducibility and uniformity in every reel of cable shipped.

The capacitance monitor and diameter gauge (recorder strip charts illustrated above) are Viking's tools for measuring and controlling the transmission characteristics of our foamed dielectric even before application of the Vikal seamless aluminum sheath. Capacitance (which is the tendency to store an electrical charge) is directly related to Impedance, VSWR and Return Loss. A 100% air dielectric would have the best transmission characteristics, i.e., lowest capacitance. Viking's 50-60% air dielectric (foamed polyethylene) is the closest approach to air, consistent with the mechanical requirements of the cable. The Viking monitoring system measuring capacitance and capacitance variations, or discontinuities in a running length of cable, will also measure those reflection points affecting VSWR and Return Loss. Furthermore, constant surveillance of capacitance ensures a very close tolerance to the 75 OHM impedance rating of the cable, virtually eliminating problems caused by mismatching of cable lengths and between cables and fittings.

The capacitance is measured inch-by-inch in a 42 inch noncontactive or sensing head which is mounted in the cooling water trough of the extrusion line. The sensing device houses the outer plate of the capacitor, while the copper conductor in the cable serves as the inner plate. Capacitance is measured by balancing against a known capacitance and feeding the resultant signal to a high speed recorder. The capacitance as a function of cable length is read from the recording charts.

The success of Vikings overall quality assurance program has been demonstrated by our consistent manufacture of high-quality matched cables and by our strict adherence to delivery schedules.

viking

THE STANDARD OF THE CATV INDUSTRY

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As highly creative and inventive individualists, engineers and artists are much alike. Both are also dreamers, always developing something new and original. But BM/E Art Director Gus Sauter may have outdone himself for a change. If any engineer can design an antenna system which will duplicate the contours on this month's cover, he's worth twice his present salary! No fair, though, if he gets any help from the DA feature beginning on page 24, or from the 6-part series on directional AM's coming soon.

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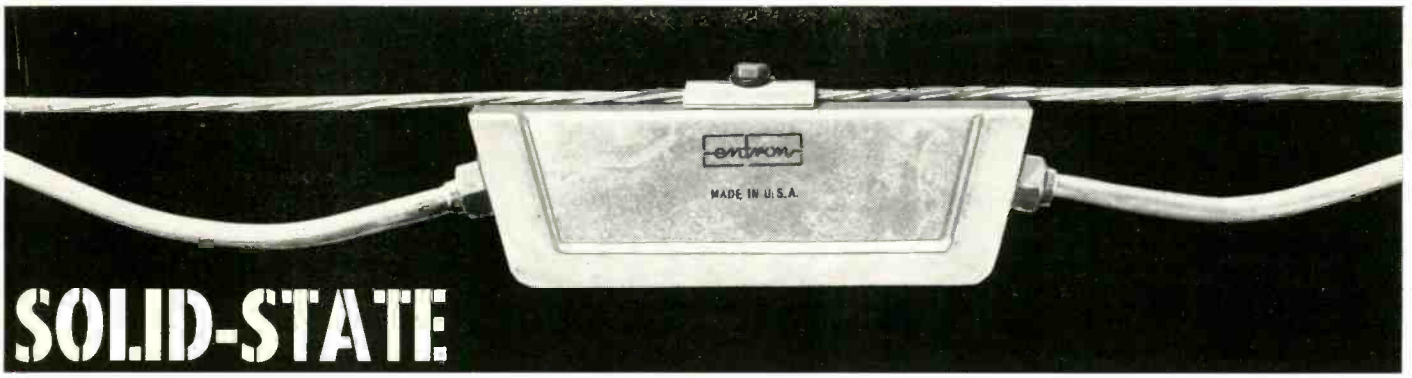
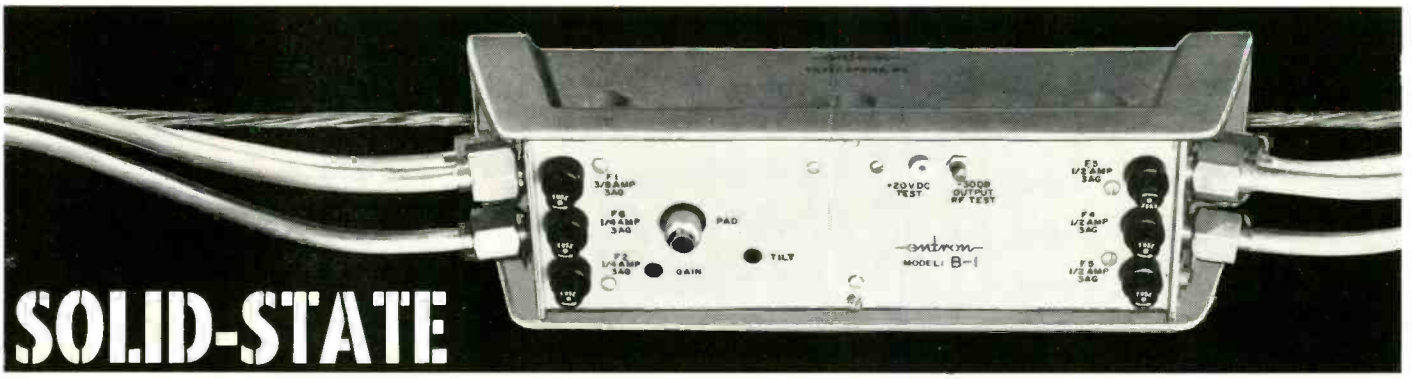
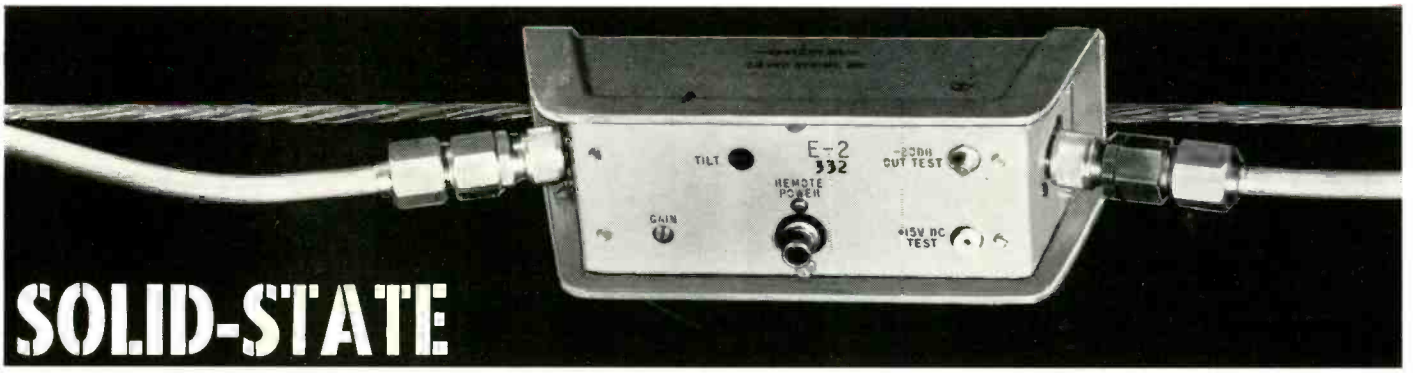


REPEATER AMPLIFIER—28 VOLT



BRIDGING AMPLIFIER—28 VOLT



EXTENDER AMPLIFIER—28 VOLT

A TRIO OF CATV COMPATIBLES: The **B** Series Bridging Amplifiers—the **R** Series Repeater Amplifiers—and the **E** Series Extender Amplifiers. All manufactured by the firm which set the industry standard for competence and reliability. All three remotely powered by **28** VAC.* All three **STRAND-MOUNTED,** with shallow, no-fuss drip-loops. And all ready to go to work in **ANY SYSTEM**—vacuum tube or SOLID-STATE—regardless of equipment manufacturer.

(also available for 60 vac.)

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BROADCAST INDUSTRY NEWS

FCC Rules on Loud Commercials

On July 9, the Commission adopted by Report and Order its policy concerning loud commercials. Henceforth, all broadcast licensees are expected to avoid such practices as excessive modulation, excessive use of volume compression and other such audio processing means, use of pre-recorded commercials which have been subjected to such "processing," voice commercials presented in a rapid-fire, loud and strident manner, and transmission of commercial material at modulation levels substantially higher than adjacent programming. The ruling is rather nebulous as to how licensees shall control loud commercials resulting from such practices, but it is clear that the Commission will not hesitate to levy fines, and demand hearings at renewal time, for flagrant disregard of their requirements. Next month's issue will contain an in-depth discussion of the Loud-Commercial policy, providing broadcasters with clear-cut procedures to follow.

CATV Break-Through?

The FCC has granted American Television Relay, Inc., Phoenix, a CP to bring the four independent TV stations from Los Angeles to TelePrompTer's Farmington and Silver City cable systems in New Mexico. This break-through for the CATV industry was announced by Helmut Dieter, newly appointed president of A.T.R., who estimates that its heterodyne microwave equipment will be feeding CATV customers by Jan. 1966.

Additionally, the Commission granted a series of 10 microwave applications to Alice Cable Television Corp., authorizing the delivery of five San Antonio stations plus the signals of stations KGBT Harlingen and KRGV Weslaco, to its CATV systems in McAllen, Texas. The significance of the grants stems from the fact that there were four separate "economic protests" lodged against the applications by two Corpus Christi stations (KZTV and KIII), and the "local" Harlingen (KGBT) and Weslaco (KRGV) stations. Alice Cable was required to file separate oppositions to these protests over a two-month period.

In another area, the Wisconsin Theatre Video Corp. was granted authorization to construct a microwave relay system at Menomonie, Wis. for the purpose of relaying TV signals to a CATV system serving Eau Claire. Many CATV operators consider these grants as a "softening" of the Commission toward cable systems. Maybe so, but these microwave-served systems are also the only ones currently affected by Federal rulings. Hmmm.

Jerrold Reports $5 Million Sales

Over $5 million in CATV equipment and cable was sold by Jerrold CATV Systems Div. during the NCTA Convention in Denver last month. Disclosed by V-P Lee Zemnick, this figure does not include contracts for turnkey construction services. Robert Beisswenger, Executive V-P of the Philadelphia-based firm, noted that this figure substantially exceeded any past record of the company for CATV systems sold at the show. Jerry Hastings, CATV Systems Div. Manager, attributed the high sales figure to several factors: record breaking show attendance; the large number of new systems being built; rapid changeover by older 3- and 5-channel systems to 12-channel operation; and broad acceptance of Jerrold's high reliability, solid-state equipment and new Starline unitized packaging concept. Milton J. Shapp, Jerrold's President and Chairman of the Board, was elected to a 3-year term as a Director of NCTA during the Convention.

New Service from NAB

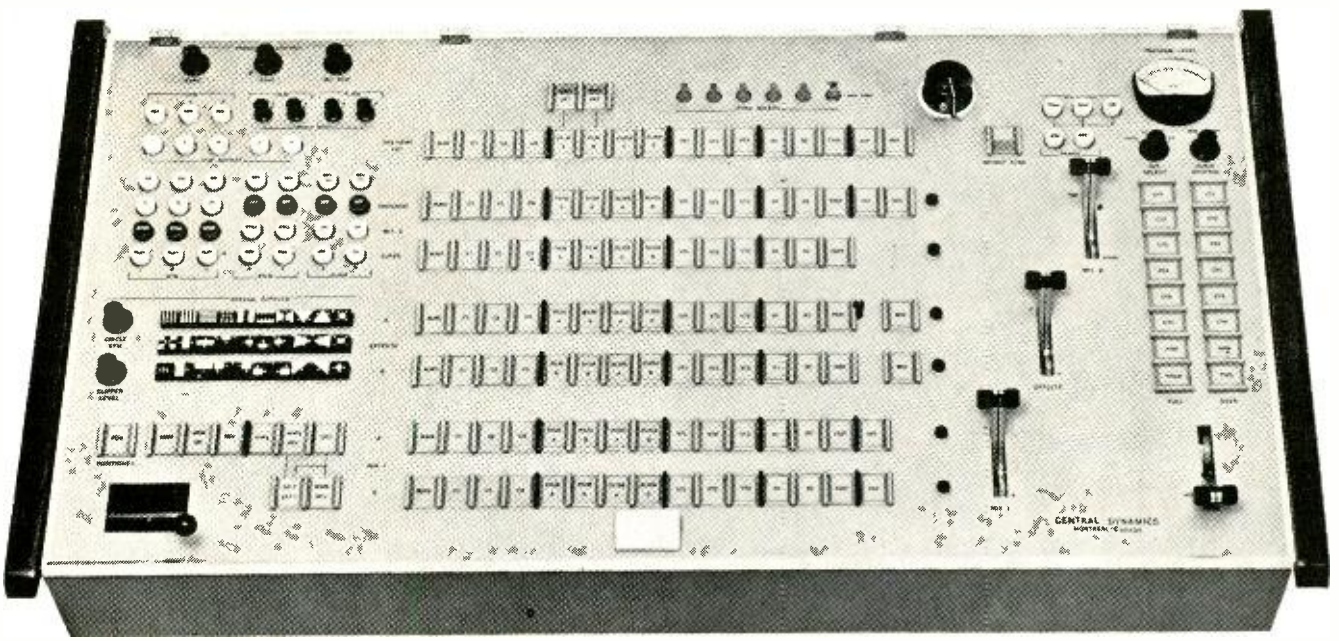
NAB says it will initiate an exchange of successful radio programming ideas as part of its continuing service to radio members. Sherril Taylor, NAB V-P for radio, said the new service initially will encompass issuance of a quarterly publication reporting on programs which have been tested and proved by member stations. "If the new service proves to be informative and generally helpful," he said, "it will be broadened to include an actual exchange of program tapes among stations." Publication on a monthly rather than quarterly basis also will be considered if the flow of material warrents it.

Portable VTR Updated

An advanced version of the VR-660 broadcast portable videotape recorder is being marketed at a new low price by Ampex Corp.

A contract for $1 million was signed during the NCTA Convention by Entron, Inc. and Federal Electric Corp. Entron will furnish equipment for a complex of CATV systems in New Jersey. Frank Scarpa, V-P, Garden State Television Cable Corp. Vineland, N. J. (for which Federal Electric holds the turnkey contract) said the new complex would be the largest in New Jersey, providing service for more than 20,000 homes initially. Edward P. Whitney, Entron V-P Sales, stated that the new systems would be completed in time for the World Series. Pictured left to right: Frank Scarpa; John Black, Federal Electric exec.; Edward P. Whitney; and Robert J. McGeehan, Entron president.

WHAT'S DIFFERENT ABOUT THIS VERTICAL INTERVAL VIDEO SWITCHER...



. . . that makes the CDL your best Video Switching investment? We've engineered this switcher to provide you with maximum program flexibility, and enable you at the same time to reduce your station operating expenses. Check the features below, and you'll understand why this switcher is truly different.

- All composite, fully color compensated, "double reentry" video switching system.
- Selection of additive or non-additive mixing facilities to super over on-air program.
- Simultaneous or independent "fade to black" of program audio and video.
- In "Automatic Mode", logic circuitry automatically selects unused film camera on island, flips appropriate mirror and activates video crosspoint. Also permits automatic video switching by utilizing cues in video tape and film magnetic sound tracks.
- Remote video tape controls for Record, Rewind, Fast Forward, Stop and Play.
- Audio-Follow-Video switching on all sources, with additional selection of common audio source for all live cameras.
- Two banks of audio controls, "Full" and "Over" for cartridge and announce.
- Fast audio mix transition, not normal Make-Before-Break relay.
- Controls operating modes of CDL computer controlled Master Video Switching System.

Our experienced engineering department is prepared to help you plan your station modernization, and aid in solving special problems. For free consultation and engineering assistance, write or call:

WARD ELECTRONIC INDUSTRIES

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The new VR-660B, priced at $11,-500, is said to offer improved electronic circuitry and mechanical design, giving increased reliability to the proven helical recording technique. Features include a second audio channel and a spare set of recording heads that makes possible a 500-hour and/or 6 months warranty. The compatible broadcast model replaces both the VR-660, which sold for $14,500, and its closed circuit companion model, the VR-1560, which sold for $11,-900. An instructional CCTV workshop in Redwood City, Calif., with all expenses paid by Ampex, is included with the purchase of a new VR-660B.

Blonder-Tongue Selling Direct

Blonder-Tongue Labs, Inc., Newark, N. J., is making its full range of CATV equipment available on a direct basis for the first time. Included in the B-T line are trunkline and feeder cable amplifiers, tap-off units, and other cable system units. B-T has also announced the availability of new field-strength meters.

CAS Moves

CAS Mfg. Co., pioneer in the manufacture of solid state amplifiers for CATV systems, has expanded their facilities and integrated their operations into a central region near Dallas, at 3301 Royalty Row, Irving, Tex.

100w Translators Okayed

Effective August 16, translators up to 100 watts will be permitted to operate on unoccupied VHF and UHF channels. Intended to provide TV in isolated communities still without local TV service or adequate signals from the outside, such translators may convert to regular broadcast service at a later time. Commercial applicants cannot request channels reserved for noncommercial educational use, but educational interests can request any unoccupied channel in the table. TV stations may apply, even to provide service beyond the Grade B contour. Questions of nonduplication and impact on existing stations will be considered in actions concerning CATV systems. The adopted FCC Rules are substantially the same as those proposed Feb. 17 (Docket 15858).

New Broadcast Firm

J. Paul Audet, formerly midwest regional sales manager for Gencom, has announced the formation of a new company, International Broadcast Industries, which will represent EMI Electronics, Ltd., Hayes, Middlesex, England, for sales and service in the U.S. of all EMI broadcast and recording equipment, camera tubes, video recording tape, etc. IBI is also establishing manufacturing facilities in the midwest for equipment such as video switching, intercommunications, audio, pulse assignment and distribution, house monitoring, etc. Associated with Mr. Audet is Peter Jackson (formerly eastern regional manager for Gencom). Address of the firm is 645 N. Michigan Blvd.

Ward Electronics Moves

Due to rapid growth, Ward Electronic Industries is moving to expanded facilities at 1414 E. St. George Ave., Linden, N.J. The new facilities will enable Ward Electronics to increase its production facilities and its engineering and sales staff.

New Alpha Wire Plant

Alpha Wire has consolidated its eastern manufacturing, warehouse, and office facilities into a new plant at 711 Lidgerwood Ave., Elizabeth, N.J. The new facilities contain more than 140,000 sq. ft. on an 8½-acre site, according to Howard B. Saltzman, president. Activities at Alpha's previous location in New York City, Holbrook, L.I., and Union, N.J., will be consolidated into the new plant.

Aerial view of Belden Manufacturing Co. plant at Richmond, Ind., including two new buildings (90,-000 sq. ft.) scheduled for completion Sept. 1. Belden reports earnings for the 1st half of '65 up 32%, with sales increase of 26%, over last year. Sales were over $25 million, returning a net income of $1.4 million, equal to $1.72 a share.

Collins Lands Microwave Contract

Collins Radio of Canada, Ltd., a wholly owned subsidiary of Collins, Dallas, was awarded a contract in excess of $1 million from British Columbia Hydro for a microwave radio system. The system will be a spur to a $5 million trunk system being built for B.C. Hydro, supplier of power to most of British Columbia.

Mark 10 Sales Zoom

Visual Electronics Corp. realized an unprecedented flurry of orders for the Mark 10 Zoom cameras. Charles E. Spicer, manager of studio equipment, said that 10 were sold in one week, half reorders from earlier customers. The Mark 10 uses a 3" I.O., provides 10:1 zoom, is completely solid-state and operates at lower than standard light levels.

RCA Signs $400G ETV Pact

RCA will furnish a complete TV studio facility for the N.Y.C. Board of Education's new ETV outlet, WNYE-TV, under a $400,-000 contract. The contract calls for three TK-50 cameras, three TR-4 VTRs, plus other studio equipment to be installed this fall for the Channel 25 station's debut early next year.

Datapulse Acquires KRS

KRS Electronics, Palo Alto, Calif., manufacturer of cartridge tape recorders, has been acquired by Datapulse, Inc., Inglewood, Calif. KRS was renamed KRS Instruments Div. of Datapulse and relocated in Pasadena. The assets of KRS were acquired in an agreement with KRS stockholders.

AM-FM Duplication Delayed

The FCC has postponed the effective date of the AM-FM program duplication rule from Oct. 15 to Dec. 31. The rule provides that stations in cities of more than 100,000 devote no more than 50% of the average broadcast week to program duplication of a commonly owned AM in the same area. 106 of the 109 affected stations applied for exemption; the other three have been granted exemption.

Step up to Solid-State the Ameco way!

Ameco simplifies conversion to total Solid-State CATV with the new

65 Series

AMPLIFIERS

YOU CAN NOW CONVERT TO SOLID-STATE ECONOMICALLY . . . EASIER THAN EVER . . . IN A POLE-MOUNT CONFIGURATION.

The Ameco 65 Series amplifiers are a significant step toward total solid-state cable television. Many CATV system operators have expressed their desire for new equipment which permits economical conversion of existing cable systems to solid-state. Ameco's 65 Series fulfills these requests for just such fully transistorized all-band capability. In addition, the new 65 Series has all the proven ability and dependability of Ameco solid-state.

The 65 Series equipment is designed for pole-mounting in existing Ameco AHT-1 and T2 housings as well as all older type housings. The savings to the operator are significant when considering the ease of installation.

The 65 Series also utilizes all the latest design features in solid-state research at Ameco. The Ameco 65 Series provides the operational capability of the Ameco 70 Series amplifiers and all the advantages of:

- Low operation cost
- Low maintenance
- High reliability
- High cascadability

ATM-65

The ATM-65 is Ameco's etched circuit, all-band trunk line amplifier with 30 db gain. It combines maximum output with low noise figure, as well as temperature compensation for constant performance at any ambient temperature.

ATB-65

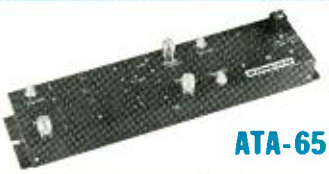
The ATB-65 is a low gain, high level bridging distribution amplifier, featuring an excellent match and extremely low insertion loss.

ATB-65-5

The ATB-65-5 is a 25 db gain, high output bridger. It can handle the most difficult distribution problem. Manual gain and tilt controls permit perfect level and slope control.

ATMB-65

The ATMB-65 is a combination of the Ameco ATM-65 trunk amplifier and ATB-65 bridging amplifier. It allows the cable operator to provide a high output signal to four feeder lines.



ATA-65

The ATA-65 mainline amplifier is designed with a built-in AGC circuit to hold the significant levels constant on trunk lines. Spaced each third amplifier position, the AGC amplifier will compensate for changes of cable and amplifiers due to temperature variations.

For complete information, contact Ameco, Inc., P.O. Box 11326, Phoenix, Arizona 85017 or phone (602) 252-6041.

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ameco

P.O. Box 11326,
Phoenix, Arizona 85017

NAMES IN THE NEWS

William J. Monroe has been appointed broadcast representative, Pacific sales area, Collins Radio Co. Broadcast Communication Div. Previously, Mr. Monroe was associated with Dresser HST and field sales manager for Communications Accessories Co.

Joseph L. Derocher has joined Kaiser Aerospace & Electronics, Phoenix, Ariz., and will coordinate CATV system design and estimating in the marketing dept. Mr. Derocher has had extensive experience in all phases of system layout and design.

Duane Haverty

Gary Smith

Duane Haverty and **Gary Smith** have been appointed marketing managers for McMartin Industries, Inc., Omaha, Nebr. Mr. Haverty had been with T. H. Ellis Sales Co., Kansas City, and Mr. Smith was a McMartin sales engineer covering the North Central states.

Sheldon Williams has been named V-P, Blonder-Tongue Labs., Newark, N. J. Mr. Williams had been personnel director at JFD Electronics Corp., Brooklyn, N. Y. before joining Blonder-Tongue in 1957.

Nathan Levine has been named chief engineer, Jerrold Electronics, Community Operations Div. Mr. Levine joined Jerrold in 1963 as a field engineer with the CATV Systems Div.

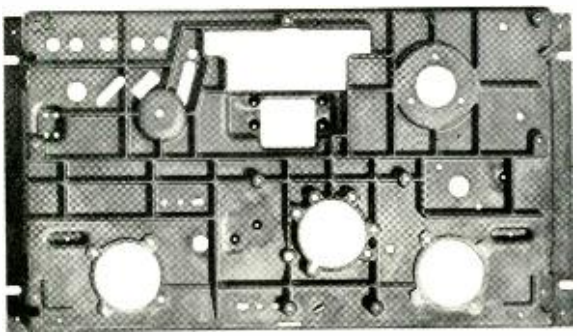
Nathan Levine

Merle E. Arnold

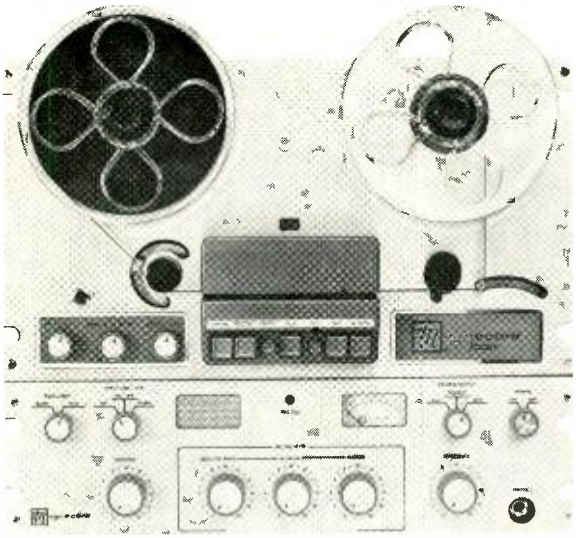
Merle E. Arnold has been appointed district sales rep, Dallas, Tex., for General Electric Visual Communications Products. Mr. Arnold has been with the Dallas office for 9 years in various marketing assignments.

Thomas A. Combellick is the new marketing manager for Commercial Electronics Div. of Sylvania. Mr. Combellick joined Sylvania in 1962 as marketing manager for the Electronic Equipment Div.

Bennewitz Assoc. are new sales Reps for American Electronic Labs., Lansdale, Pa., in N. M. and El Paso, Tex.



DIE-CASTING



[RHYMES WITH LASTING]

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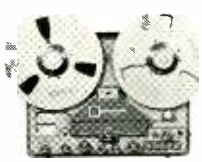
Model 1028 $995


Model 1048 $995

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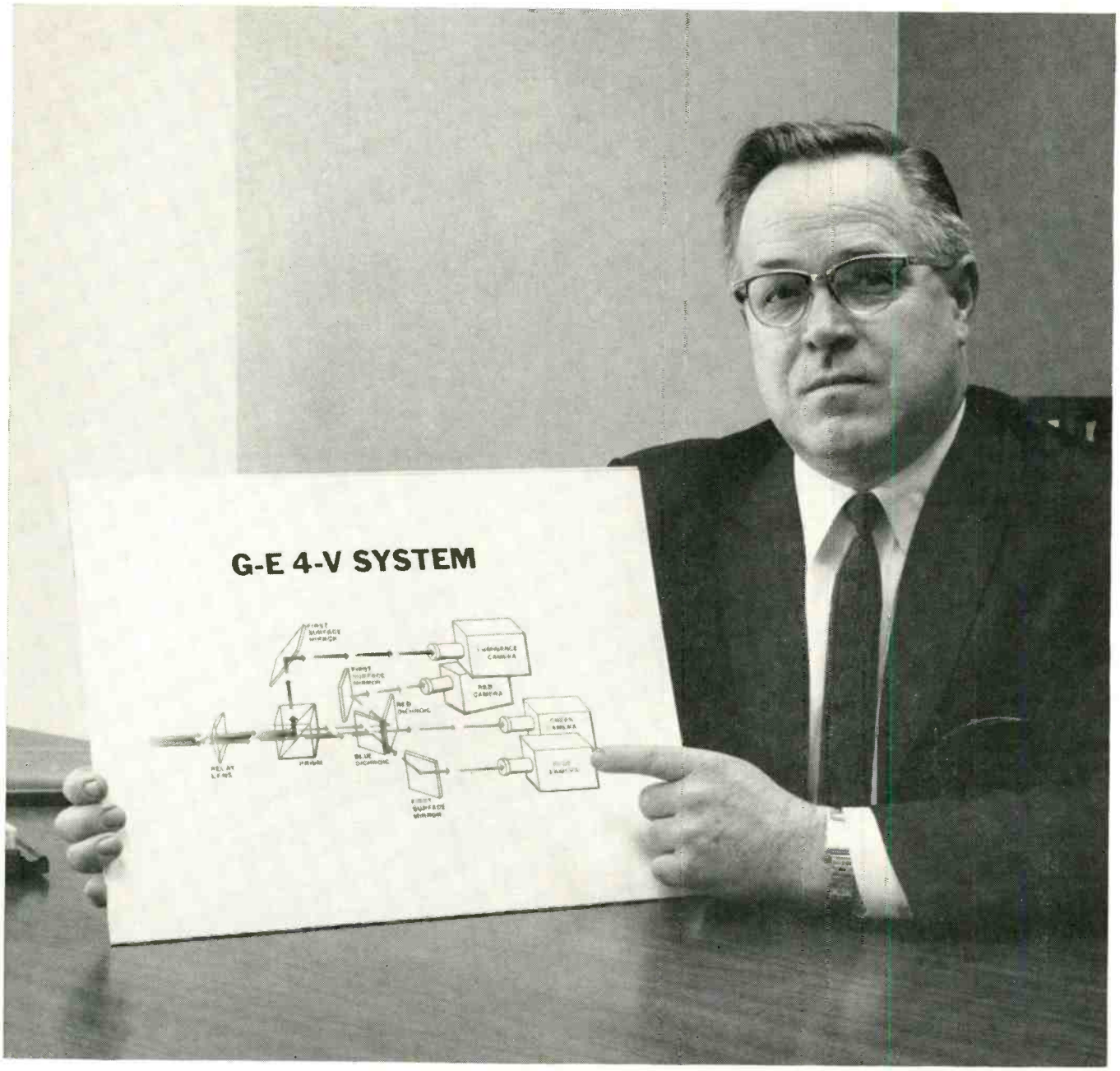

Harry Whittemore, RKO General Broadcasting, with G-E 4-V Light Path Diagram.

Now It's G-E 4-V's at RKO General

Harry Whittemore, Director of Engineering at RKO General Broadcasting, has witnessed all recent developments of color film cameras right in his job.

His experience with 3-V's came from cameras at two RKO General Stations – KHJ-TV, Los Angeles, and WOR-TV, New York.

He first worked with the 4-V type when WOR-TV put one on the air late last year.

Now it's 1965, and Mr. Whittemore is still taking advantage of color film camera progress. This summer, RKO General, under his engineering direction, will take delivery of three more 4-V's — two for WNAC-TV, Boston, and one for WHBQ-TV, Memphis, Tenn.

This time, all three are General Electric 4-V's.

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INTERPRETING THE

FCC RULES & REGULATIONS

Understanding the "Fairness Doctrine"

Numerous requests to broadcasters for free time have given rise to many questions concerning the broadcaster's responsibilities under (1) the so-called "fairness doctrine" and (2) Section 315 of the Communications Act of 1934 as amended. Because Section 315 was discussed at length in our February issue, this article will deal mainly with the question of "fairness."

Fairness Doctrine — Section 315 Distinguished

It is important that broadcasters distinguish between the "fairness doctrine" and Section 315. In brief, the former requires that, when a partisan position is expressed over a station, a reasonable opportunity must be afforded opponents of the view to present their side. The "equal opportunities" requirement of Section 315 applies *only* to political candidates, whereas the "fairness doctrine" is not restricted to political candidates or to any particular subject matter, and encompasses the broadcasters' obligation "to operate in the public interest and to afford reasonable opportunity for the discussion of conflicting views on issues of public importance." (Public Law 86-274, approved September 14, 1959, 73 Stat. 557.) The obvious breadth of the fairness concept makes it difficult to comply with and/or to define. In view of this obscurity, a review of the background of the doctrine is in order.

Background of The Fairness Doctrine

In reversing its 1941 holding in the Mayflower case ". . . the Broadcaster cannot be an advocate . . . ," the Commission issued, on June 1, 1949, its Report entitled "Editorializing by Broadcast Licensees." In permitting broadcast licensees to express editorial opinions within reasonable limits and subject to the general requirements of "fairness," the Commission was careful to point out that editorials were only one of the many facets of the larger problem—namely, fairness in the presentation of news, comment, and opinion. The Report still constitutes the basis for all interpretations of the "fairness doctrine," and subsequent releases have not materially altered the basic concept. The most important points made in this "Bible of Fairness" include the following:

(1) Licensees have an affirmative obligation to insure fair presentation of all sides of any controversial issue.

(2) Licensees' obligations *cannot* be met by adopting a policy of refusing to broadcast opposing views where a demand is made of the station for broadcast time.

(3) Licensees have an affirmative duty to *encourage* the broadcast of all sides of important controversial issues over *their* facilities; mere newspaper coverage has been held to be an inadequate substitute.

(4) Licensees will *not* be condemned for an honest mistake or error in "fairness," where their overall record demonstrates a reasonable effort to provide a balanced presentation of comment upon such issue; in other words, licensees are not expected to achieve an *absolute* standard of fairness.

(5) The nebulous criteria by which licensees are judged is set forth in *Northern Corporation* (WMEX), 4 RR 333, 339, as ". . . essentially a duty to operate a radio station with good judgment and good faith guided by a reasonable regard for the interests of the community to be served . . ."

(6) In determining whether to honor specific requests for "free" time, the station must determine if (a) the subject is worth considering; (b) the viewpoint of the requesting party already has been aired sufficiently by the broadcaster; and (c) if there are other available groups of individuals who might be more appropriate spokesmen for the particular point of view involved.

In summary, the standard established was and still remains "an affirmative duty generally to encourage and implement the broadcast of all sides of controversial public issues over their facilities." However, *each factual situation may differ and thus require a different solution.* As aptly expressed in the Report, ". . . there can be no one all embracing formula . . ." Thus, the licensee is called upon ". . . to exercise his best judgment and good sense . . ."

Undoubtedly, no one has any serious objections to the basic principles of the "fairness doctrine"; it is the *implementation* that gives rise to difficulties.

In the so-called Billings (Montana) case, 23 RR 951, the Commission held that ". . . *where, as here, a station's editorials attack an individual by name, the 'fairness doctrine' requires that a copy of the specific editorial . . . shall be communicated to the person attacked, either prior to or at the time of the broadcast* . . . so that a reasonable opportunity is afforded that person to reply" (italics supplied). This dictum is important and should be added to the points of the June 1, 1949 Report as summarized above.

Recent Releases & Current Interpretations

The Commission's Public Notice (FCC 63-734) of July 26, 1963, initiated by the new Chairman, has proved to be the source of widespread misinterpretation of the entire "fairness doctrine." Since it is lengthy, and available elsewhere, we

will not restate it here; suffice it to say that the paragraph designated "(c)" on page 2 created the impression that licensees might be required to give away a considerable amount of broadcast time for discussion of the other side of controversial issues. The erroneous interpretation of this notice led to the discontinuation of Life Line and similar programs, by numerous stations across the nation, in an attempt to avert the deluge of "free time" requests. The Commission's August 5, 1963, Public Notice 39373B was intended to clarify the prior release, but it fell hopelessly short.

Have the recent releases actually changed the "fairness doctrine" as originally espoused and amplified in the important cases on point? *No!* Nearly every Commissioner, either publicly or privately, has stated that the instant releases were not intended to *add* to the "fairness doctrine," but merely to clarify it. Unhappily, these releases have been misconstrued.

In a recent ruling (Cullman Broadcasting Co., Inc., 25 RR 895), issued since the July 26th Notice, the Commission stated ". . . where the licensee has chosen to broadcast a *sponsored* program which for the *first* time presents one side of a controversial issue . . . he *cannot reject* a presentation otherwise suitable to the licensee —and thus leave the public uninformed—on the ground that he cannot obtain paid sponsorship for the presentation." (italics supplied) The most important word in that quote is "first"; in effect, this restricts the ruling to a situation where the licensee has not previously broadcast the opposing view. As a general rule, the station involved has aired the opposite view in a prior panel discussion, editorial, interview, or otherwise and, if so, need not give away time. *The "fairness doctrine" does not necessarily require the broadcaster to give the same amount and quality of time, in each instance, to both sides of the issue involved.*

Conclusion

In the Maypoles, Billings, Times-Mirror, Times Publishing, Cullman, and other leading cases on point, the Commission has not uttered one word or threat about placing the ruling in the file for consideration at renewal time, *nor has any broadcast license been revoked or denied renewal because of questions under the "fairness doctrine."* However, the Commission held up the renewal of two licenses in Jackson, Miss., from June, 1964 until May 19, 1965, so that a hearing could be conducted to determine whether the license applications for renewal should be denied. The licensees had not complied with the "fairness doctrine" in their broadcasting presentations concerning the civil rights controversy in the Jackson area. The renewal was granted for *only one year.* Therefore, the Commission will consider any consistent or flagrant unfairness on the part of a licensee in its overall review of his programming at renewal time. In summary, you will run few, if any, risks of jeopardizing your license or status at the Commission if you:

(1) uphold your affirmative obligation to encourage, implement, and afford a reasonable opportunity for the broadcast of all sides of important controversial issues over your facility;

(2) forward a transcript of the pertinent continuity of any broadcast, wherein a partisan position is taken on issues involved in a race for political office, to the appropriate candidates or comparable spokesmen with an offer of *comparable* time; the requirements of fairness are greater as to political candidates than they are as to controversial issues;

(3) beware of situations where the licensee, or a principal of the licensee, is also the candidate; there is a "special obligation upon the licensee to insure fair dealings" in such cases (Commission's Report No. 5056, Public Notice 50441B, issued April 23, 1964);

(4) don't disregard the possibility that dramatic shows may be such as to warrant "free time" under the "fairness doctrine" (the only case on point concerned the CBS program Smash-Up," which allegedly was instigated by the insurance industry and designed to dissuade jurors from awarding such large sums in negligence cases; the Commission avoided the fairness issue by ruling that the program was not so instigated and that the Commission possesses no authority to censor); this basic question is still unresolved;

(5) keep in mind the comment on page 6, paragraph 10 of the Commission's 1949 Report on Editorializing, ". . . there is no one all embracing formula which licensees can hope to apply to insure . . . fair and balanced presentation of all public issue . . . licensee will in each instance be called upon to exercise his best judgment and good sense in determining what subjects . . . format . . . shades of opinion . . . spokesmen . . ." and ". . . over a period of time some licensees may make honest errors of judgment . . ."

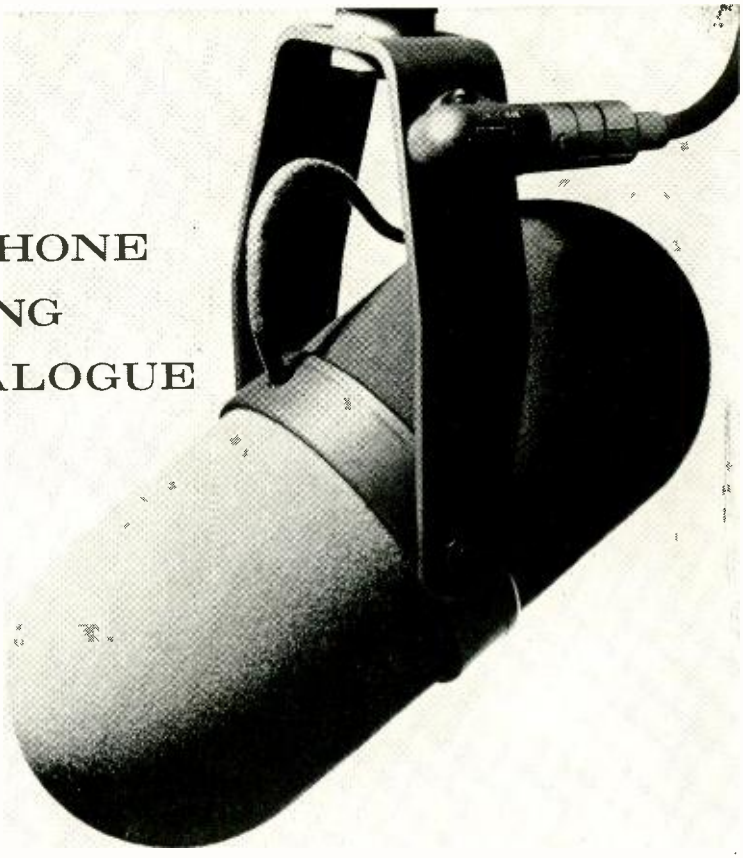
Editorializing and the "Fairness Doctrine"

IN January 1941, the Commission decided the *Mayflower Broadcasting Corp.* case, 8 F.C.C. 333, holding that a "broadcaster cannot be an advocate," that, in other words, a station may not editorialize. In order to clarify this unqualified position of the Commission, a hearing was ordered with respect to the obligation of broadcast licensees in the field of news, commentary, and opinion. This was held in March and April of 1948. A number of the participants believed that broadcasters should have the right, with qualifications. The latter view was adopted by the Commission in its Report on Editorializing by Broadcast Licensees, adopted June 1, 1949, 13 F.C.C. 1246.

Included in the Commission's lengthy Report was this statement (p. 1251):

". . . If, as we believe to be the case, the pub-

THIS BOOM MICROPHONE IGNORES EVERYTHING ...EXCEPT THE DIALOGUE



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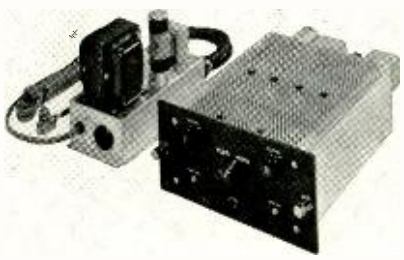

Shure stereo equalizer and preamplifiers are praised as MAJOR contributions to upgrading station quality by broadcasters.

SE-1 Stereo Transcription Preamplifier
Provides precise RIAA equalization from magnetic phono reproducers at line levels. Separate high and low frequency response trimmers. Lowest distortion, noise level, susceptibility to stray RF fields.

M66 Broadcast Stereo Equalizer
Passive equalizer compensates recorded frequency to three playback characteristics: RIAA, flat, roll-off. Provides precise equalization from magnetic pickup at microphone input level.

Circle 12 on Reader Service Card

lic interest is best served in a democracy through the ability of the people to hear expositions of the various positions taken by responsible groups and individuals on particular topics and to choose between them, it is evident that *broadcast licensees have an affirmative duty generally to encourage and implement the broadcast of all sides of controversial public issues* over their facilities, over and beyond their obligation to make available on demand opportunities for the expression of opposing views. It is clear that any approximation of fairness in the presentation of any controversy will be difficult if not impossible of achievement unless the licensee plays a conscious and *positive role* in bringing about balanced presentation of the opposing viewpoints." (italics supplied)

The responsibility to present opposing views is, of course, also present in the case of the broadcast of one side of a controversial issue as expressed by someone not connected with the station and, therefore, not constituting an editorial position on the part of the station. However, that responsibility does not appear to require as much affirmative effort as in the case where the station has editorialized. For example, also in April 1950, the Commission addressed a letter to a station in Detroit, as a result of a complaint from the CIO that the station had refused to sell or make available time for discussion of issues involved in the Chrysler strike. Reportedly, the station had considerable trouble with the union, and when a request was made by the latter for time, the station manager said that he would provide time gratis if the union would obtain a representative of the Chrysler Corp. to appear at the same time to express the views of management. Although the details were not publicized, there was no question that a Chrysler representative was not produced and that, as a result, the station refused to provide time to the union. In its letter requesting a statement from the station, the Commission observed:

". . . Fairness in such circumstances might require no more than that the licensee *make a reasonable effort to secure responsible presentation of the particular position* and, if it fails in this effort, to continue to make available its facilities to the spokesmen for such position in the event that, after the original programs are broadcast, they then decide to avail themselves of a right to reply to present their contrary opinion . . ." (italics supplied)

In other words, *where editorializing is not involved,* but only the airing of one side of a controversial issue, it would appear that a "reasonable effort" to present the other side, and a willingness to make the station's facilities available for the purpose, take the place of an "affirmative duty" to seek out, aid, and encourage the presentation of opposing views.

A more recent expression by the Commission on this subject appeared in its letter of May 28, 1958, addressed to a licensee in Alabama in connection with the renewal of the licenses of its AM, FM, and TV stations. It appeared that the news director of the TV facility had broadcast a program about subscription television, in which he presented the views favoring "free television" and urged the listeners to express their views to the station so that their preference might be communicated to the Congressional Committee involved. This occurred between 6:15 and 6:30 P.M. on January 31, 1958. During the morning of February 3, 1958, three of the *station's employees* participated in a 25-minute informal program on the subject of subscription television, two of them being in favor and the other presenting contrary views. However, listeners were not asked to write the station so that their views could be presented to the Congressional Committee. Furthermore, there was no indication that "timely effort" was made "to make available the facilities of your station to a known proponent of subscription television."

The Commission quoted from its editorializing Report, recognizing the right of licensees to editorialize, but stated that "a reasonable standard of fairness" must be followed in the presentation of controversial issues, and that this includes an "affirmative duty to seek out, aid and encourage the broadcast of opposing views by responsible persons." This standard, said the Commission, "would call for the presentation by a proponent of subscription television during the same evening or at approximately the same time on a weekday shortly thereafter." In noting that this did not occur, the Commission went on to conclude: "It does not appear that your choice of proponents of subscription television fulfilled your 'affirmative duty to seek out, aid and encourage the broadcast of opposing views' on this controversial issue of public importance." In other words, the Commission considers that if a station should choose to editorialize, it must, on the same program or at a *comparable time,* broadcast the opposing views of *responsible* opposition parties.

It would thus appear that a licensee who chooses to exercise his constitutional right to editorialize must do so under the conditions imposed by the Commission because of the public-franchise nature of a station license. This means that opposing views must be expressed by a responsible outsider who is identified with the opposition, and they must be expressed either at approximately the same time or at a comparable time. Comparable time even means that if the editorial were on a weekday, the reply must be on a weekday, if on a Sunday, it must be on a Sunday. If someone cannot be found to present views in opposition to its partisan broadcast, the station should keep a record of its efforts to produce such a person so that it will have no difficulty in proving that it made a reasonable effort to carry out its "affirmative duty."

Apparently, these conditions would not apply if the station should merely broadcast, as news items, pro and con views on any controversial issue, as long as the station itself is not leaning one way or the other, either by taking an obvious position or by "slanting" its presentation through the selection of news items.

All of this emphasizes the hazards of editorializing, attractive though the practice may be if the station's staff includes a popular editorial personality. Even then, and regardless of meticulous compliance with the "affirmative duty" requirement, there is always the spector of a libel or slander suit against which insurance is the only economic protection. ●

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Remove the brackets and the STL becomes a high power, portable, lightweight TV pick up relay.

Put the transmitter and matched receiver on a mountain top — unattended. Give it only 60 watts total power. It becomes one hop of an intercity multi-hop relay link.

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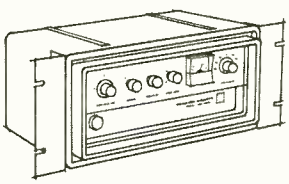

Model	Band (Mc)	Nominal RF Power	Allocation
MA-2	1990-2110	2 watts	TV auxiliary broadcast, STL, remote TV pick up
MA-6	5925-6875	1 watt	Misc. common carrier, common carrier TV pick up
MA-7	6875-7125	.75 watt	TV auxiliary broadcast, STL, remote TV pick up
MA-8	7125-8400	.75 watt	Government, military, TV & wideband data

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Using Promotions to Build Audience & Sales

by Joseph D. Coons

Before spending time, effort, and money on promotional schemes, consider the purpose, then the cost, and finally—choose the type of promotion that will do the job.

THERE isn't a truly successful radio station in the country that isn't using one or more methods to build an audience, or to increase billings. The most important factors to consider when planning promotional activities is to make sure they are carefully oriented to do the job, at a price that's worthwhile, with results that are tangible, and using an idea that is unique in the city where the station is located.

Audience Promotions

Audience promotions may take the form of advertising in other media; spots on the promoting station; contests in stores, by mail, or on the air; stunts performed with some kind of public exposure; unusual services in the interest of community service and audience information; or any of a legion of other forms. In each case, the intent will be for the listener to be attracted, either aesthetically or materially, to *listen.*

Since listening is the key to audience promotions, some abstract determination of the worth of a new listener, in dollars and cents, must be made. For example, if a contest costs $1,000 to run and attracts ten permanent listeners, it could be construed to be too expensive per listener gained. On the other hand, if management values listeners at $100 each, the contest would be worthwhile. In determining what kind of contest to run, management should also determine *why* the audience should be built. If a bigger audience won't make any difference in earnings, there may be no reason to enlarge the audience at all. This can be the situation, for a station may be virtually sold out, with rates that cannot be increased without going beyond available customers' budgets. To do a better job for the advertiser, in terms of circulation, would add only to operating costs, and not to earnings.

Once the worth of a listener and the reason for gaining him is determined, the next order of business should be to determine why he isn't listening. After all, if programming is terrible or the station's technical sound is bad, a contest won't attract any permanent listeners, but a change in other areas might help a great deal. In fact, the latter course of action, *without* a promotion, will save money, since the program or technical change will have to be made sooner or later, anyway.

Having determined what new listeners are worth, and also having concluded that the only reason they aren't listening is either that they haven't tried the station or don't have any great preference, the station must try to get the non-listener to tune in, and get the undiscriminating listener to settle on the promoter's dial position as a habit. *This* is the purpose of an audience promotion. All too often stations run audience promotions that are expensive attempts to do something other than *switch* listeners to the station, or develop listener preference. These attempts are doomed to failure from the start, since listeners will quickly tune out when they discover the same sloppy, ill-sounding programming.

Most personnel improvements are, in fact, audience promotions. When a show, personality, or policy that folks will want to hear is adopted, the station should actively publicize the fact in other media as well as on the station. Like the preacher who sermonizes on the people who aren't in church, the station that uses only its own circulation for promotion just isn't reaching the right people — the *non*-listener. I have found it most interesting to note studies of the industry which indicate that radio stations don't spend any substantial money on advertising. Yet, we are supposed to recognize the value of advertising!

A good non-listener catching format is the contest which involves the listeners on the air. People will often be anxious to hear themselves, their families, or their friends, no matter what the station preference. Remotes in stores, shopping centers, home shows and fairs, are good builders if they include some kind of interview setup for later playback. One of the best ideas that comes to mind was created by Pepsi-Cola in 1954. Citizens were invited to call an advertised phone number and submit a slogan which was later played back on the air. Then, if a person recognized himself delivering the slogan, he won a prize. The reverse procedure has worked at our station, with the station calling a listener's number; if the listener answered the phone in a way that indicated he or she was listening at that moment, they earned a prize.

Another type of audience promotion is the audience-keeping promotion. Here, the promotion

Mr. Coons is President & General Manager, WOHI, East Liverpool, O.

At right: Sample pages from 16-page Krazy Daze community shopper.

EAST LIVERPOOL'S FIRST ANNUAL

KRAZY DAZE

HURRY!

OCT. 19, 20 & 21 IN EAST LIVERPOOL

BRING YOUR LUCKY NUMBER AND "KRAZY DAZE" PAPER TO EAST LIVERPOOL THURS. – FRI. AND SAT. (DATES ABOVE). COMPARE YOUR NUMBER WITH THE HUNDREDS OF NUMBERS POSTED THROUGHOUT THE SHOPS AND STORES ALL OVER THE CITY OF EAST LIVERPOOL. WHEN THE NUMBERS MATCH YOU MAY MAKE THE KRAZY PURCHASE. HANG ON TO YOUR NUMBER. IT COULD WIN IN MORE THAN ONE STORE, AND ALL NUMBERS WILL BE CHANGED IN ALL STORES EACH DAY. CHECK THE MANY ADS IN THIS PAPER WHICH TELLS YOU HOW AMAZINGLY VALUABLE THIS NUMBER AND PAPER CAN BE. ONLY ADULTS (18) OR OVER MAY PLAY. NO PHONE CALLS TO STORES, PLEASE.

Look at the Krazy Specials inside this paper – then, Oct. 19, 20, & 21, look for the "Krazy Daze" sign on all participating merchants' windows. "Krazy Daze" is fun and easy. If you win in one store, don't quit. Your number could win again down the street. Don't lose or give your paper away. All numbers in all stores will change every day, you may win several times each day. Be sure to read all the Krazy Ads in this paper. You will find hundreds of good buys where no Lucky Number is needed. These Bargains are offered each day to Everyone – First Come – First Served. So Plan to Visit East Liverpool all 3 days during "Krazy Daze" Oct. 19, 20 & 21. Stores will be open Thurs. to 8:30 p.m. for your shopping convenience.

The goods and services also sold in the pages of this unusual paper are "bargains," certainly. Never still – for East Liverpool bargain-hunters they're LOCAL BARGAINS.

Here, on page after page, you will find represented the familiar names of the leading local merchants of our home-town area.

Here, too, you will find somewhere of every good thing our modern world has provided for your needs, your comforts and your convenience – from cars to cosmetics, to toys, to laundry services, to furniture.

For here in East Liverpool we have merchants of all kinds and stores who have brought these good things together for the shopper's of our home town and area. We have big stores and little stores, variety stores and specialty stores, handling every retail line that you could find in a city one hundred times our size.

Our local merchants have a big job to do for our town. Their job, individually and collectively, is to bring you these things and services – when you want them, where you want them. In the size or amount you want them and at the price you want to pay. This is their job – to provide a shopping place for our area.

Our local merchants do another big job, too. They provide jobs for our residents. Their payrolls give life to our community. As business men, their taxes carry a heavy burden of the cost of our streets, our lights, our water supply, our schools and playgrounds. As our fellow-citizens, you will find them also in the forefront of our community life – active participants in our churches and charities, our civic clubs and societies, our community events, our whole social progress. They are part of the strength of our town.

We at WOHI and WOHI-FM, who now call town them in their daily tasks, are well aware of the importance role our merchants play as businessmen and leading citizens.

All of us who live in the East Liverpool area, in fact, have a role which we can play in strengthening our communities. OUR PATRONAGE IS ESSENTIAL TO OUR TOWN.

When we shop in East Liverpool, we HELP OURSELVES in many ways.

– We save the expense which always comes of traveling to far-away shopping areas.

– We save on time.

– We deal with friendly, well-informed citizens.

– We get the same brand-name goods, the same guarantees, the same or better credit, the same or better service.

Best of all, we get the LOCAL RESPONSIBILITY which a LOCAL merchant feels toward his LOCAL customers!

Finally, we help OUR town progress. OUR dollars can help make East Liverpool prosperous, when we give OUR local merchants a first chance to serve us.

It is this kind of confidence in our community which has prompted such an unusual department store event as "Krazy Daze," and which will bring other special "Krazy Daze" events to East Liverpool in the future.

But "bargains" are not just for once-a-year special sales. If you make East Liverpool your year-round shopping center, if you shop where you work and shop where you live – you're convinced you'll find "local bargains" on every trip downtown.

That's why we suggest as residents of the East Liverpool area that you LOOK before you leap – to another shopping center.

Wherever you shop . . . wherever you're shopping FOR . . . . . LOOK FIRST IN EAST LIVERPOOL

The Management Of WOHI and WOHI-FM who have functioned this First Annual KRAZY DAZE

HERE IS YOUR

KRAZY DAZE NUMBER

POSTAL PATRON
LOCAL

RULE RATE
U. S. POSTAGE
PAID
EAST LIVERPOOL, O.
Permit No. 9

1962 OLDSMOBILE "F-85" CUTLASS CONVERTIBLE

YOU GET "SOMETHING EXTRA" IN 1962
OLDSMOBILE - RAMBLERS
AND
CHOICE USED CARS

AT LITTENS "BY GEORGE"

AND IF YOUR NUMBER IS POSTED ON OUR
KRAZY DAZE SPECIAL YOU CAN BUY
A "GOOD TRANSPORTATION" CAR FOR $29.95

LOOK FOR IT ON OUR LOT AT
417 WALNUT ST.

LITTEN MOTOR SALES
433 WALNUT ST. EAST LIVERPOOL

WINTER SALE

Famous KRAFT WINTER TREADS

TREADS
Applied to your tires at our select ratings . . . the season's biggest snow-tread bargain!

LOW DOWN PAYMENT

As Little As $1.00 PER WEEK

As Low As $10.95 EACH Plus Tax

KRAZY DAZE SPECIAL
If Your Number Is Posted In Our Tire Dep't.
You Can Buy A Pair Of Kraft Winter Treads For – 97¢ Each

LITTEN TIRE SERVICE
416 E. 5TH ST. E. LIVERPOOL

FARNSWORTH TV
DEALERS FOR
ZENITH - ADMIRAL
COLOR TV
AT ITS BEST
DURING
KRAZY DAZE

ONE NUMBER WINS:
6 TRANSISTOR
RADIO
5¢

CORNER SIXTH and BROADWAY

ARROW PANTS SHOP

We Know We're Crazy, But – It's Been a Hot Summer
COOPERATING
FOR

THURS. – MEN'S PANTS
Reg. 10.95–12.95 for $8.88
LUCKY NUMBER WINS BUY
For Only 7¢

FRI. – SPORT COATS
Men's Reg. 16.95–25.00 for $14.77
Boy's Reg. 14.95 for $10.77
LUCKY NUMBER WINS BUY
For Only 11¢

SAT. – SUITS
Men's Reg. 35.00 only $28.77
Boy's Reg. 19.50 only $14.77
LUCKY NUMBER WINS BUY
For Only 13¢

ALL PRICES LOWERED DURING "KRAZY DAZE" AT ARROW PANTS SHOP
LITTLE BLDG., EAST LIVERPOOL

THE MEN'S SHOP

FOR

THURS. – CHOICE OF ANY ADAM HAT IN STORE
Reg. 9.95–11.95 For
HOLDER OF LUCKY TICKET
only 3¢

FRI. – CHOICE OF ANY SWEATER
In Store Value Up to 25.00
For Only 9¢
TO HOLDER OF WINNING TICKET

SAT. – CHOICE OF ANY PAIR OF MEN'S PANTS IN STORE
Values Up To 15.95
only 6¢
FOR
HOLDER OF LUCKY TICKET

KRAZY DAZE

10% Off For All Numbers During "Krazy Daze" At The Men's Shop
426 Market St., East Liverpool

WOHI

HELPING . . . AND JOINING
IN OUR
GROWING EAST LIVERPOOL

PROGRAMMING
Bill Holden
Bob Miller
Joe Cossa
Mary McElroy
Johnny McFadden
Jack Alpern
Vince Mocia
George LaNeve
Howard Adrian
Bob Logan

SALES
Cherien Stuart
Bill Kassel
Wally Wright
Curtis Hague

ADMINISTRATIVE
Angie Frank
Evelyn Meyer
Jeannette Reynolds

TECHNICAL
George Kelly
Tom Kelly
Edward Benson
Red Kell
Howard Maylone
Ross Grimes

HELPING . . . . . .
with over $56,000.00 of time donated to community service causes and organizations (we never charge for public service announcements)

with top-notch programming for our audiences, AM and FM – –

GROWING . . . . . .
with new, double power on AM early next year – –

with new, expanded separate AM and FM programming – –

with exciting new horizons of thought.

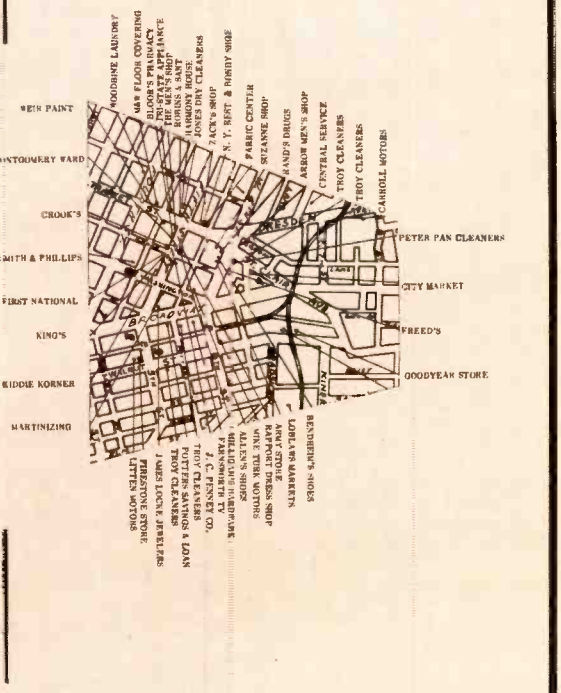
WON'T YOU JOIN US?

WOHI
1490 kc AM

WOHI - FM
104.3 mc FM

"WHERE ADVERTISERS MEET IDEAS"

KRAZY DAZE STORES



SHOP AT ALL

effort must be tailored to *keeping* the listener as a faithful member of the audience. This type of promotion should be oriented toward giving the station a high identity with its audience, so that call letters and dial position are familiar. Such promotions provide listeners with some material advantage, such as special days or nights in theatres, shopping centers, etc.; other ideas include pic-

Ad from East Liverpool Review is an example of "prizes" promotion conducted by WOHI. Each of 18 participating merchants offered prizes. Drawings for prizes were held at each store.

nics, contests, and give-aways just for listeners, or emphasizing the specials a listener is getting, and of course station program promotion spots and programs on the air.

Sales Promotions

Actually, a good audience promotion is usually a good sales promotion. A good promotion for a station is that which integrates outstanding activities in sales, programming, engineering, and administration to achieve more business. Thus, it is doubly important, when choosing a sales promotion, to be selective, and determine first, a goal. There can be many reasons for running a promotion—to attract new business; to give existing customers a "special" to build their enthusiasm; to create excitement among advertisers; to prove the station's pulling-power to existing as well as new advertisers, etc.

Once the goal is determined, it is necessary to select the promotion that will achieve the goal. This is the most difficult part of the job, and one where the biggest mistakes are made. When selecting the promotion, imperative questions to ask are: (1) What is the cost? (2) What will it net, after commissions? (3) How much of the volume will be "switch" rather than new business? (4) Will it require a high acceptance to make money, because of high initial expense, or will expenses be a fixed percentage of each sale? (5) Will you be paying others for services or prizes that you can provide yourself for less? (6) Will the timing be to your best advantage, with the resulting revenues coming when you need them? (7) How many potential customers do you have at the price required? (8) Will the sales time taken by the promotion be more than would be required to get an equal net return on non-promotional selling? (9) Will the promotion contribute to the station's reputation?

Promotion Coordination

An effective promotion must be well coordinated. This means more than just a sales or program staff meeting; it means that all departments of the station must have an opportunity to meet together and iron out problems, with an open mind to non-sales or program-oriented comments. The chief engineer might point out some equipment limitation to the project, one which might be significantly improved by a modification of either the promotion or the equipment. The C.E. might also have some observations that, from his point of view, would shed new light on the need for a promotion and in which area it should be undertaken. Likewise, station bookkeepers will need to know how commissions and expenses are to be handled. Arrangements should also be made at such meetings to keep a special accounting of expenditures on, and income from, the promotional effort, in order to know if it was worthwhile.

Nor should group discussion prior to selection of a promotion be overlooked. Some of the best ideas we have had came out of brainstorm sessions with the staff.

Sample Promotions

There are as many promotions as there are radio stations, but they are all varieties of contests, give-aways, special prices, special programs, or community service. Any promotion will do better in some areas than in others. The competent manager will balance the considerations and arrive at the best alternative. ●

Stuffed Animal Drawing

There are numerous stuffed animal suppliers hawking their wares for this one. It is a good contest at Easter or Christmas time, although it loses its impact after a run or two, at least in a small town. This promotion has the advantage of a fixed cost per sponsor, the cost of the animals, plus coupons and posters, so no matter how few are sold, cost is fairly linear.

Sponsor-Prize Drawings

This promotion is inexpensive and easy to run. A special price is established for advertising. As a credit against this price, the station will pay an advertiser up to $25 (or some other such figure) toward the wholesale price of his prize. The station provides entry forms, posters, and runs ads in newspapers or other media promoting all participating stores and services. The cost is linear, allowing any number of sales with a profit to the station. The idea of giving a credit to the advertisers for their prize allows the station to be sure the prizes are uniformly good from store to store, and are of equal value so that no one shop steals the spotlight. It has a community service aspect, too, since the station is running a town-wide promotion. Merchants will like this one; it's a good traffic-builder.

Bingo Games

These are supplied by a variety of syndicators and card suppliers. The idea is simple enough: Customers get cards from an advertiser, listen to a specified program which includes a listing of numbers, and if they win, collect a prize from the sponsor or the station. In spite of arguments to the contrary, bingo doesn't seem to harm the image of a station, is easy to run, and is relatively inexpensive. Be sure to arrange a way of checking winners' cards, however, to avoid errors and hard feelings.

Sports Drawing

This promotion was used successfully by WOHI to get advertisers for its baseball coverage. Each participating sponsor held a drawing, free of charge, for anyone who wished to register. Each month during the season, the station sent a bus to the game, with tickets and bus cost paid by the station. The bus was decorated with appropriate banners, and advertisers were invited to give their winners appropriate souvenirs of the trip. The promotion thereby gave advertisers traffic, and a record of it, while listeners were encouraged to stop in, and could win a nice prize. The cost to station was covered through just one sale to one of six participants, and the station was able to develop more baseball business than it had had in prior years. Cost of posters, stubs, etc., was the only expense, other than tickets and buses, which was all paid for by sponsors.

Promotion Franchisers

Zingo (Bingo)
Lucky Bucks, Social Security Numbers: Azrael Productions, 913 N. Charles St., Baltimore, Maryland
Kasho: Vana Associates, Trades Publishing Bldg., Albert Lea, Minnesota
Decals: John Deal Co., 939 Trinity Lane, Nashville, Tenn.
Bumper Stickers: Enameloid Sign & Display Co., 140 Peach St., Reading, Pa.

The 7 Qualities of a Good Promotion

1. It builds the station's image.
2. If a sales promotion, it builds rather than switches business.
3. If a program promotion, it does not cost more than it's worth, per listener gained.
4. It is a coordinated effort between all station departments, including engineering and news.
5. It is presented at a time when it is needed, both seasonally and at the right time of day.
6. It is well advertised in other media.
7. It is handled without diverting staff time from day-to-day work that is more important in the long run.

Community Club Awards

This is a syndicated sales promotion, developed by Community Club Awards, Inc., Westport, Connecticut. It involves the accumulation of receipts and other proofs-of-purchase by members of competing organizations, submitted to the station weekly with a tabulation of points earned. Each week, the club accumulating the most points earns a cash award, and a grand prize is given at the conclusion of the contest. Because of the cash prizes, and a franchise fee to CCA, this copyrighted promotion has a relatively high break-even point. On the other hand, it does a tremendous job of getting traffic for advertisers, and proves it. It is also a community service, since it helps the participating clubs accomplish their objectives by assisting their treasuries. When considering CCA, major costs are printing, franchise fees, and prizes. Advertiser support must be reasonably substantial.

Crazy Days

This is the most exciting promotion ever run at WOHI. Arrangements were made with the publisher of a "Community Shopper" newspaper to publish a special issue. Advertisers were solicited for combined radio-shopper ads for a period of a week. Shoppers were bulk-mailed to everyone in the listening area. Each shopper was numbered, and recipients were encouraged to visit the stores to see if their number qualified them for "crazy" bargains, like a 10¢ car, $1 mink coat, etc. Because of the odds, with only one winning number out of all the shoppers mailed, clients can run big specials for winners without great risk. In addition, numbers can be posted throughout the stores for little item specials. This is a great traffic-builder, with lots of excitement. The station also gets into every home via the shopper. Costs are high, but the excitement makes it worthwhile. Be sure to investigate printing, addressing, and mailing requirements carefully with the printer, post office, and advertisers. Be ready for layout work at the last minute, as you try your hand at the print media.

Litter Box

Here is a good promotion for publicizing a station. Automobile litter boxes, distributed to customers by the sponsor, are displayed on the shelf below the rear window. Each day, the station sends out a staff member to spot cars, and prizes are given for displaying the box. The promotion is a natural for a gasoline company, with five gallons of the advertised fuel as the prize. Our station paid for the litter boxes and provided them to the advertiser in return for a big schedule and for providing the prizes. It's a big boost for the station when call letters appear around the area in the windows. Variations on the theme are bumper stickers and decals, although the litter boxes have a certain public-service aspect.

"Mobile Medium" Promotion

This is an audience builder. The station remote unit cruises within the station's service area, and announces the license number of a car he's following over the air. If the driver pulls over to the side, indicating he is listening, he gets $1. If he does not stop, the amount is added to the next prize.

DA Antenna Systems for FM

by John H. Battison

Rules and regulations, and considerations for using directional FM antennas.

THE FCC has long permitted AM broadcasters to use directional antennas, but prior to the FM freeze a few years ago, very few FM stations were allowed this privilege. FM directional antennas were beginning to appear in applications for new FM stations and improved FM facilities just as the freeze was imposed. Today, there is a resurgence of interest in FM directional antennas.

As activities in FM construction become more settled, the FCC is stabilizing its outlook on directional FM antennas and spelling out their requirements more clearly. The major purpose of the directional system is to enable short-spaced FM stations to increase power to the maximum now allowed their classification under new FCC Rules. Directional antennas *may not* be used, however, as a means of reducing minimum mileage separation requirements in order to fit in a new station.

Before a station manager decides to use a directional antenna, he should become familiar with the pertinent parts of the FCC Rules. Two deal specifically with such antennas and their uses (see box). A typical application under the classification of improving service might be a situation where the proposed principal city is close to a mountain or similar shadowed area and there is no advantage in radiating toward the blank mountain side. The other approved application is for the purpose of using a specific antenna site. If an applicant owns an existing tower or high building, or even another class of broadcast station, and wishes to use this as the supporting structure, a directional antenna might be required in order to limit the combination of height and power in a specific direction to conform with the Rule regarding power and height combinations.

Technical Requirements

Technical requirements are spelled out in detail in FCC Rule 73.316(c),(d) subparagraphs 1 through 3. Certain portions are particularly noteworthy.

In most cases where a directional FM antenna is used, the engineering portion of FCC Form 301 will be completed by the applicant's consulting engineer. However, sometimes a well qualified chief engineer can handle this work. (See BM/E-June, 1965.) If this is the case, these points should be observed. The application must completely describe the antenna and explain the method of obtaining directivity. You must provide a radiation pattern showing free space field intensity at one mile in mv/m for the horizontal plane[1] and data on vertical radiation between plus and minus 10° above the horizontal plane. This data must not show any undesirable radiation in the vertical plane between these limits. Finally, the name, address and qualifications of the engineer making the calculations must be given. The antenna information required above may be computed or measured, but you must include a full description of your computations and methods of measurement.

Station managers with experience in AM directional antennas will notice a big difference—a consulting engineer must provide the technical data supporting the directional antenna system. This is because there are so many variations in AM DA patterns that every installation is different. The limits of radiation are very rigid in FM DA systems; therefore, it is possible for a manufacturer to have FCC required technical data for his whole line of FM antennas. There may be the exception, of course, where an exotic pattern is required—and can be justified—but this will be rare. The manufacturer will furnish complete engineering data for paragraph (d) of this Rule.

Condensation of FCC Rules Governing FM DAs

Rule 72.213 (c): In the case of short-spaced stations, maximum radiation may be used—provided that the maximum power radiated in the short-spaced direction is not in excess of the amount allowed non-directionally. No more than the maximum permissible power for the class of station concerned may be radiated in any direction, and the power increase off the radial separating the two stations must not be greater than 2 db for every 10° of change in azimuth. (See Fig. 1.)

Rule 73.316 (c): A directional antenna is considered to be any antenna that obtains a deliberate non-circular pattern for the purpose of improving coverage or using a particular site. It may not be used to circumvent the minimum mileage separation requirements. A ratio of 15 db maximum to minimum radiation will not be accepted. The hypothetical patterns in Fig. 1 comply with this rule.

Operating Directional Antennas Systems

The horizontal field patterns for three operating FM DA systems are shown in Figs. 2, 3, and 4. WJZZ, Bridgeport, Conn., Fig. 2 uses a Jampro J 6b/6V/DA; WGIR-FM, Manchester, N. H., Fig 3, plans to use a Collins 37M-DA and WTFM, Lake Success, N. Y., Fig. 4, will use an Alford 7615.

Mr. Battison is an engineering consultant, Annapolis.

[1] The FCC prefers to have all data in dbk, rather than kw. See Fig. 5.

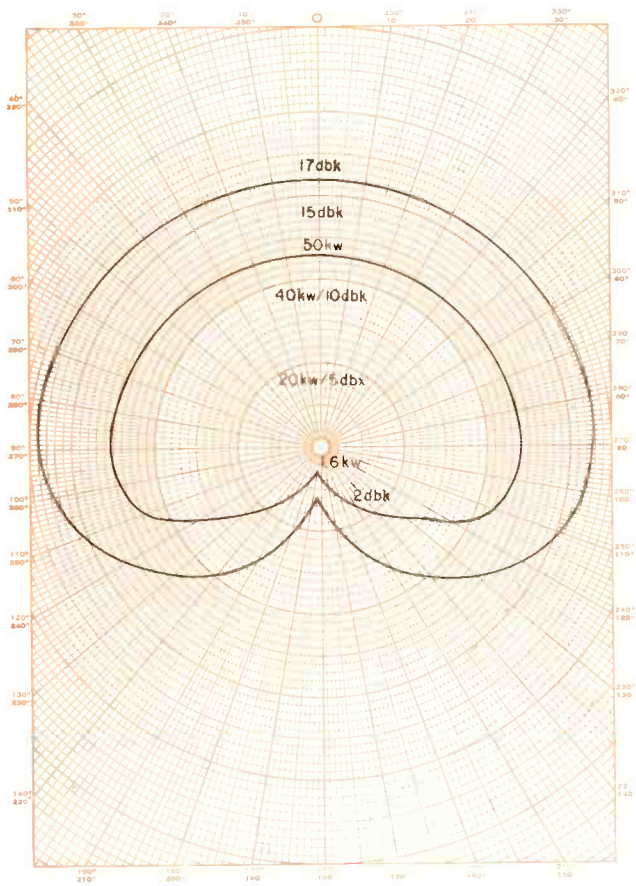


Fig. 1. An illustration of the relationship between power in kw and dbk for a given pattern.

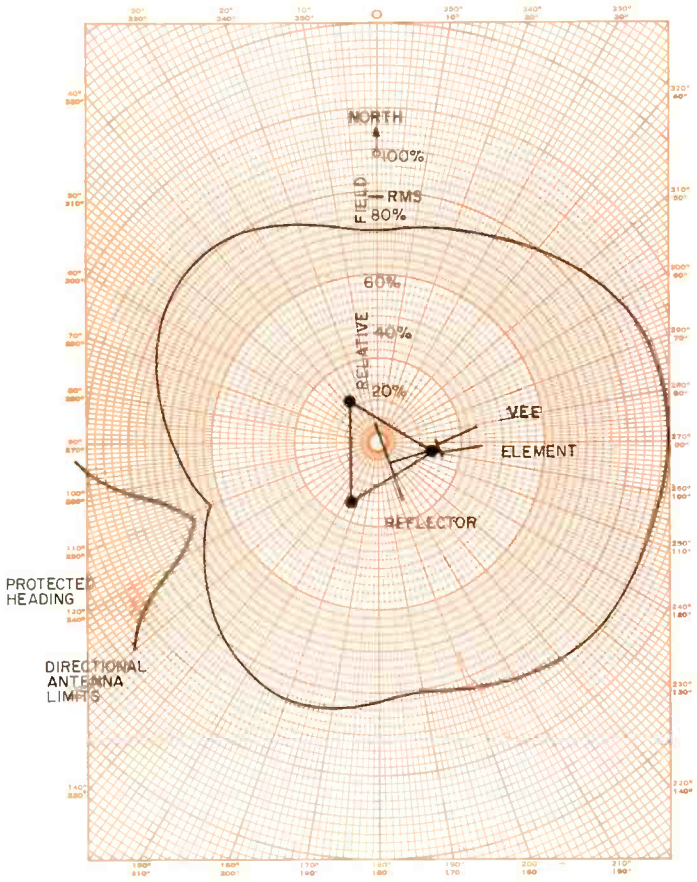


Fig. 2. Predicted antenna horizontal field plot for WJZZ, Bridgeport, Conn.

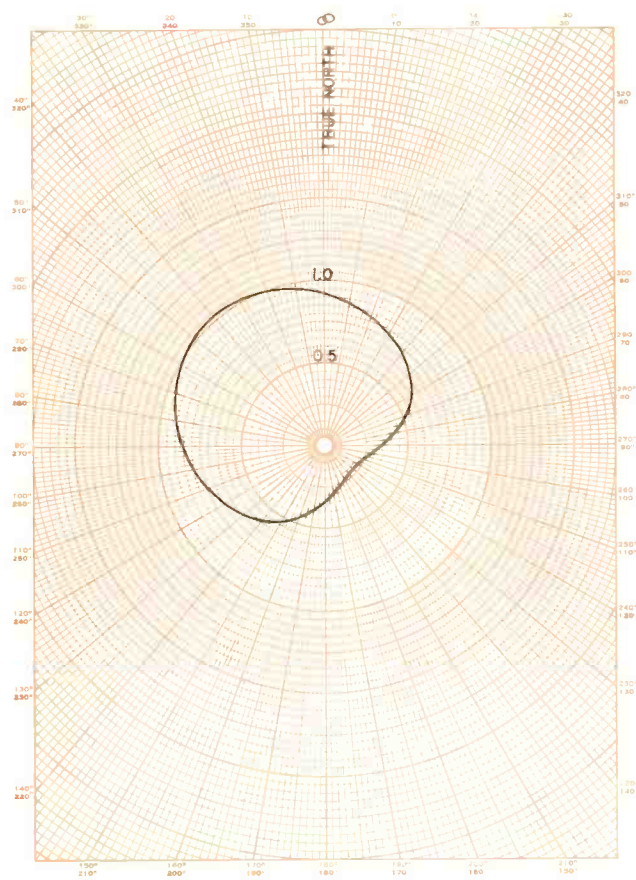


Fig. 3. DA horizontal pattern for WGIR-FM, Manchester.

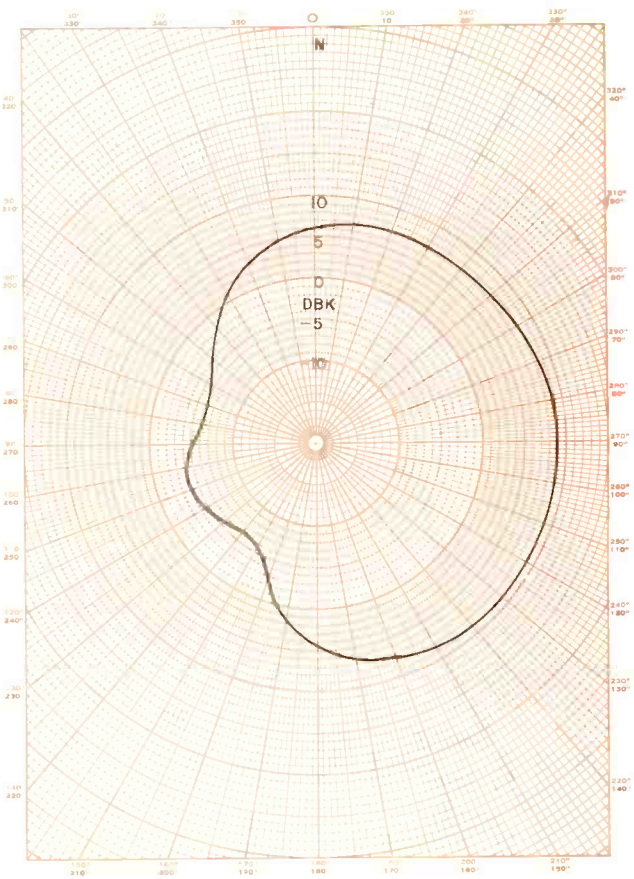


Fig. 4. DA horizontal pattern for WTFM, Lake Success.

These DA's are shown because they represent a cross section of new stations; there are many older operations, but they were installed before the present DA regulations went into effect, and as a result do not have to conform with the new Rules.

Engineering Considerations

The application procedure for an FM directional antenna system is far simpler than that for an AM directional. This is due to the difference in physical arrangement. Because of the small size and often one-piece construction of an FM antenna, it can be adjusted and tuned at the factory for its desired directional pattern, and installed in the field with reasonable certainty that the pattern will be correct—provided that the antenna is properly oriented.

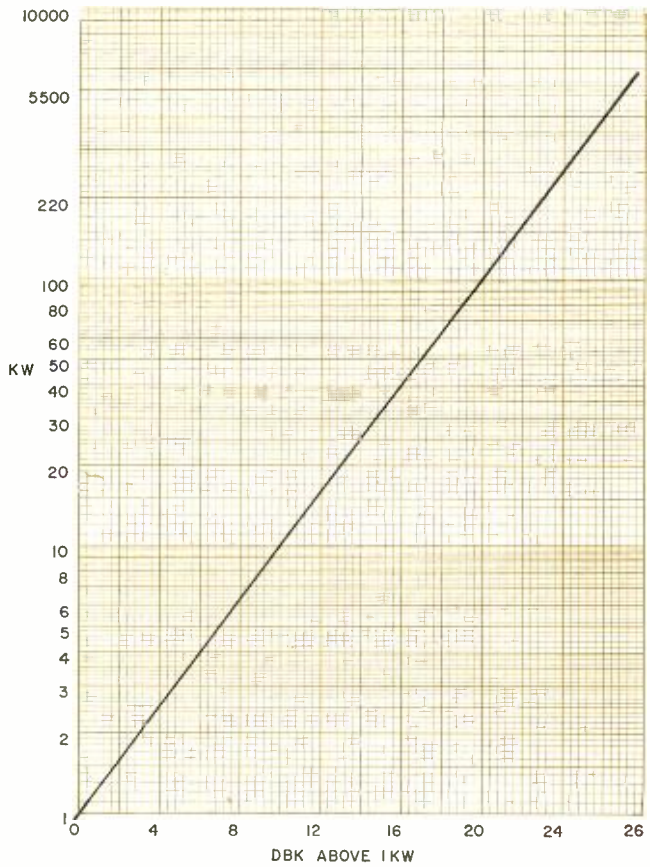


Fig. 5. Graph showing relationship between power and dbk above 1 kw.

FM Antenna Manufacturers

Since almost any FM antenna can be converted into a directional antenna, most manufacturers are able to meet any requirement. It probably can be safely said that every antenna manufacturer is able to offer directional antennas.

Alford Mfg. Co., 299 Atlantic Ave., Boston, Mass.
Andrew Corp., Box 807, Chicago, Ill.
Canadian GE, 830 Lansdowne Ave., Toronto, Ont., Can.
Canadian Marconi, 2442 Trenton Ave., Montreal, Que., Can.
CO-EL, 24 Carol Rd., Westfield, N. J.
Collins Radio Co., Cedar Rapids, Ia.
Gates Radio Co., Quincy, Ill.
General Electric Co., Syracuse, N. Y.
Radio Corporation of America, Camden, N. J.

The FCC has inserted into the Rules a provision that might go unnoticed by many readers. It says "a submission must be made by a qualified surveyor that the antenna has been properly oriented at the time of installation." This means that a surveyor must measure the azimuth of the antenna when it is installed, probably by means of a mark on the base of the antenna as it is being mounted on the tower, or in a manner which will assure the Commission that the antenna is properly oriented.

Proof of Performance

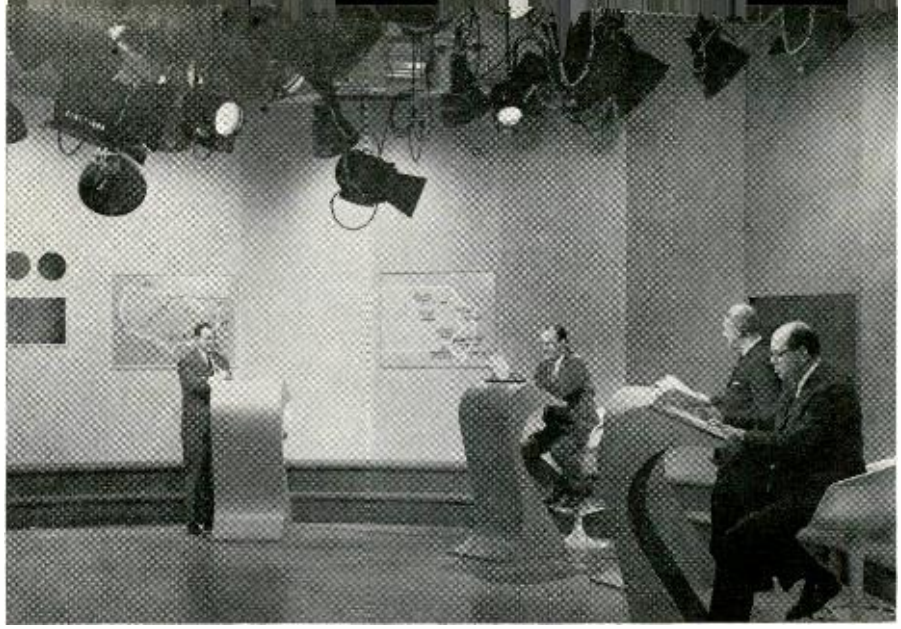
Measurements are required in the horizontal as well as the vertical plane. The 360° horizontal radiation pattern must be shown. There is no formal way in which the FCC requires the proof to be measured or submitted, provided the material is there and is correct. Ed Hackman, current Head of the FM engineering group, is a reasonable man, and is always willing to explain things to an applicant's engineer.

The Rules call for a proof to be made in the field, or by the manufacturer. The latter is far easier and less expensive for the applicant, although such activities do tend to remove the bread from the mouths of consulting engineers. However, the Commission requires that the manufacturer make his measurements with the antenna mounted on the actual tower, or a replica thereof, together with all lines, ladders, lights, etc., that will be used in the final installation. The reasoning behind this is obvious. However, the word *tower* should not be taken to mean the 300-foot high mounting structure, but to a section of tower or pole on which the antenna is secured prior to mounting on the actual tall tower. The old rule which required measurements along eight radials with a pen recorder is out! Today, directional antennas for FM use are as simple to specify and use as non-directional antennas.

Management Considerations

FM directional antenna costs should not be more than 10% of general equipment costs. Their construction is simple and, in many cases, undetectable from non-directional antennas. DA arrays are as simple to install as non-directionals, except for proper orientation. Unlike AM DAs only one tower or supporting structure is needed.

The average FM station now operating at full power, will not have to consider directional operation. One application of the FM directional is in the case of of a short-spaced station which wants to increase power. Then it may be necessary to use a directional antenna to control radiation in the short-spaced direction. Occasionally an operating FM station will discover that coverage in a given direction is not what it might be for various reasons such as terrain. In this case a directional antenna will achieve the desired coverage. FCC Rules governing the proposed operation must be adhered to. Often an existing FM antenna can be modified, depending on the design, to give a directional pattern by means of fairly simple phasing alternations. When this is done, field pattern measurements will have to be made with the antenna mounted on the station's tower, and this can run into several thousand dollars, depending on the complexity of the measurements. Generally, if the antenna in use has been amortized, and the station is about ready for a new one it would be better and cost less in the long run to install a new one that has been factory-tuned, adjusted, and furnished with a proof of performance. ●



News set in WFIL-TV Philadelphia color studio. Some of the additional lighting fixtures installed for color are visible.

Planning Your COLOR TV Facilities

Charlie Buffington, Associate Editor

The road to full color programming is a long one—an expensive one—complicated by many ramifications. Careful planning will make it easier.

THERE can be little doubt that color TV has become a reality which must be faced—and the sooner the better. Public demand for color is mounting rapidly, and stations desiring to maintain community stature must move into the world of "living color."

But beware—an abrupt plunge into total color operation will breed many problems for an uninitiated staff. Thorough planning is necessary to achieve an orderly transition. A systematic approach will enable a station to skirt the many pitfalls lurking in the area between luminance and chrominance. Quoting Mr. Harry Barfield, Executive VP and General Manager, WLEX-TV Lexington, Ky., "Physical setup modifications and personnel adjustments should be considered along with the total investment."

The majority of today's colorcasting leaders made the transition in at least two basic steps, starting with film and tape operations, then progressing into an increasing schedule of live color origination. With the new season beginning next month, many of these stations will be operating on a 100% live color basis.

Physical Plant

Contrary to what you may think, a fully equipped black-and-white plant may not require extensive remodeling to transmit color. Several stations have found that they can integrate color equipment into their present facilities. Some stations are building entirely new plants, but the addition of color facilities isn't the prime motivating factor. Any new building plans, of course, should include facilities for full colorcasting.

Studios intended for live color origination need not be extremely large. Studio size is determined by the *type* of program rather than by whether or not it is in color. WFIL-TV Philadelphia, for example, is using its smallest studio (35′ x 50′) for live color programs. WGAL-TV Lancaster, Pa., is using a 150′ x 100′ studio, capable of accommodating a large audience, as their basic live color studio. Side-by-side settings are used for a number of smaller production programs. WAVY-TV Norfolk, Va., will be using their present 60′ x 40′ studio to provide 100% local color beginning next month. And according to John Silva, Chief Engineer of KTLA Los Angeles, existing studio facilities were quite adequate when color programming was resumed in 1962.

Clearly, then, unless the present plant is wholly inadequate for black-and-white, there is no need for a station to start knocking out walls and building massive auditoriums solely to provide live color capabilities. If any basic *programming* changes to augment or enhance the use of color are contemplated — for example, more elaborate audience participation shows or larger studio sets—then *these* changes will require the additional space, not merely the addition of color.

Equipment Area

We have found that there are also some misconceptions about equipment facilities. Strangely enough, it is possible for a station to actually utilize *less* space with new color equipment than needed for older black-and-white gear! Undoubtedly, there are some instances where you can run into floor area problems, particularly if your present equipment is right up against the walls now and you plan on simply adding equipment to handle color. However, because most new equipment is solid-state, it takes less space than older tube-type units. So if you end up replacing some of your older antiquated equipment with new solid-state gear, the available space may very well be more than adequate. Transistorized VTR's, for example, are smaller and self-contained, whereas the older designs required more floor area in addition to rack space. Film chain equipment may need a little more space—depending on what you add—but here again equipment transistorization may leave you with *more* space around the slide-film islands.

In most cases, it's unlikely that in any but extreme circumstances would an extensive amount of extra floor area be necessary (some estimates range from 10 to 20% more), except where things are pretty tight now. Certainly, if you are planning a new plant added space should be provided, but it is easy to be too extravagant.

Lighting and Air-Conditioning

The question of extra lighting is governed by the type of cameras you plan to use — some older cameras require 2½ to 3 times as much light as conventional black-and-white units; newer transistorized cameras, on the other hand, need very little more, some as little as 25%. So, before you plan to triple your present light sources, give some thought to the cameras you will use. Illumination required for older color cameras ranges from 225 to 300 ft. candles, depending on studio design and decor. With some of the newer cameras you can get along with as little as 125 to 250 ft. candles for good quality color pickup.

Presently, making the choice of camera isn't as simple as it sounds, simply because newer cameras aren't immediately available. So it may be a question of which one can you get quickest, or how long can you wait. Will a time lag place you at a competitive disadvantage, and, if so, would a larger investment for extra lighting and air-conditioning (almost a directly proportional increase) be justified to get into color immediately? The station that can wait for delivery of the newer cameras will be in a much better position as far as added costs for lighting and air conditioning are concerned.

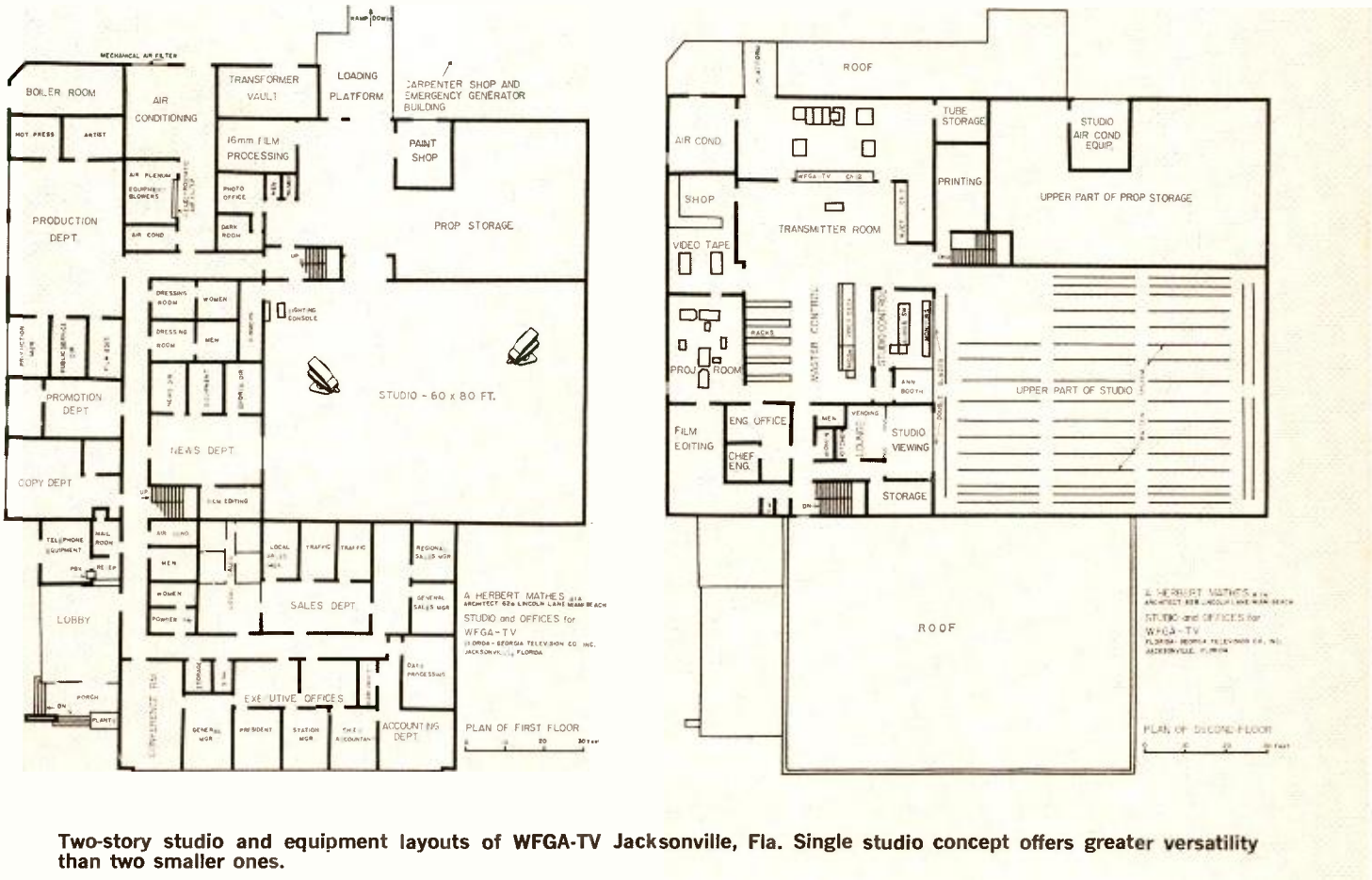
In cases where color lighting requirements are marginal, it might be profitable to brighten up the studio. At WFIL-TV, for instance, Mr. George Koehler, manager, and Mr. Irwin Ross, Chief Engineer, pointed out that if surface areas, ceiling, walls and floor are painted white, or any light reflective color, available light is much more effective. If you plan to use the newer cameras and have a present illumination of 125 ft. candles, the extra light gained by brighter reflective surfaces may be enough.

Color filters or lenses mounted in front of lights may have some effect on camera pickup fidelity. At least one station is experimenting with various degrees of color shading in the hope of attaining more natural tonal values, while at the same time reducing required light intensities. In very large studios, light mobility is a major factor. If spots and floods can be readily switched from one set to another, fewer fixtures will be necessary.

Increased air-conditioning demands will be directly proportional (except where the required extra tonnage can't be matched exactly by available units) to the percentage of added light. Air-conditioning requirements for equipment areas will be less with solid-state units, due to their lower operating temperatures. And obviously, if you increase the volume of air to be cooled, requirements will be greater.

Wiring and Power Consumption

You will have to add extra power circuits to operate additional lighting and air-conditioning units, unless you are fortunate enough to have the necessary circuits already. Cost will vary according to the amount of wiring needed. Your service entrance from the power source could be too small to handle any appreciable load increase, and if you have a standby motor-generator, it may be too small for emergency operation. Such factors can present



Two-story studio and equipment layouts of WFGA-TV Jacksonville, Fla. Single studio concept offers greater versatility than two smaller ones.

some costly problems, but of course they are contingent mainly on the need for extra lighting and air-conditioning. Power consumption in equipment areas will decrease with the installation of solid-state gear. Thus, some extra power could be allocated for studio use without any significant overall increase.

Equipment Costs

Complete color camera chains may cost anywhere from $50,000 to $75,000; most stations use at least two. Color film cameras alone run between $30,000 and $40,000.

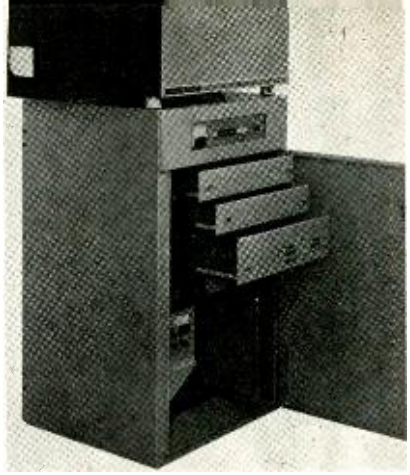
VTRs range from $70,000 to $80,000 for the new self-contained color units. For reasons of flexibility you will undoubtedly need two, although if it were not necessary to record during air playback, one unit would serve the purpose. Many stations find it necessary to have three and sometimes four VTR's.

Provisions for tape and film control desks should be considered in planning your master control setup. If, as is often the case, you plan to add more slide-film and tape machines later, you could encounter the problem of where and how the control room equipment can be integrated.

Personnel Training

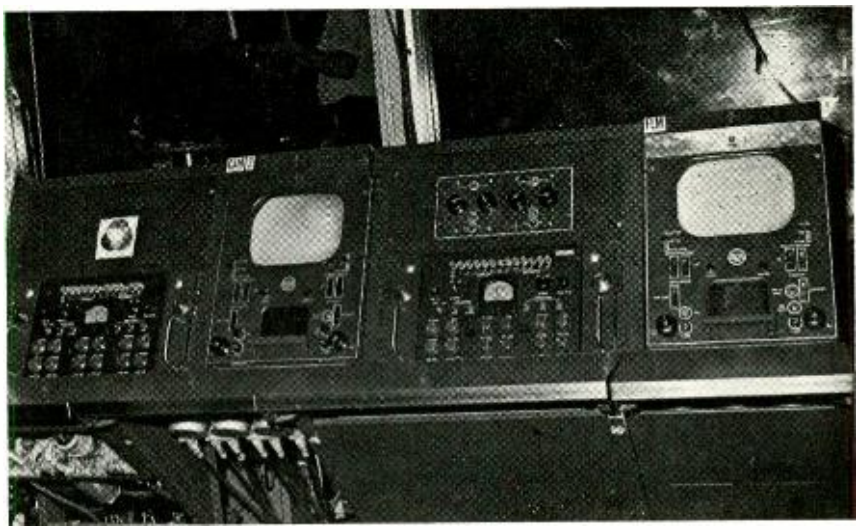
Control technicians have the most difficult transition to make—the multiplicity of control functions for each camera require them to make more adjustments, and within closer tolerances, than they are used to for black-and-white operation. It takes time for these men to adjust to their new job requirements, but as they gain experience the operation will become smoother. Cameramen have little trouble in making the transition, since color camera operation is pretty much the same as black and white. However, camera setup is more complicated, requiring allowance of more time to ready camera equipment each day.

Production people must learn to work with color and still maintain a suitable black-and-white background. If there were no more black-and-white sets in operation, and only color need be considered, the problem would be simplified. But color artwork must not only present a pleasing color background, it must also have a pleasing tonal contrast when viewed on black-and-white receivers. Scenery must be reworked to meet



Some stations find it necessary to add only a color camera and multiplexer to their film chain. G. E. PE-24 4-V unit contains video processing, power supply and sweep circuit modules. Monitor selector panel is between camera head and drawers.

Control consoles for color film/slide chain and studio camera at WLEX-TV Lexington, Ky., require relatively little space.



Cross-Section of Activities and Comments

James Knight, Advertising and Promotion Manager of WJW-TV Cleveland, says they are moving into color by installing proper facilities and developing experienced manpower. Currently, 3% of WJW-TV programming is in color.

WDSM-TV Duluth, according to Ed Conrad, Manager of Programming, is currently carrying 42% of programming in color—33.7% network, 4.2% local film, 2.1% local live.

Barry Stover, Promotion Manager of KARD-TV Wichita reports that 85% of their local-live programming is in color, and by next month 96% of prime time will be in color.

WLW-T Cincinnati will be programming 57.6% color this fall—19 hours local live, 16½ local tape/film, 42-50 hours network weekly. Promotion and advertising director Elizabeth Stilz is qualified by experience to state, "The cost of originating color need not be substantially greater than black and white. More sensitive cameras make unnecessary large expenditures for additional lighting, air-conditioning and studio facilities. More stable cameras and longer life camera tubes bring color camera operating costs in line with past experience with black-and-white cameras."

Mr. Ross Browender, Supervisor of Research and Publicity, WTMJ-TV Milwaukee, says that reasonably complete color equipment—cameras, control equipment, film chain, video recorders, etc.—will cost a half million dollars and then some in many cases. WTMJ-TV programs 40% of their total hours in color—60% of this is network, 25% live (and on tape), and 13% film.

Compact self-contained videotape machine in operation at WLW-T Cincinnati is designed to operate in limited space.

Color film chain installation at KSTP Minneapolis includes two 16mm and slide projector, colorplexer, and camera.

these qualifications, and therein lies the problem. Production people must learn to visualize how a color camera sees various colors and hues, as compared with the human eye, and whether or not any given scene will reproduce satisfactorily in both color and black and white. There is no reason for sets or props to be redesigned unless basic program changes are made—only color schemes need be changed.

The advantages of gradual color integration are obvious—if production people are forced to plunge into a full color schedule overnight, the station will go through some hair-raising episodes. Thus, a period of reorientation for all production personnel will be required. Succinctly summarized by Mr. L. H. Curtis, VP and General Manager, KSL-TV Salt Lake City, "The sooner it is done the sooner the trial-and-error period will be over." KSL-TV is now transmitting 14.5% of total programming in color.

Film Processing and Taping

As any amateur photographer knows, color film processing costs are greater than for black and white. A station that wants to process its own color film will have to make a sizable investment in the necessary equipment. This is undoubtedly one of the main reasons why many are using outside processing services. Without your own color-film processing equipment, however, you will be faced with time element problems for news film. On the other hand, you may be able to arrange a "matter-of-hours" service with an outside source, which some stations have been fortunate to accomplish. Certainly, it would be wise to investigate available services in your area before investing in the equipment. But if you will have a large quantity of color film to process, it may be more economical to do it yourself. At any rate, you can expect film and slide production costs to double, at least in the beginning, unless you are more fortunate than most.

Color tape production costs are generally the same as black and white, since no processing is required after recording. However, some stations are charging more for taped spots and programs, due to higher studio production costs. Others absorb these higher costs, hoping to recover the difference, and more, from increased overall revenue.

Maintenance Costs

Generally, if you install all new solid-state equipment, you can expect maintenance costs to decrease, due to greater reliability, longer life and lower ambient temperatures. Replacement parts for solid-state equipment cost less, and less work will be required to keep the units at peak operating performance.

On the other hand, if you continue to use, and install still more, tube-type equipment, your maintenance costs will climb according to the amount of tube-type equipment you add. Camera types will have a bearing on maintenance costs—whether tube-type or solid-state—and so will replacement costs and actual life expectancy of camera pickup tubes. Camera maintenance costs will increase as you originate more and more local-live programs, since increased use shortens the life of pickup tubes. This is another factor to consider when selecting a camera type.

Transmitter and Antenna Systems

In some areas, multipath problems could crop up where they apparently were nonexistent with black and white. Out-of-phase ghost signals cause concellation of the chrominance signal. Therefore, the most carefully generated color signal can be really botched up by the time the home viewer sees it, and it behooves a station to do everything possible to overcome such problems.

Conclusion

Obviously, every station should be moving toward providing full color programming as quickly as its resources allow. However, a rapid plunge into full color, without taking time to plan facilities and train staff personnel, will result in unnecessary expenses and perhaps mar the station's image. Many stations have blazed the trail for color TV, and their experience will undoubtedly benefit those who follow in their footsteps. It would surely be wise for those without color experience to visit other stations and learn as much as they can in order to circumvent the problems already solved by their fellow broadcasters. Moreover, your color facilities planning must be tackled with carefully calculated speed—unless you want to see your competitor steal a big slice of your audience and revenue. ●

Telemike Exclusive: Built-in Monitor Facility*

Now, with *three* readily interchangeable sound tele-probes, similar in principle to changeable telephoto lenses, you can 'zoom' in from varying distances for the precise sound you're after. The 18-inch probe may be used for 'close-ups,' as far back as 75 feet from the sound source; the 34-inch probe from 150 feet. A 7-foot probe is optional for distances beyond 150 feet.

*The most unique feature, a Sony exclusive, is the built-in, battery powered, solid state monitoring amplifier in the pistol grip handle, which assures the operator that he is transmitting the source with pin-point accuracy.

OTHER FEATURES, OTHER USES: The new Sony F-75 Dynamic Tele-Microphone is highly directional at the point of probe, with exceptional rejection of side and back noises (35 to 40 db sensitivity differential). Recessed switching allows quick selection of impedances (150, 250 and 10K). The uniform frequency response, controlled polar pattern, and unprecedented rejection of background noise eliminates feedback interference in P. A. systems.

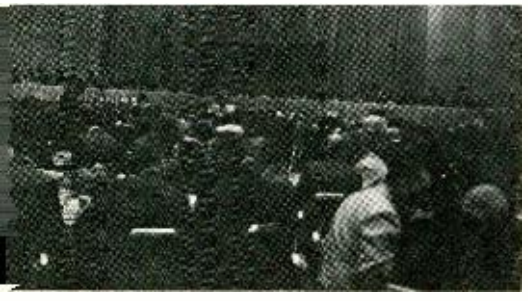
The complete Sony F-75 Tele-Microphone includes two sound probes, 18 and 34 inch lengths, monitoring pistol grip handle and the Sony dynamic headset, all in a velvet-lined compartmentalized carrying case, for *less than* **$395.** For specifications and a catalog of the complete line of Sony microphones, visit your nearest Sony/Superscope franchised dealer, or write: Superscope, Inc. Dept. 86, Sun Valley, Calif. *The best sound is Sony.*

Circle 14 on Reader Service Card

Big Business—Fun and Frolic, Too, at the 14th Annual NCTA Convention

Early registrants crowded hotel lobby first prior to exhibit opening Sunday.

Exhibit traffic was brisk much of the time, slowed mainly during luncheon activities.



Was it crowded? During luncheon you were lucky to find a seat.

BM/E Publisher Mal Parks, Jr. (r.) chatting with Henry Shapiro, Exec. V-P, Westbury CATV Corp.

Viking exec Bob Baum makes "shirt-sleeves" check of booth minutes before exhibit opening.

"THE BIGGEST and best ever"—a trite but true description of NCTA's 14th Annual Convention of Community Public Servants. More significant were the differences from any of the 13 previous gatherings.

• The week-long program was obviously family-oriented, recognizing that the bulk of CATV systems are still small-community operations. Evening parties and banquets, filled with fun and entertainment, drew many husband-and-wife "teams." Couples also filled the ballrooms during luncheon sessions, which featured well-known show business talent.

• Conventioneers had plenty of time to mix business with pleasure. The Convention was long, beginning Sunday P.M. and lasting through Friday, tending to slow the usual harried pace.

• An aura of wealth was ever present. Several manufacturers literally threw their budgets out the window, picking up huge tabs for evening gaieties and expensive entertainment on behalf of CATV operators who may not have a lot of money in the till, but control a heavy cash flow.

• Big investment money was in evidence, too, with the presence of representatives from commercial finance firms and large group owners of both broadcast and CATV facilities.

• The grandeur gave the impression that the industry was trying to prove it had "come of age," sort of like a "coming out party" for the daughter of a wealthy family that hasn't yet made the country-club set.

Yet, there is no doubt that the "debut" was successful. The air of sophistication was strongly bolstered by the manufacturers' exhibits, heavy attendance by both CATV and broadcast industry leaders, and high-caliber programs and speakers. And while the "smell of money" seemed ever present, rarely was it "flaunted."

Visitors From All Over

The Convention opened with a bang as the Sunday afternoon crowd swarmed the exhibit area. Advance registrations exceeded 900, and the total for the 5-day convention was more than 1,700. All CATV-served states were well represented, and Canadian visitors seemed to be everywhere. Strolling through the exhibit area and attending the sessions, one couldn't help feel the exuberance and excitement which permeated the entire Convention. CATV operators, both new and well-established, were wearing prosperous smiles, yet their apprehension of impending control and regulation showed through.

Convention attendees were obviously quite eager to see and learn, and they made it their business to do just that. Booth exhibitors were kept busy demonstrating and explaining features of equipment—in fact at times they were swamped.

At least 10% of the attendees were affiliated with broadcast activities, and several telephone company people were on hand. Even the NAB was unofficially represented by Bill Carlisle, V-P for Station Services, and Board Chairman John F. Dille, Jr. (Communicana group of Indiana). FCC members were also present, in the form of several high-up "legal eagles" and of course Commissioner Robert E. Lee, who was honored at the Tuesday luncheon.

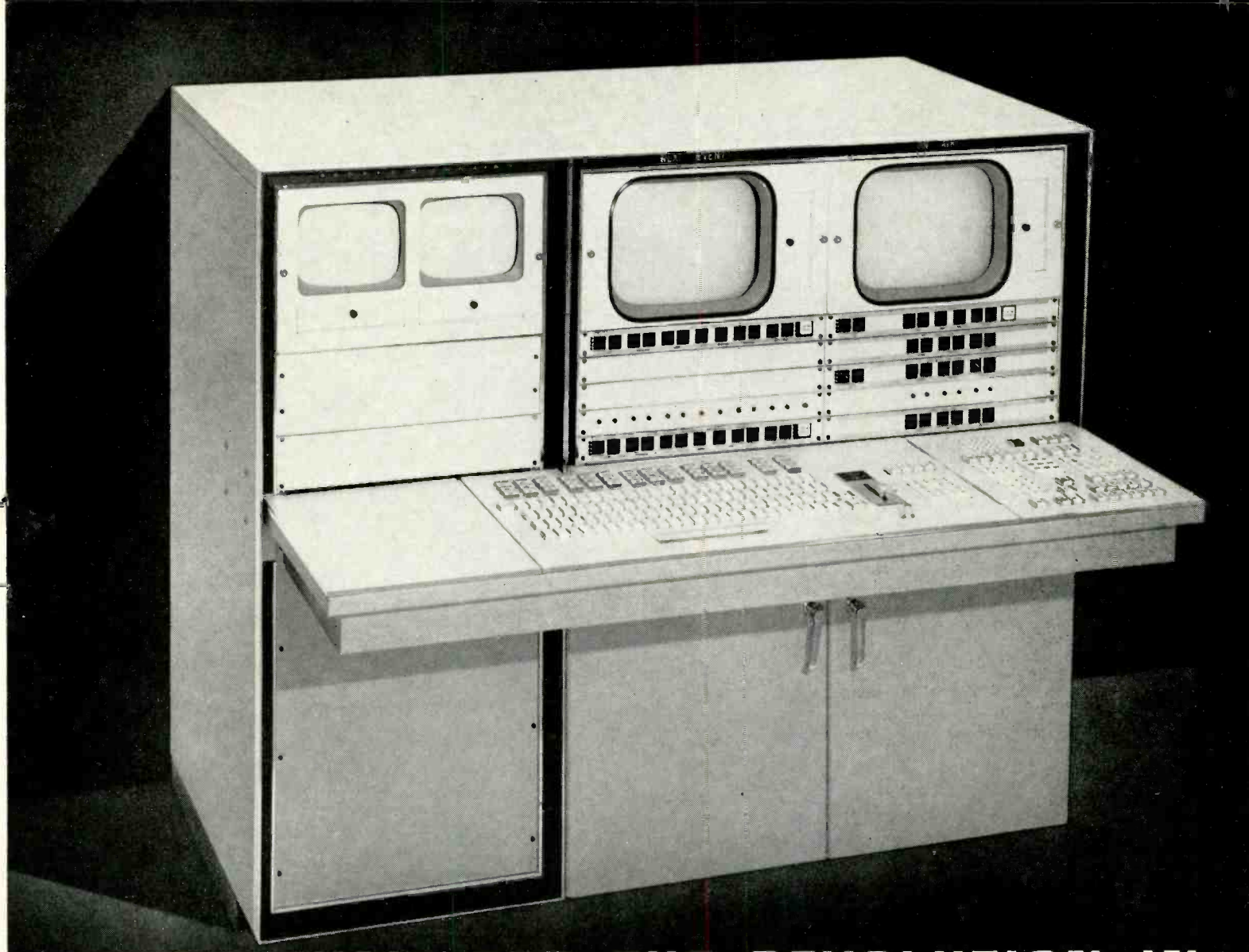
Adding immensely to the prestige of the CATV industry was the Wednesday night half-hour debate between Commissioner Lee and NCTA President Frederick M. Ford, telecast live over KCTO (Ch. 2, Denver). While Mr. Lee made several good points concerning the possible adverse effects of CATV on small broadcast operations, Mr. Ford easily counteracted most of these negatives and easily won more points than he lost.

But CATV operators and prospective operators obviously came to do business—many to make deals for cable or equipment, a few to buy systems, several to negotiate turnkey agreements—but most of all to get the facts and make decisions concerning impending Federal and State legislations and problems with telephone companies.

New NCTA Officers Elected

Chairman:	Benjamin J. Conroy, Jr., Uvalde, Texas
Vice Chairman:	Robert J. Tarlton, Lansford, Pa.
Secretary:	Alfred R. Stern, New York
Treasurer:	Franklin R. Valentine, Jr., New York
Directors:	Robert Clark, Oklahoma City; Irving B. Kahn (TelePrompTer), New York; Albin J. Malin, Laconia, N. H.; James Palmer, State College, Pa.; Buford Saville, Cumberland, Md.; Milton J. Shapp (Jerrold), Philadelphia; Frank P. Thompson, Rochester, Minn.; Patricia Hughes, Moses Lake, Wash.; Robert F. Jernigan, Hattiesburg, Miss.; John Morrissey, Durango, Colo.

Associate Member Representative: Edward P. Whitney, Entron



DON'T WAIT FOR THE REVOLUTION IN TELEVISION PROGRAMMING—IT'S HERE

It started about a year ago, when Sarkes Tarzian introduced an automatic programmer for television. A few were skeptical. There were many questions, naturally, for nothing so sophisticated in television automation had ever before been attempted.

Now, experience confirms it.

Tarzian's APT-1000 is the most versatile television programming system in existence. In fact, performance of the APT has been so sensational, we invite you to try to stump it. We're confidant this solid state computer can handle any programming problem you have—better, faster, and smoother than you ever thought possible. Fact is, it has never been possible . . . before.

A special purpose computer, APT-1000 was designed solely for total and flawless television programming. It can't panic, prime time or any time. Easy operation develops an operator confidence that shows up in improved efficiency and quality of programming.

Television programming now enters a new era . . . for even while the complexity of operations continues to increase, a greater competence and significant cost reduction become possible with APT.

If Automatic Programming for Television sounds phenomenal . . . you should see it in action. All it takes is a call or letter. And ask, too, for details on Tarzian's revolutionary new TASCOM, the digital computer which solves those costly and time-consuming traffic-availabilities-scheduling problems.

SARKES TARZIAN

BROADCAST EQUIPMENT DIVISION BLOOMINGTON, INDIANA

Circle 15 on Reader Service Card

Outgoing NCTA Chairman Bruce Merrill (Ameco prexy) delivering annual report at Monday luncheon.

Fred Stevenson, former NCTA Chairman, presenting token of esteem to Al Warren (l.) editor & publisher of TV Digest (who was credited with coining the phrase, "community antenna television").

Mr. and Mrs. Schneider (r.), Meredith Avco, N. Y., were winners at Entron's Discotheque. At left is Walter Baxter, Entron Sales Dept.

A number of specialists in CATV sales presented a hard-hitting session on successful sales and promotions. Robert H. Berger of National Trans-Video reminded operators that it was their responsibility to sell subscriptions, and he proceeded to outline various methods he had found to be successful. American Cablevision V-P Fred Weber told why he believes direct sales are the best approach to selling subscriptions. The broader aspect of sales, promotion, and media services available to cable users was outlined by John F. Gault of Television Communications Corp. James L. Stoltzfus of National Consumer Services (Reuben H. Donnelly) presented his views on the professional approach to CATV system marketing. TV Guide's sales promotion plan was described by Marvin A. Caplan. And finally, a journalist's views of news as a CATV service were presented by Jerry O'Brien, 18-year AP veteran and assistant to the president of the Kearns-Tribune Corp., Salt Lake City.

Chairman of the House Interstate and Foreign Commerce Committee, The Honorable Oren Harris, in one of the major addresses, reaffirmed his belief that any regulatory measures should originate in the Congress, and that the best interests of the public would be served by passage of his bill (H.R. 7715). Rep. Harris concluded, "The enactment of a national television policy is in the best interest of all of the segments of this great communications industry. I challenge [them all] to work together toward this important objective."

Finance and taxes affecting CATV received the attention of many delegates. Eminent authorities in the field presented their views and experiences. Ralph Fratkin, Philadelphia Tax Review Board, a pioneer in developing accounting procedures for CATV, discussed recent tax rulings affecting the industry. CATV financing was discussed by James F. Ackerman, Economy Finance Corp., Indianapolis; Alvin H. Hartman, Narragansett Capital Corp., Providence; and William R. Putman, Morgan Guaranty Trust Corp., New York. Their messages strongly indicated that more and more lending institutions are willing to risk capital in financing CATA systems.

Problems and Solutions

Pres. Ford's address, given at the luncheon in his honor, was one of the highlights of the convention. Mr. Ford grouped CATV's greatest problems for the coming year into three categories: (1) Federal jurisdiction, both legislative and administrative; (2) pole attachment contracts and telephone company activities; and (3) copyright legislation.

"I truly believe," Mr. Ford summarized, "that both broadcast and CATV industries can and will grow together, if the proper cooperative attitudes are adopted, and out of the conflict that exists today, and the fair competition between stations which CATV fosters, will emerge a stronger nationwide television system, with better programs and clearer pictures, and the increased confidence of the American people."

A panel discussion of CATV problems and solutions, featuring several prominent experts, was conducted Tuesday P.M. Outgoing NCTA Chairman Bruce Merrill suggested that "A full-blown public information campaign, designed to put to rest all the lies and half truths that echo about us, would be a big step toward the solution of our problems."

E. Stratford Smith of the Smith & Pepper law firm concluded that the telephone companies may be overstepping their bounds in certain areas, and expressed the opinion that some of the circumstances could provide the basis for private anti-trust or Dept. of Justice actions. Speaking of FCC actions, Mr. Smith said, "...CATV warrants careful detailed attention on a case-by-case basis, not broad brush treatment, so that the public may be assured of its benefits as well as protected from its evils. General rules and regulations with widespread application are appropriate when there is sufficient experience and enough facts to predict the effects on the public interest of a course of action. This is the history of broadcast regulation; it is the way CATV should be regulated. The Congress must be so persuaded because we have failed to persuade the Commission."

Marcus Bartlett, V-P Cox Broadcasting Corp., stated, "Frankly, I'd like to see a moratorium on rule making . . . some long haul microwave grants . . . some unhampered development of CATV in big cities . . . some real tests of CATV vs. UHF. I'd like to see more program origination by CATV, especially local public service programs. I'd really like to know from experience if there is significant fractionalization of audience by CATV . . . the market place is the right place to get the answers to these questions, not an FCC inquiry."

Washington lawyer Max D. Paglin, using the theme, "Dual Development Will Do It," expressed the opinion that the solutions to broadcasting-CATV conflicts will work themselves out through dual ownership and "cross fertilization."

Interest in Equipment Was High

Practically every firm with something to sell to CATV operators was exhibiting—more than 50 manufacturers in all. Firms offering microwave gear, pole-line installation and maintenance equipment, towers and antenna systems, program originating devices, and of course cable plant and head-end systems (backbone of the industry) were all well represented. Several did a brisk business, too, not only with CATV companies, but among themselves as well—to the tune of several million dollars.

Luau sponsored by Ameco was in true Hawaiian tradition, complete with band from 50th state.

NCTA Exec. Wally Briscoe stops at BM/E booth tended by Circulation Director Honorine Gainer.

A few of the guests caught in off-guard moment at Jerrold Ranch Party. Gala featured complete dinner.

A great deal of interest was shown in cable—not so much in the type (as long as it was aluminum-sheath) —but how to buy quantities direct, at a price, without going through turnkey suppliers. Cable manufacturers listened, but wouldn't cut prices or sway from their allegiance with turnkey firms.

The new trunkline and feeder cable amplifier equipment was the most sophisticated ever made available to the CATV industry. Cascadeability, low noise, solid-state, and hermetic sealing were the most significant operational features; other design advancements offered reduced maintenance costs through plug-in units and readily accessible test points.

. . . and at the Business Sessions

Retiring NCTA Chairman Bruce Merrill presented his annual report as an appropriate beginning of Monday's business discussions. Referring to the jabs being taken at CATV by the FCC, NAB, copyright holders, and telephone companies, Mr. Merrill said, "We know how Custer felt, only we're going to whip those Indians." Delegates heard the "fighting words" they hoped for as Mr. Merrill declared their Asssociation would continue the fight for freedom to build and operate systems with limited federal and state regulation.

The importance of CATV and its effects on audience ratings was brought home by George Blechta of A. C. Nielsen and George Dick, ARB president. Both men described the services performed by their firms and stressed the importance of CATV operator cooperation in submitting the number of CATV home subscriptions to survey researchers.

. . . and Winding Things Up

The talks concluded with the Technicians' Day program, which featured speeches by some 15 prominent technical experts. The subjects covered the gamut of CATV engineering, from amplifier performance and transmission lines to systems and antennas. Some excellent information was presented, giving technicians and engineers plenty of useful data to take back home.

The annual banquet Thursday evening wound up the official Convention activities. Newly elected Chairman Benjamin J. Conroy, Jr. was introduced, along with the new officers and directors (see box). Featured entertainment was provided by the Ray Bloch Orchestra (sic), The Taylors, and The King Family, making the final evening just as big as the previous three.

Busy Days—Fun-Filled Nights

Days were busy—nights were gay. A Ranch Party, Chuck Wagon dinner, a real Hawaiian Luau, the Annual Banquet concluding with a big family outing, helped everyone unwind. Exhibitors' hospitality suites served a dual purpose—entertainment and business — and were generally quite active.

Without a doubt, everyone attending the '65 Convention is looking forward to next year's show in Miami. ●

BROADCAST EQUIPMENT

Magnecord Remote Control

Magnecord, Tulsa, Okla., has introduced a remote control station and relay electronics for its Models 1021, 1022 and 1024 tape recorders. Designed to provide remote control of all operational modes,

each mode is identified by talley lights and other engineering features that prevent operational errors. The relay control transport converts the standard electro-mechanical button control to touch-button control. Magnecord has also announced the availablity of new decorative front panels for these models. Made of brushed aluminum, panels are available for all models in the series at $12 each.

Circle 51 on Reader Service Card

Portable VTR

The "Videocorder," manufactured by Sony Corp., Inglewood, Calif., is a rugged compact unit which operates on 110v AC or approved mobile power. Designed for recording video and audio from off-the-air, off-cable, or locally-generated sources, the Videocorder records and reproduces any 60 fields per second with random, 2 to 1 industrial, or EIA sync. Fully transistorized, with variable slow motion, stop frame, and "roto-coil" which eliminates problems associated with slip ring assemblies, the Model PV-120U weighs only 52 lbs, and can be supplied with remote control panel.

Circle 52 on Reader Service Card

24-Channel Console

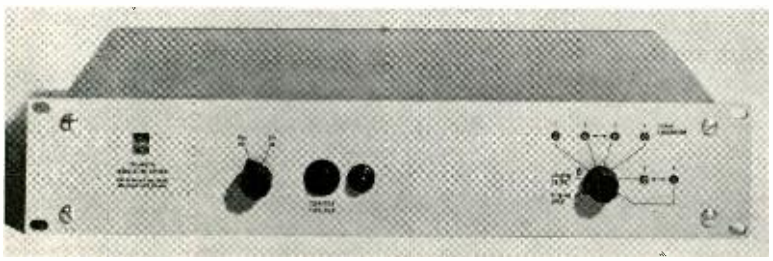
Rust Corp., Boston, Mass., now has available an all new solid-state audio console, Model AC8A-2S. Said to be the most flexible design obtainable today, it handles AM, FM, and multiplex channels, and will accept up to 24 separate audio sources. Designed to conform to existing space requirements, controls are self-explanatory, easily seen, and highly flexible.

Circle 53 on Reader Service Card

Cartridge Tape Machines

Broadcast Electronics, Inc., Silver Spring, Md., has introduced a new series of Spotmaster cartridge tape machines, called the Super B. Features include solid-state circuitry and modular design with a choice of 3 automatic cueing tones, separate record and playback heads, A-B monitoring, biased cue recording, triple zener-controlled power supply, and transformer output. Signal-to-noise ratio is 50 db or better, tape speed is 7.5 ips.

Circle 180 on Reader Service Card



Audio Compressor-Expander

EMT of W. Germany has developed a device that extends the dynamic range of recordings, according to Gotham Audio, U.S.A. distributor based in N.Y.C. The "NoisEx" system is all solid-state, and incorporates a matched compressor and expander on one 3½" standard rack panel. Gotham reports the "NoisEx" makes it possible to produce a fourth generation tape which is superior to an original made without the system. Capable of reducing tape, film, disc, or other recorded noise by up to 15 db, with an attack time of 0.6 msec, single channel price is $1445.

Circle 43 on Reader Service Card

Hybrid Splitter

A miniature 2-way hybrid splitter for use in CATV distribution systems is now available from Viking, Hoboken, N.J. The #566 splitter is 1⅝" x 1⅝" and comes with "F" fittings, adjustable to fit all cracks and crevices. Features include 4 isolated, back-matched taps; zero tap attenuation; built-in power supply; and less than ½ db insertion loss.

Circle 54 on Reader Service Card

Low Attenuation Coax

Foam- and air-dielectric Heliax flexible coax in ¼", ⅜", and ½" sizes is now available from Andrew Corp., Chicago. Featuring a copper inner conductor and a low-loss corrugated outer conductor,

these cables are said to provide lower attenuation and greater power-handling capability while offering non-kink flexing characteristics. The continuous copper outer conductor is seam-welded. Heliax comes in continuous splice-free lengths with or without a polyethylene jacket, and in cable assemblies with Type N, Type UHF, or special connectors.

Circle 55 on Reader Service Card

Pulse Distribution Amplifier

Central Dynamics solid-state pulse regenerative distribution amplifier, distributed exclusively in the U. S. by Ward Electronics, Mountainside, N.J., is intended for gen-

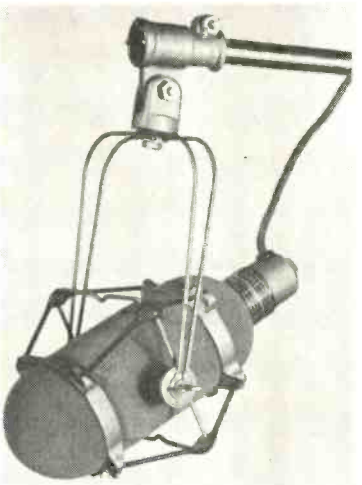
eral use in distributing pulses necessary for TV broadcast operation. Designated Type 2051, the amplifier reshapes pulses distorted by long cable runs and artificial delay lines, provides 40 outputs in 5¼" of rack space. Ward is also marketing other CDL video units, including video processing, mixing, and video switching amplifiers, as well as vertical interval switchers.
Circle 56 on Reader Service Card

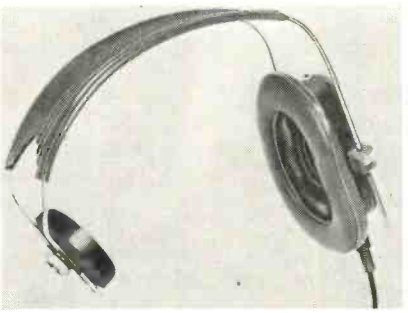
Compact VHF-TV Transmitters

General Electric, Syracuse, N.Y., has a new line of air-cooled 1, 5, and 10 kw low channel VHF-TV transmitters. Each unit is self-contained, requiring no extra gear. The TT-49-A/B (1 kw) will drive a TF-16-A/B (5 kw) or TF-510-A/B (10 kw) cubicle. The compact two-cubicle design requires 24 sq. ft. of floor space. G.E. also has a 35-kw amplifier capable of 100-kw ERP (TF-18-A) and 316-kw (TF-14-A). Transmitter cubicle combinations offer visual to aural power ratios from 2:1 to 10:1.
Circle 59 on Reader Service Card

New Broadcast Microphone

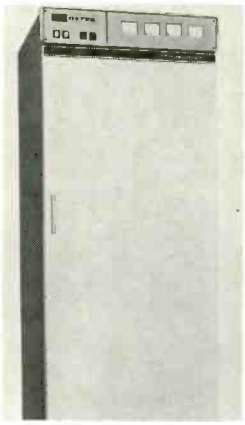
Electro-Voice, Buchanan, Mich., has introduced a baby brother to its 668 "Brain on a Boom" mic. The new Model 667A offers 6 combinations of response curves, combining three low frequency and two high frequency curves without external equipment or special connector cables. The variations from flat response thus provided permit the 667A to overcome acoustical problems, background noise, and make possible special effects. The control panel is completely self-contained. The 667A lists at $345.
Circle 57 on Reader Service Card





Boomman's Headset

Roanwell Corp., N.Y.C. has developed a new headset for the boom operator. Features include a 275-ohm earphone housed in a hard-shell circumaural earcup; frequency response of 300-3500 cps, wide headband, with a soft foam-filled earcushion, and soft hypalon covered temple pad.
Circle 58 on Reader Service Card



1-Tube Transmitter

A new 1-kw FM transmitter from Gates Radio, Quincy, Ill., uses only one power tube, type 4X1000A ceramic tetrode. The Model FM-1G uses solid-state rectifiers and direct crystal control of carrier frequency. Space has been provided for the optional stereo generator.

Circle 60 on Reader Service Card

Foot-Marked Cable

As of Sept. 1, Superior Cable Corp., Hickory, N.C., will make available sequential foot-marked cable in both "Cell-O-Air" aerial and "Solid-D" burial styles. The numerical marking digits, which increase sequentially in increments of 2 ft. (00078, 00080, 00082, etc.) are permanently printed in white at 2-ft intervals on the cable jacket. The marking makes it easy to establish proper location of equipment which must be installed at predetermined distances along cable routes, and permits installation of the exact cable footage required. Stocking, handling and inventory procedures will be simplified by positive verification of cable footage received, cable footage installed, and cable footage remaining.

Circle 63 on Reader Service Card

Mobile Scope Cart

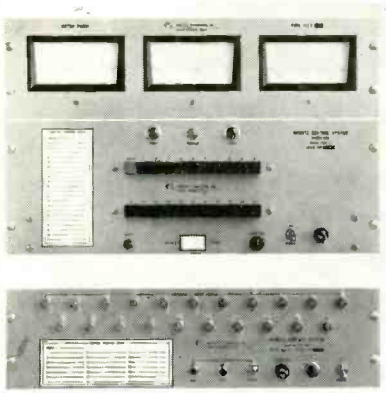
Tektronix, Inc., Beaverton, Ore., has introduced five new Type 200 Scope-Mobile models, featuring tilt-locking in any one of nine

tray positions. All of the new models have a storage drawer for accessory items, and two of the units incorporate a plug-in carrier for housing a pair of plug-in units. All tilt-lock models have front-wheel brakes.

Circle 64 on Reader Service Card

Push-Button Remote Control

Moseley Associates, Santa Barbara, Cal., has developed a new AM-FM-TV remote control system, Model PBR-21, that requires only a single voice-quality line or STL. A DC path is unnecessary. This equipment will perform 42 control functions and has 21 telemetering channels through push-button selection. The binary logic scheme uses only one silicon transistor type throughout all circuits. Moseley offers a complete line of accessories to adapt the system to any requirement, with kits to translate voltages, currents, tower lights, etc., into appropriate sample voltages for telemetering. Moseley has also introduced a 30w RPB system, operating in



the 148-174 mc range. This new system features extended audio bandwidth, low modulation distortion, high signal-to-noise ratio, RF output metering, automatic peak limiting, separate AC power supply, and combined control head/DC supply.

Circle 66 on Reader Service Card

Pulse Distribution Amps

Vital Industries, Gainesville, Fla., is marketing Model VI-20, a pulse distribution amplifier of completely solid-state design. The unit maintains high isolation between the 4 outputs at all times, between pulses as well as during pulses. The amplifier is designed to deliver clean output pulses even when input pulses are seriously degraded. Source impedance of the outputs is 75 ohms. Price is $275.

Circle 67 on Reader Service Card

FM Audio Processor

A fully-transistorized, frequency-sensitive audio processor for FM stations has been developed by Gates Radio, Quincy, Ill. The "Top Level" will prevent over-modulation in the 15,000 cps region because it uses a precise 75 μs pre-emphasis curve for its sampling. The unit is not designed to replace a limiter, but functions as a companion unit to increase protection against over-modulation; however, it may also be used without a limiter.

Circle 181 on Reader Service Card

Wide Band FM Detector

A supplement to station monitors for proof-of-performance and stereo measurements is embodied in the Belar FMD-1 wide band FM detector handled by Wilkinson Electronics, Inc., Drexel Hill, Pa. Intended to help to simplify maintenance and achievement of

Solid-State Studio Recorder

The new AG-350 is the first all-transistorized studio recorder ever offered by Ampex, Redwood City, Calif. Incorporating many of the engineering innovations built into the higher priced Ampex MR-70 Master Recorder, the AG-350 includes automatic equalization switching when speed is changed, wider opening head gate for easier threading and editing, a redesigned control panel, simplified operation, locking level controls, and improved ferrite-type erase heads.

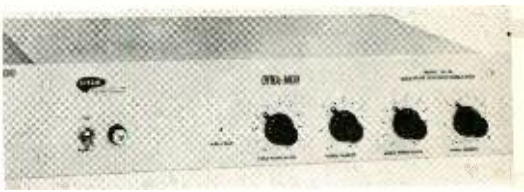
Circle 99 on Reader Service Card

peak performance, price is only $89.50. Frequency response (50 to 75 kc), distortion (50 to 75 kc), FM noise, and AM noise measurements can be made and an accurate check maintained on the performance of stereo monitors with respect to separation, pilot phase and subcarrier rejection.

Circle 87 on Reader Service Card

Solid-State CCTV Modulator

Dynair Electronics, Inc., San Diego, Cal., has introduced a TX-4A Dyna-Mod closed-circuit TV modulator, designed for color and monochrome. Using crystal-controlled visual and aural RF carriers, with separate video and audio inputs, visual output is 0.5v and aural output is 0.25v.



Carriers are accurate to .01%; the aural is locked to the visual carrier by a precision afc circuit. Modulated RF carrier output can be fed into a distribution system along with "off-the-air" signals, and the unit can also be adapted for use with a combined 4.5-mc and video input as part of a microwave link.

Circle 88 on Reader Service Card

New Cartridge Head Assembly

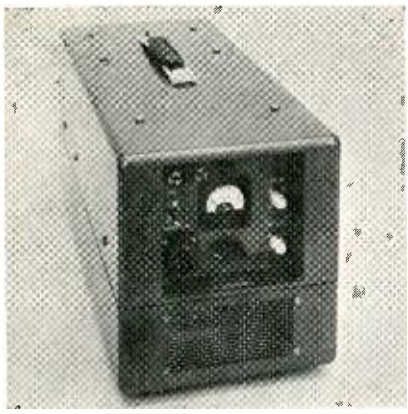
Lang Electronics, N.Y., says its new cartridge-head assembly offers superior performance easily

discernible even to an untrained ear. Directly interchangeable on all ATC machines, height and azimuth adjustments can be readily made with an Allen wrench.

Circle 89 on Reader Service Card

Portable RF Power Amp

The MA-8531 TV broadcast relay amplifier offered by Microwave Associates, Inc., Burlington, Mass., is especially useful in airborne broadcasting and other

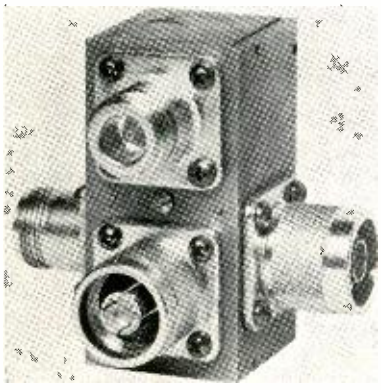


field applications. Operating power is 150w at 28v DC, or 110v AC with modification. The MA-8507 transmitter or other exciter can be used to feed the amplifier, which is weather-sealed for field use. All circuit elements are solid-state, except for the traveling wave tube.

Circle 90 on Reader Service Card

SWR Reflectometer

Spencer-Kennedy Labs, Boston, Mass., recommends their Model 701 reflectometer for revealing serious faults in coax cables.



Bandwidth of the 701 is .5 mc to 220 mc; balance is greater than 35 db; impedance is 75 ohms. Also available is a 50-ohm device, Model 702.

Circle 91 on Reader Service Card

Special Effects Amplifier

Shiba Electric Co., Ltd., Tokyo, Japan, is producing a Type 6376 special effects amplifier which may be used to electrically insert and wipe video signals. The equipment is composed of 4 units; an effect switching amplifier, an effect waveform generator, an effect positioner and a moving commercial generator. The units are made in the Japanese and CCIR standards, and distributed in the U.S. by Shibaden Corp. of America, N.Y.C.

Circle 92 on Reader Service Card

LITERATURE of INTEREST

For additional data, circle No. shown on Reader Service Card.

"Cable Testing With TDR," a 15-page application brochure from Hewlett-Packard details coax evaluation techniques. Includes Time Domain Reflectometry slide rule. 72

Tech-Topics, a periodical report from Switchcraft on advance application of switches, jacks, plugs, molded cable assemblies, and audio connectors. 73

RF Wattmeters discussed in 6-page release from Bird Electronics. Describes directional designs for 50-ohm coax at frequencies from .45 to 2200 mc, 1 to 250 kilowatts. 74

18-Page Availabilities Brochure includes details on CATV transmission systems, typical installations, plus data on Entron's services and capabilities. 93

Mic calibration methods accuracy reviewed in B&K Technical Reviews discusses nine standard methods of calibrating precision measurement mics. 76

Connectors and adapters for shielded and coax cable illustrated in a 12-page brochure issued by Thomas & Betts Co. Includes tools for extracting leads and compressing connectors. 77

Audio amplifier data bulletins list features and specifications of new 25w and 16w units manufacturd by Browning Labs. 78

Video tape transporter and add-a-unit storage cabinets shown on catalog sheet from Jack C. Coffey Co. 79

FM stereo mixing console, described in catalog sheet from Melcor features 7 mixing inputs normalled through push-button selectors to 17 program sources. 68

CCTV systems used for visitor control by General Motors at N.Y. World's Fair described in technical application bulletin from Cohu Electronics, Inc. 69

Film edge numbering and coding machine, described in a 2-page brochure from S.O.S. Photo-Cine-Optics, identifies every film scene instantly. 134

EMI CATV system described in illustrated 12-page brochure intended for guidance of anyone thinking of installing a VHF relay system. 140

Pulse modulator packages designed for specific mw tubes, and for system outputs ranging from 4800 w to 234 kw, described in 8-page bulletin from Raytheon Magnetics. 96

"The Communicator," house organ published regularly by Radio Engineering Labs., for anyone interested in the art of radio communication. 104

FM transmitter tech bulletin from American Electronics Labs describes models FM-5KA and FM-7.5KA—compact, self-contained units requiring 9.7 sq. ft. floor space. 81

Dynamic mic data sheet from Electro-Voice tells of improvements made in Model 635A mic with 4-stage filter and "Acoustalloy" diaphragm. 70

VHF-UHF Antennas receive/transmit yagi and "Paraflector" types described in fact sheets from Scala Radio Corp., including dimensions and radiating patterns of SL8 "Paraslot." 71

Solid State Computer Programmer for TV automation in 6-p. bulletin from Snarkes Tarzian Broadcast Eqpt. Div. Full description of operation, applications, specs on APT-1000 unit. 150

Tape recorder head and amplifier data published in Customer Engineering Bulletins from Nortronics. 160

Video distribution equipment described in a package of info sheets from Dynair. 161

Magnetic mat recorder/reproducer supplementary data sheet from Ampex lists information on AG-100. 162

Tape cartridge handler, **rack-mount** reel-to-reel transport, and compact recorders, illustrated in folders from Viking of Minneapolis. 155

ETV frequency chart from TACO identifies all segments of assigned band-channel no. and band limits in mc. 158

Solenoid catalog describes Artisan Electronics Corp. line, including U-frame actuators and cylindrical units. 82

CATV products, advanced technology, research engineering, manufacturing, quality control, sales and service: The Viking Story. 154

Video Switching Systems, one a solid state vertical interval unit and the other a master control, are available from Ward Electronic Industries, and are described in two 8-p. booklets. 94

Program-gated amplifier, Gates Level Devil, described in leaflet. 95

TV transmitters, UHF and VHF, with one-design drivers and add-a-unit amplifiers to meet any power requirements, illustrated in brochure from Standard Electronics. 123

Magnetic sound recorder/reproducer catalog from Magnasync describes line of 16, 17.5 and 35mm synchronous film systems, consoles, electrical and mechanical interlocks, and accessories. 24 pages. 83

Antenna poles of tubular self-supporting type illustrated in 8-page catalog from Union Metal. Describes features, accessories, foundations, and erection. 84

Precision resistors, listed in 16-page catalog from Aerovox Hi-Q Div. Describes technical specs on wirewound Cinema line. 85

Multiplex system brochure from Lenkurt describes 46A system. Up to 600-channel equipment illustrated in 8-page publication; includes performance information, block diagrams, etc. 86

Lighting equipment and control systems detailed in general catalog from Colortran Industries, including application data and specifications. 153

CATV weatherproof housings, accessories, directional taps, customer outlet units and active tap data sheets for Ameco catalog updating. Includes price sheets. 126

FM transmitter, 1-kw kit or factory-assembled, described in brochure from Bauer Electronics. Includes data on multiplex and SCA generators. 151

CATV Article Reprints tell how to plan a CATV antenna system, describe systems set-ups including 10 steps to a successful system. From Jerrold. 152

ROUNDTABLE

(*Continued from page 44*)

hire these men. So you see, their labor to build the equipment *is* free!

Manager: Bill, now you're showing the lack of money-mindedness I mentioned. Just because your budget accounts for the salaries of these men doesn't mean we can pay them and forget it. We have to use some form of cost accounting.

Chief Engineer: I don't have time to be an accountant. I estimated the cost of maintenance and I think because of it, we have saved a lot of outage time. I'm satisfied.

Manager: But I'm not! At least not with your way of looking at it. Cost accounting need not be complicated—all it takes is a simple assignment of costs to various jobs. That way you can see if your department is costing too much for its output. For example, part of the salaries should be charged to the construction of this new equipment. This, plus an overhead figure, should be added to your material costs. You might find that building the equipment isn't such a bargain after all! And, you might even find you have more full time maintenance men than you really need. Don't forget that your equipment will be non-standard and without warranty, too.

Chief Engineer: Well, I hadn't looked at it that way. But you'll have to admit that maintenance is something that can be pretty well estimated, especially with the routine preventive maintenance system we follow. You've sometimes complained about our maintenance costs being high, but remember, in the five years I've been here our only outage has been due to primary power failure. That's where I'm money-minded. I've given you a monthly maintenance-operating cost figure that hasn't changed since I worked it out. Until then, you were often hit hard for a new I.O. or something, and lost a commercial or two as a result. Right?

Manager: Yes, Bill, but . . .

Chief Engineer: I computed our regular costs for a year and added a figure based on large out-of-the-ordinary expenditures from previous years, then analyzed and averaged them. This gave me the monthly fixed figure for our maintenance budget. This way we allow for costs of replacement I.O.'s and other items without hitting you for unexpected sums of money. You know exactly what to expect for repairs and maintenance.

Manager: Oh, I agree with that part of your system! I'm just not sold with your staffing outlook as far as the *free* labor is concerned. I'd like you to look into your utilization of manpower, and see if you could dispense with half a man or even one man, without sacrificing quality.

Chief Engineer: I'll look into the staffing situation, but I can't change my maintenance schedules just to save a few dollars now. Just a few minutes ago, you mentioned the new personnel for the DA. Until we've been on the air for a year and have shown our system is stable, the FCC won't allow remote operation. This means that we have to have a first phone man at the transmitter. We have a lot of men who are good technicians and operators but they don't have licenses. From now on, every man I hire will have to have a phone ticket, and I'm encouraging the men we have to get licenses. I had intended to have some of the equipment built by the transmitter staff.

Manager: Bill, you've shown a greater degree of cost consciousness than I thought you had, but I'm still going to hold you to that staffing study you promised.

Chief Engineer: Okay, Charlie. I believe you'll find that more of the thinking engineers are becoming worthy of the name. Some small station managers have been going into contract operations with any first phone holder — individuals who are not broadcasters in any sense of the word. As a result, the manager loses the feeling for the engineer who lives and breathes broadcasting. Managers need these dedicated engineers who will find many areas where creative ability and interest will uncover ways of improving the operation. The contract man who spends 15 minutes a day five days a week, and who is on call for trouble, will never have the same feeling for *his* station as a man who lives and breathes broadcasting.

Manager: Why, Bill, you're more money minded than I imagined! Don't hide your thoughts so much—bring them out—you could be much more helpful than you know. Don't forget—someone will have to take my place some day. ●

MANAGEMENT

ROUNDTABLE

Are Engineers Cost Conscious?

ENGINEERS are frequently accused of not having enough concern for costs, of being "hobbyists" who like to putter around and make things work.

Managers, on the other hand, have often been accused of being "tight-fisted misers" who squeeze every dollar and expect equipment to last forever. Rather than authorize expenditures for new equipment, managers often insist that present equipment can be used with just a little "ingenuity" from the engineering department.

Does the engineering department think only in terms of equipment and maintenance, and does management think only in terms of cost and sales? Is the engineering department irreverent of costs—management unaware of, and unconcerned with, technical problems and requirements?

These two opposing views were brought out during a station management meeting. The people involved operate a fulltime AM and a VHF-TV in a small southwestern market of 40,000. Also in this market is an AM daytimer. As we pick up the discussion, the manager is discoursing on the "faults" of engineers who are not cost conscious.

Manager: As you should know, last year's revenue was up slightly from 1963, but our costs increased in greater proportion. The owner wants to know why, and I have to give him our recommendations for the rest of this year. As I've mentioned to you before, Bill, many good engineers aren't management minded, and in some ways this applies to you. You often give the impression you are only interested in knobs and buttons and building equipment. It's important that we give more serious thought to where the money is coming from. I know of too many cases where the chief engineer is not an engineer at all—only someone hired to comply with the Rules.

Chief Engineer: Now hold on a minute! You started out talking about increased costs, which we probably should discuss, but where do you get this tinkering and lack of management know how?

Program Director: Wait, Bill. Don't get yourself all worked up. I think what Charlie is getting at is that he's on the hook with the old man and wants to know what can we do to keep our costs down next year.

Manager: That's it exactly! Maybe I was generalizing too much, Bill, but a good part of our increased cost problems has to do with engineering.

Chief Engineer: OK, but please don't accuse us of being gadgeteers and of not being management oriented. Sure, there are many so-called engineers who can flash a first phone and who don't know their way around the inside of a transmitter. But the Commission has made the first phone a way of life—if a station has a first phone ticket pasted on the wall and is inspected 5 times a year it is in the clear.

Manager: There's a lot more than just having a license—it's knowing what to do that counts. I've been going over the figures you gave me for our personnel costs as a result of the new DA. It brought to mind many things I've heard from men who've been in this business for many years and who should know what they're talking about. I guess many engineers are alike, but since some of these things apply to program directors, it wouldn't hurt you to listen too, Harry.

Program Director: OK, boss.

Chief Engineer: Fire away—my shoulders are broad!

Manager: It's not a case of giving anyone any lashes. Most executive personnel in this business are inclined toward management or sales—some have entertainment or production backgrounds. But how many engineers do you know who are running their own stations? An announcer is in a better position—he is articulate, generally, and can provide much of his own talent. He can sell himself to sponsors. But the average engineer who goes into management finds he has to be a salesman first and an engineer second. I know what I'm talking about—I was an engineer—but because of my love for radio and interest in all phases of it, I graduated into management. This makes me somewhat of a rare bird—a *hired* engineer turned manager. Confidentially, I would still like to get my hands on some of the equipment and even make some of it. This brings me to my point—your latest budget shows only a few dollars for the new distribution amplifiers and the video effects panel. Now, we both know these figures can't be correct.

Chief Engineer: We need four amplifiers with four outputs from each one. The parts cost is low—about $40 per unit—that's $160. We already have the labor, so construction won't cost anything.

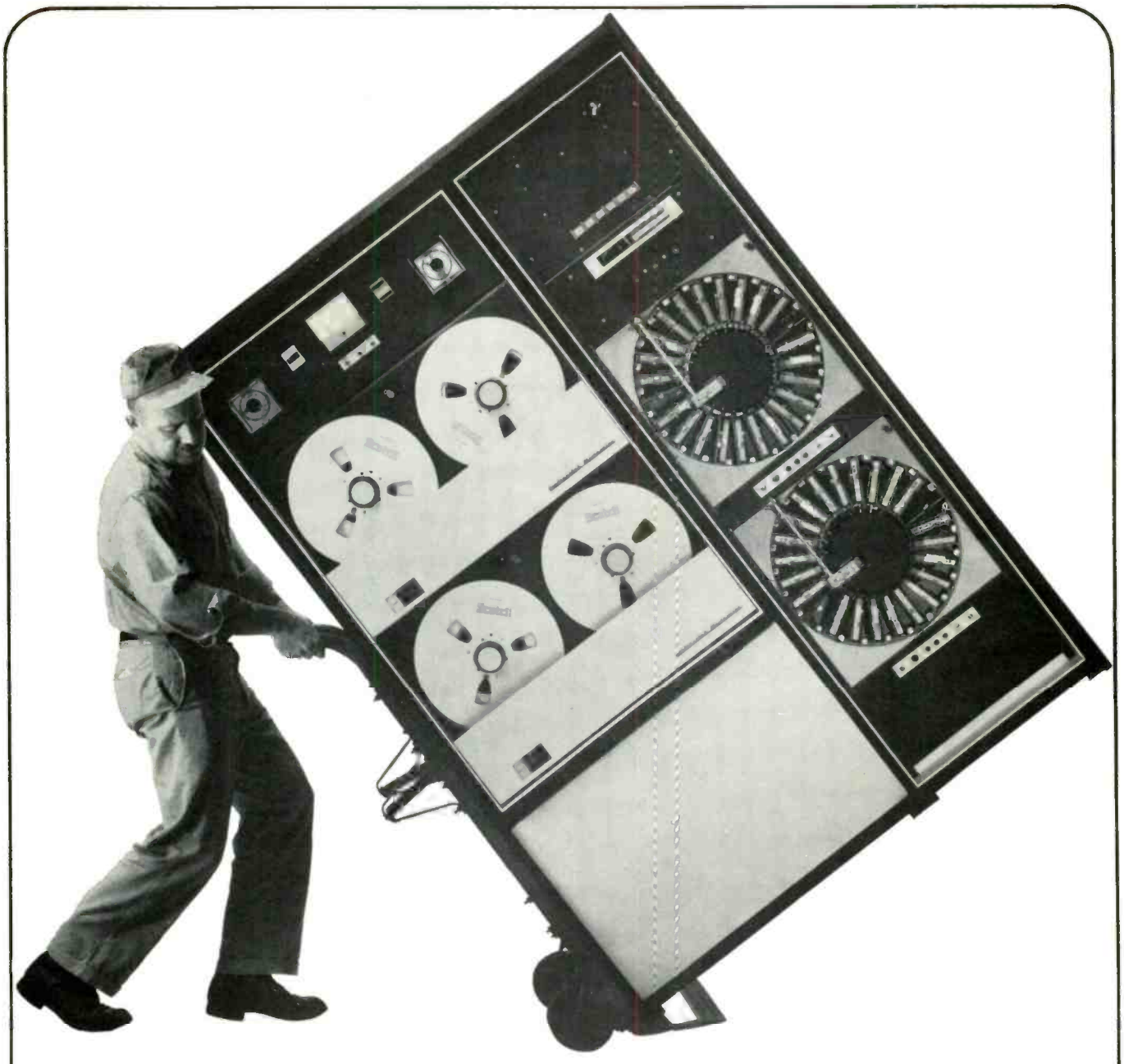
Manager: Now wait just a minute! Aren't we going to pay our help while they build these amplifiers?

Chief Engineer: We're already paying them! They can do it when they're not doing anything else.

Manager: When they're not doing anything else? Anytime I see an engineer not doing anything, or anyone for that matter, I'll want some pretty good reasons from their bosses. If you have some men whose time isn't being used I want to know why!

Chief Engineer: Hold on, Charlie! The men with free time are members of the maintenance crew who still have some time each night after their work is finished. They're good technicians—you'll remember the big argument we had because I insisted we

continued on page 43



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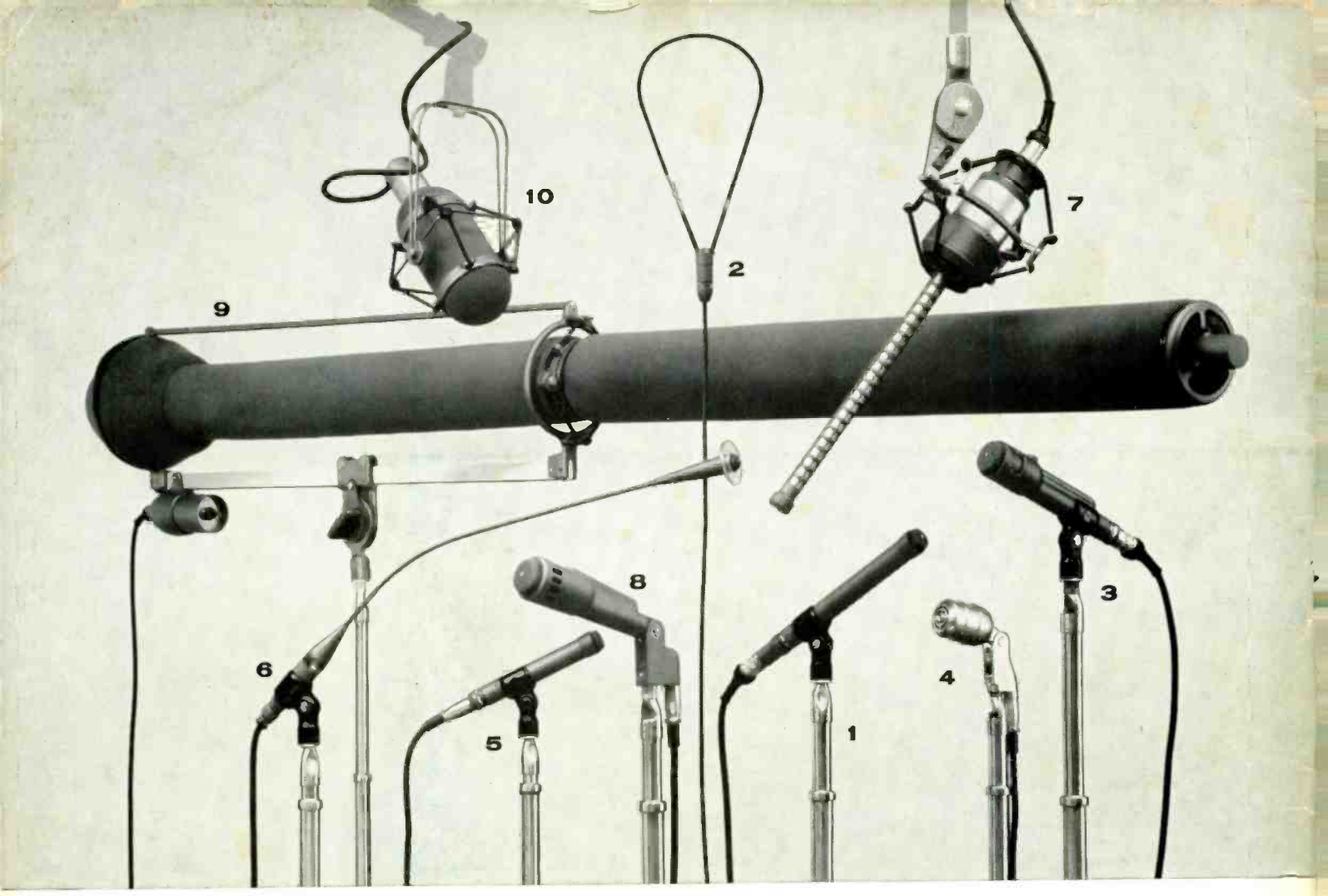

Ten Good Reasons Why Leading Audio Engineers (Who'll Stop at Nothing to Improve Quality) Choose E-V Professional Microphones!

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4. The ready AVAILABILITY of E-V professional microphones at leading radio parts distributors everywhere is an E-V pioneered policy begun back when the "workhorse of the industry", the E-V 635, was introduced.

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6. Ten E-V professional models give you unusual VARIETY. For instance, if you require close-up sound pickup, yet mustn't hide the performer, the ultra-thin E-V 652 solves both problems handsomely.

7. The CREATIVITY of E-V engineers comes from intimate knowledge of field problems. It earned them an Academy Award for their unique solution to film and TV sound problems with the E-V 642 microphone.

8. ECONOMY is vital in every studio operation, yet quality must be upheld. And the E-V 665 is ideal where superb cardioid performance is needed, but the utmost in mounting flexibility is not required.

9. Even the 7-foot long E-V 643 ultra-directional microphone is protected by this unique E-V GUARANTEE: except for refinishing, all repairs are *free* no matter what happens to the unit during the first two years!

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