IN THIS ISSUE
- CATV SUCCESS STORY
- CABLE SYSTEM ECONOMICS
- CC TV USED IN MINING
...one of the thousands of new JERROLD transistorized units now being shipped

Your route to the finest picture quality and system capability is through Jerrold's new solid-state CATV gear—the most advanced, most reliable transistorized equipment ever offered to the community-antenna industry.

Here at Jerrold we've greatly expanded production facilities in the middle of our biggest CATV year yet. We're rapidly filling all the advance orders for new solid-state mainline cascaders (like the one I’m holding), channel pre-amplifiers, bridging amplifiers, and line extenders for CATV operators throughout the country who demand the very best in performance and versatility from their systems.

Cordially,
Lee Zemnick, Manager
Community Systems Division

TURN TO THE CENTER PAGES OF THIS ISSUE FOR THE STORY BEHIND JERROLD'S SOLID-STATE EQUIPMENT—THE NEW QUALITY STANDARD FOR THE CATV INDUSTRY
is choosing CATV components a game of chance?

quality

service

uniformity

dependability

economy

NOT IF YOU BUY viking...

Viking leaves nothing to chance.

All yours to expect and receive whether it be the smallest fitting, the most expensive aluminum cable or the most intricate equipment. Viking insists on top quality construction without skimping on production or engineering cost.

Be sure to get the finest for your system... buy viking

...you will be glad you did.

TO ENGINEERS AND TECHNICIANS . . . . IDEAS WANTED!

VIKING CABLE CO.

Will pay for ideas for new items or improvements on present products to better serve the CATV industry. Submit your ideas to us for immediate evaluation.

Manufacturers of Quality Coaxial Cables and Television System Products

830 Monroe Street, Hoboken, New Jersey • Call Us Collect: New York: (212) WH 3-5793, Hoboken: (201) OL 6-2020
Charles Wigutow, Manager: Community Systems East, combines the rare talents of manager, writer and human relations expert. In addition to his duties as Manager of TeleSystems Corporation's Eastern CATV systems, "Charlie" finds time to write the "Cable TV View" which is read by more than 100,000 readers in thirty CATV communities throughout the country. Under his able management TSC subscribers have risen 30% in the past year. Many unique management techniques have been initiated as a result of this creative leadership.

Whether you want a job to match your potential, or you are seeking the right employee—you'll profit by a call to TeleSystems Corporation.

PERSONNEL PLACEMENT SERVICE

TeleSystems Corporation offers a Personnel Placement Service to the CATV industry. This personal and confidential service offers both the applicant and employer the benefit of years of personal evaluation and industry "Know-How."

Serving CATV Systems in Engineering, Construction, Equipment, Promotion and Management.

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FALL "TAP" FESTIVAL

A HARVEST FOR FALL CONNECTIONS
Taps for all cable and all sizes: 412, 480, 500, and 655 O.D.

- VIKAL ALUMINUM
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- STRIP BRAID
- STRAND BRAID
- MESSENGER CABLES

THE GREATEST SELECTION OF TAPS FROM ANY MANUFACTURER IN THE CATV INDUSTRY

A tap for all applications
- SINGLE TAPS
- DIRECTIONAL TAPS
- MULTIPLE TAPS
- BACK MATCHED TAPS

SPLITTERS — Hybrid and regular
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A rainbow series of colors for all connections. Call us today for all your special needs.

A happy thanksgiving from viking

Manufacturers of Quality Coaxial Cables and Television System Products

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2949 W. Osborn Rd.
Phoenix, Arizona

I am interested in a "No obligation" microwave estimate...
Reply to
Name ____________________________
Address __________________________
City ______________________________

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OCTOBER, 1964

Volume I—Number 10

Published by Communications Publishing Corp., PO Box 63992, Oklahoma City, Okla.
Many manufacturers are now striving to get in the solid-state race... but it is "no contest." Ameco is already three years and 20,000 solid-state amplifiers ahead of the field! When you deal with Ameco... you deal with the company that originated all-band solid-state. When you deal with Ameco... you deal with the company that sets the pace in CATV. When you deal with Ameco... you deal with the company that cares enough about you and your cable system to call on you once a month with parts and service. When it comes right down to it... it's kinda' foolish to deal with anyone else... isn't it?
FOAMFLEX
SEMI-FLEXIBLE, ALUMINUM SHEATHED, AIR DIELECTRIC
COAXIAL CABLE

FIRST...TO MEET ALL THE NEEDS OF CATV

- Now, the availability of 75 ohm Foamflex coaxial cable in four diameters — .412", 1/2", 3/4" and 1 5/8" — fills the needs of all-band CATV systems for rugged, high-performance cable in all required sizes. Foamflex, the original foam polyethylene dielectric cable, offers unequalled low loss for superior operation in community antenna and closed circuit television. Foamflex has a proven record in demanding applications in telemetry, missile guidance and microwave in addition to CATV.

Excellent uniformity of impedance with an average VSWR of 1.05 over all channels, and low attenuation, result in remarkably good video reception for tomorrow's color TV and auxiliary service. Surprisingly, this semiflexible, air dielectric cable is competitively priced with cables covering only the low-band frequencies.

Construction consists of a copper inner conductor, foamed polyethylene dielectric, and thin wall aluminum outer conductor providing a permanent moisture vapor barrier. Foamflex is superior on the basis of operational characteristics over long use and under extreme environmental conditions. For underground use, a Habirlene jacket can be furnished.

- 7 average VSWR of 1.05 on all channels
- Uniform electrical properties over wide temperature variations
- Low loss, no radiation, high phase stability
- Stable attenuation at high band frequencies
- Lighter weight for easy installation
- Modified pressure taps or multi-tap distribution may be utilized
- Long term operating life

NEW! Send for new Foamflex CATV Bulletin CA Issue 1 with full engineering data.

PHELPS DODGE ELECTRONIC PRODUCTS
NORTH HAVEN, CONNECTICUT

www.americanradiohistory.com
STV: An Uphill Battle

According to Sylvester L. (Pat) Weaver, Subscription Television “is destined to become the great new industry of our country.” Weaver, who is president of Subscription Television, Inc., cites more than 40,000 hook-up orders in the first 90 days’ operation as proof of the cable pay-TV potential.

The fact that STV was able to raise $25 million to finance pay-TV systems for Los Angeles and San Francisco seems to fortify Weaver’s view. The statutory recognition of subscription TV by the State of California (A.B. 3066), which was signed into law this year, would also indicate validity of the STV position. And then there’s the terrific pool of talent, both “live” and on film, that STV has lined up for its subscribers’ viewing pleasure. In full perspective, subscription television looks like a tremendous entertainment and cultural break-through that would be widely acclaimed and happily received by most families in the areas served.

... But it’s not that simple. A group of motion picture chains and executives, backed by certain broadcasters, have bitterly opposed the new television enterprise. The big-money theatre interests have, in fact, managed to get a million signatures on a petition placing an initiative referendum to outlaw subscription TV on the November 3 California ballot.

In view of the concerted, well-coordinated efforts of the motion picture interests, it is rather amusing to hear the Crusade for Free TV Committee calling Subscription Television, Inc., a “monopoly”! If there is any attempt underway to monopolize the field of pay television we frankly doubt that STV is the guilty party!

The “Crusade for Free TV Committee” in a so-called “Facts Booklet” claims that “The California Pay TV promoters are attempting to bypass and circumvent the Federal Government policy by leasing telephone company cables. Thus the Pay TV monopoly threatens to kill Free TV in California now UNLESS the people respond with overwhelming numbers of ‘Yes’ votes to support the initiative outlawing Pay TV.”

The “Crusaders” apparently fail to differentiate between FCC-regulated broadcast techniques, which utilize the radio frequency spectrum, a limited natural resource, and the cable service which is limited only by supply and demand. Thus, the unwarranted and unjust claim that STV is attempting to circumvent government policy.

We hope that it will never become “government policy” to allow an established industry to have a legitimate new competitor legislated out of business! Incidentally, it is worth noting that the folks who are making all the noise about preserving “Free TV” are not attempting to halt theatre Pay-TV.

The open entry of the three major San Francisco network television stations into the skirmish occurred when KRON-TV (NBC), KPIX (CBS) and KGO-TV (ABC) refused to accept STV paid advertising. The STV commercials pertaining to Proposition 15, the referendum to outlaw STV, were subsequently refused by KABC, Los Angeles, which is owned and operated by ABC. The San Francisco Chronicle, which owns and operates KRON, had also reportedly refused STV’s newspaper advertising. According to Weaver, when the publishing company’s lawyers were informed that STV would protest the change in KRON’s tower height to the FCC, the Chronicle relaxed its stand.

Unfortunately, even though the voters of California will probably not vote to kill home pay-TV, considerable damage has already been done to the STV cause. In addition to the expense of the political campaign, in excess of $1 million, the cost to STV in manpower and time has been high. Regular sales and advertising efforts have been curtailed to concentrate on the life-or-death Proposition 15 issue.

Chances are, if the referendum is adopted it will ultimately be overruled by the U.S. Supreme Court as unconstitutional. But, in the meantime, STV and its stockholders would have a totally unproductive $20 million television system on their hands.

Still on the dark side of the picture is the lethargic manner in which the California Public Utilities Commission has been treating STV. In February the Pacific Telephone and Telegraph Co. filed with the PUC a contract to provide transmission services in STV’s Los Angeles Area One. After hearings were held, the approval was granted in June (on the day following the primary election). In July General Telephone Co., of California filed with PUC a contract to provide line facilities to STV in Santa Monica. There were no protests and no hearings—but approval was not granted by the politically appointed Commissioners until September 24.

These PUC delays resulted in postponement of starting dates in both Los Angeles and San Francisco and have caused STV to miss its original hook-up schedules by a wide margin. Presumably, the pay-TV firm can count on the same snail’s-pace treatment in clearing telephone contracts for each new area it enters.

If Pat Weaver is disgusted with California movie interests and the inactivity of the PUC, we don’t blame him. The inconsiderate slowness of the PUC has been an extremely expensive inconvenience to STV . . . while the interference by private theatre interests, under the pretense of “public interest,” has been a flagrant intrusion upon American free enterprise.

If California outlaws subscription TV by cable, what lies in store there and in other states for other forms of free enterprise . . . such as CATV?

S. L. Weaver
15586 EXTENSION

An extension for filing comments in FCC Docket 15586 asked by NCTA NAMCC has been approved by the Federal agency. The two petitions pertain to licensing of microwave stations relaying TV signals to CATV systems. The original deadline of October 1 was not adequate "to do a competent and complete engineering analysis of the problem, and obtain the necessary facts for meaningful comments will require an extension of six months."

The petitions requested an extension to January 4, 1965 for non-technical matters and April 1, 1965 for technical matters.

In granting the extension, the Commission did not establish a new deadline date but indicated that a new deadline will be established after further consideration.

TAME ASKS FCC TO LEGISLATE CATV

Television Accessory Manufacturers Institute has recommended the FCC ask Congress to pass legislation to establish regulatory jurisdiction over CATV. TAME noted that the legislation is necessary "to safeguard the American system of free broadcast television and to ward off chaos in the industry."

Detailing amendments to the Communications Act, TAME submitted copies of its proposal to the Communications Subcommittee of the Senate Committee on Interstate and Foreign Commerce and to the House Interstate Commerce Committee. The proposal would redefine existing terms in the Communications Act to cover Community Antenna Television and add further restrictions.

One such addition would be the establishment of Section 302. TAME explained: "This is a new section which requires that no person may construct or operate a CATV system without first obtaining authorization therefore from the FCC except that CATV systems in operation upon the effective date of the amendments are given "grandfather" rights to continue to operate for a period of 120 days. If within such period, an application is filed with the FCC for an authorization to continue to operate, the grandfather right continues until a regular retransmission authorization is granted by the FCC or until such time as the Commission may specify in any order denying such application. A provision in paragraph (b) of this section would preclude any possible interpretation that the granting of grandfather rights is intended to give any right to a CATV system to retransmit the programs of any broadcast station without the prior consent of such station. In other words, if a CATV system is lawfully required to obtain such prior consent from a broadcast station, as a matter of private law, and it has not obtained such consent, the proposed amendments cannot be construed to eliminate the necessity for such consent or to legalize the CATV's unauthorized practice."

"The specific changes proposed in (Section 303), together with the definitions added to Section 3, would, with a few exceptions, give the FCC the same regulatory jurisdiction over CATV systems as the FCC now has with respect to radio and television broadcast stations. The changes would give the FCC the following jurisdiction:"

"To classify CATV systems."

"To prescribe the nature of the service to be rendered by, and the location of, each class of CATV system and individual CATV systems."

"To regulate the kind of equipment to be used by CATV systems, including regulations preventing interference to radio reception and transmission."

"To establish areas or zones to be served by CATV systems."

"To make rules requiring CATV systems to keep records of programs, transmissions of energy, communications or signals."

"To inspect CATV installations for compliance with the Act, FCC rules, or treaties which might become applicable."

"To require the painting and illumination of CATV towers for safety of air navigation."

"To make general rules and regulations applicable to CATV systems including rules pertaining to the ownership of such systems, the filing of
contracts and accounts, the terms and conditions upon which CATV service is rendered to the public, obtaining the consent of originating broadcast stations for retransmission of their programs by the CATV system, duplication of programs of broadcast stations, direct origination of programs, and sale of advertising time. Under this general rulemaking authority, the FCC would have the power (1) to require reports and public disclosure of information as to the owners of CATV systems; (2) to protect CATV subscribers against violations of the obligations assumed by the CATV system; (3) to prohibit CATV retransmission of programs of broadcast stations without prior consent for such retransmission; (4) to prohibit retransmission of programs duplicating those of local broadcast stations; (5) to prohibit the direct origination of programs and the sale of advertising time by CATV systems.

These amendments (Section 308) would make applicable to CATV applications the same requirements as those now pertaining to the contents of broadcast applications, including renewals, namely the required showing as to citizenship, character, financial, technical, and other qualifications and the ownership of the CATV applicant.

“Section 309 (b) (1) (A) would authorize the FCC to impose monetary forfeitures (fines) upon CATV systems for violations of law or FCC rules, as it may now do in the case of broadcast stations.”

**UHF TO COMPETE WITH TEXAS BROADCASTING**

Southwest Republic Corporation’s executive vice president, Allen B. Heard, has announced that company’s plans to put KHFI-TV on the air by the first of 1965. The UHF station will be located in Austin, Texas, the home of KTBC-TV, which is owned by President Lyndon B. Johnson’s family through Texas Broadcasting Company.

KHFI-TV will challenge the apparent monopoly established by Texas Broadcasting when it recently signed an agreement to purchase competing CATV company TV Cable of Austin. KTBC-TV is the only commercial TV station in the Texas capital. Texas Broadcasting also has an option to acquire 50% of Capital Cable of Austin.

To be aired on Channel 42, KHFI-TV is under construction at this time according to Mr. Heard. Southwest expects to invest $1,030,527 the first year with revenues of only $289,000.

**G-E TO ENTER CATV**

Announcing plans to enter the CATV field is General Electric Broadcasting Company, Schenectady, New York. The firm released plans to invest $7 to $8 million in cable television for the Albany-Troy-Schenectady area.

In its franchise request for that area, G-E is competing with Capital District Better Television, Albany, headed by Harry L. Goldman. A subsidiary of General Electric, G-E Broad-

**EMPLOYMENT SERVICE**

**An Employment Service for Cable Television?**

It’s here now!

Are you a cable TV operator looking for a man . . . or a man looking for a cable system job?

We can bring you together for both your mutual benefit. An employment service, exclusively devoted to the interests of the cable television interests, has been needed. TeleSystems Corporation is filling a genuine need in the CATV Industry by providing this service.

Many, many miles separate job seeker from the job opportunity. It would take great expense to pursue the opportunities that are now open. Similarly, much time and needless expense is lost in seeking the ideal person for the opening.

CATV has been growing fast. Ownership can benefit by the years of experience we have had in staffing our CATV systems. We have established significant criteria by which to judge whether a prospective employee is the right person for the job.

Often persons with good backgrounds in closely allied industries can make a successful transfer into CATV.

Or men with Manager-Chief Technician potential have pushed past the limits of their present opportunities and are seeking advancement in this exciting industry.

TeleSystems Corporation will help bring you together: System Owner—and job seeker.

**Write or Call:**

Manager
Personnel Placement Division
TeleSystems Corporation
113 S. Easton Road
Glenside, Pennsylvania
(215) Turner 4-6635

**ALL INQUIRIES ARE HELD IN STRICTEST CONFIDENTIALITY**

**TELESYSTEMS CORPORATION**

113 S. EASTON ROAD
GLENSIDE, PA.
In a dilemma: whether to build your system for fast capital gains or for maximum operating profits?

Before you install a so-called economy cable system, ask these 8 questions:

1. Is it water & water vapor proof?
2. Is the cable self sealing when tapped?
3. What is the guaranteed maximum attenuation?
4. Will it produce an acceptable color TV picture?
5. Does it give 26 db minimum return loss guarantee (Required for minimum ghosting)?
6. Will the quality be the same 5 years from installation?
7. Will the cable be adaptable to all pay TV applications?
8. Will it give radiation protection when high power lever amplifiers are used?

If you install Times JT1000 seamless aluminum tube sheath cable, the answer will be yes to all the above. Whether your objective is capital gains or long-term, high net profit, you should give careful consideration to installing a long-life, high-quality cable system—JT1000 series cable, your best profit insurance. Don't settle for a system that continually degrades from the day you install it, and which may prematurely require replacement in 3 to 5 years.

DON'T TAKE OUR WORD FOR IT.

Return loss measurement is a crucial determining factor. Through this one test alone, you can prove to yourself the return loss quality of standard JT1000 cables. Times will gladly lend you a Return Loss Measurement Adapter Kit. It's absolutely free of charge. Just write or phone our Sales Manager, and he'll send you the Kit.

PROVE IT TO YOURSELF FREE TEST KIT

TIMES WIRE AND CABLE

Division of The International Silver Company - Wallingford, Connecticut

TRANSMISSION SYSTEM DESIGN AND ENGINEERING - STANDARD AND SPECIAL PURPOSE COAXIAL CABLE - MULTICONDUCTOR CABLE - COMPLETE CABLE ASSEMBLIES - TEFLOW* HOOK-UP WIRE

*A DuPont Trademark
ARMADILLO ANNOUNCES NEW FIBERGLASS UTILITY LINE

Equipment for large microwave system being pretested at factory

SERIES 601 UTILITY BUILDING

FEATURES: Fiberglass Exterior Immediate Delivery Variety Of Sizes

ARMADILLO MFG. CO. • 847 E. COLFAX AVE. • DENVER, CO.

The colors are pre-selected, and color assignment by the color reservoir is arbitrary. For instance, black can be assigned the color red; dark gray can be blue; light gray can be green. Or the system can be easily modified so that black is displayed on television as green; dark gray is red, and light gray is blue.

Any number of colors can be assigned by the electronic color reservoir, but assigned colors are generally limited to six colors, the number that can be easily identified by the human eye without reference to a color code directory.

In addition to its principal advantage of getting color from gray inputs, DataColor has two other strong points.

It uses a low-cost black and white vidicon camera instead of an image orthicon or three-vidicon color camera. Cost of a high quality vidicon camera is approximately $3,000 compared to the $45,000 price of a high quality color image orthicon camera.

DataColor colors are exactly the same at any number of television displays, receivers, or large screen displays, unlike standard color television, which may display one scene in any number of shades and hues at various television display locations.

ENTRON TO INSTALL MILLION DOLLAR CATV SYSTEM

Robert J. McGeehan, President of Entron, Inc., announced that Mohawk Valley Community Antenna TV, Inc., Utica, N.Y., has ordered Entron's broadband TV equipment for the installation of a CATV system in the Utica area.

The first of two construction phases will serve an estimated 18,000 homes in Utica and surrounding areas with potential subscribers numbered to be 60,000. It is expected that construction will be completed by January 1, 1965.

Mr. McGeehan noted that when completed, it will be one of the largest CATV systems in the country—exceeding over 300 strand mile.

AMECO DOUBLES FACILITIES

Bruce Merrill, President of Ameco, Inc., has announced the acquisition of a third building that will double present production facilities for the Phoenix plant.

Mr. Merrill noted that wide acceptance of the Ameco solid-state line,
coupled with nationwide distribution through the Ameco "salesmobile" door-step delivery program, has resulted in several production growth phases during the past year.

A second building was acquired in February that tripled the size of production floor space and this necessitated tripling the size of the work force. And as of September 1, Ameco took over a third building in a growing complex that will double production capacity once more.

According to Merrill, Ameco has just completed the largest dollar volume year in the history of the company and will continue an expansion program geared to provide the prompt delivery schedules required by this fast-growing industry.

NETWORK CONSPIRACY CHARGED

A charge that San Francisco's three network television stations are engaged in a conspiracy to destroy competition has been made by Attorney J. W. Ehrlich.

The noted trial lawyer, who is chairman of a citizens' committee opposing efforts to outlaw subscription television in California, issued the charge after the three stations joined in refusing to accept commercial advertising time sought by Subscription Television, Inc.

The stations involved in the "conspiracy," Ehrlich said, are KRON-TV, local affiliate of the National Broadcasting Company; KGO-TV, the American Broadcasting Company's San Francisco outlet, and KPIX, a Columbia Broadcasting Company affiliate.

"These stations have simultaneously and for identical reasons refused to accept legitimate advertising offered by the subscription television people," Ehrlich said.

"This is a conspiracy under the law and under the moral codes that television, radio and newspapers share—to offer both sides in any issue the opportunity to be heard.

"The reasons given for refusing this advertising—because it is allegedly of a controversial nature—do not make sense and the management of these stations know it. All of them feature news programs concentrating upon controversial issues. Controversy makes news."

Ehrlich issued his statement after Sylvester L. (Pat) Weaver, Jr., president of the subscription television firm, told the San Francisco Advertising Club in an address that KRON-TV, KPIX, and KGO-TV had all refused to accept STV advertising.

Weaver has asked the Federal Communications Commission to investigate the refusal.

JERROLD CORPORATION RETAINS PILOT

The Jerrold Corporation has announced that discussions with potential purchasers regarding the possible sale of Pilot Radio Corporation have been terminated.

Milton J. Shapp, President and Board Chairman of The Jerrold Corporation issued a statement that Jerrold has decided "to proceed with full force in the development of Pilot.

"Mr. Sidney Brandt has recently been appointed as General Manager of Pilot," continued Mr. Shapp, "Under his direction, Pilot is now moving forward with a complete engineering, production and marketing program geared for achieving the highest levels in the company's history."

SPRINGFIELD TV ANSWERS NCTA

Springfield Television Broadcasting Corporation has reaffirmed its position to the FCC that CATV is detrimental to the development and growth of UHF-TV service. The comments were in rebuttal to NCTA's charges that Springfield's earlier arguments were misleading and contained a double standard.

NCTA comments were filed on the FCC's proposed rules to regulate, under specific conditions, the grants to microwave operators who provide service to CATV systems. The association told FCC that CATV systems have no discernable adverse impact upon local television... and claimed that Springfield's double standard was evident in that company's printed literature. NCTA cited an advertising brochure from WRLP Greenfield, Mass. that proclaims additional coverage by being carried on 11 CATV systems—while, at the same time, the owners charge economic injury from the same systems.

Springfield's comments indicated that CATV systems in WRLP's service area have made it increasingly difficult to maintain local service and advertising revenue. That organization told the commission that prospects facing local television are "deluge, duplication, depreciation, displacement and destruction" as a result of the growth of CATV.
Matchless Opportunity* to Increase your PROFIT Picture

If you are looking for the remote power supply that does the job which usually requires several different power supplies . . . then, look to CRAFTSMAN'S MODEL CPS-4 Remote Power Supply. (It's the only one you can get *FREE!)

The Craftsman Electronic Products Model CPS-4 Remote Power Supply is engineered to provide power for as many as 15 MD-2100 line extender amplifiers in cascade. Designed for installation at the distribution amplifier location where a remote 24-volt ac source is required to energize a Model MD-2100 line extender installed in the feeder line; it supplies a power source for a single MD-2100 unit in each of up to four feeder lines.

* MODEL CPS-4 REMOTE POWER SUPPLY absolutely FREE . . . with the purchase of 5 MD-2100 Line Extenders!

That's right . . . with every purchase of 5 Model MD-2100 Line Extenders at $62.50 each, we GIVE the Model CPS-4 Remote Power Supply * * * * FREE * * * A genuine savings of $39.95. You can't beat the price . . . and you can't beat the combined MD-2100 and CPS-4 performance.

LOOK—5 MD-2100 @ $62.50 each= $312.50
1 CPS-4 @ $39.95 each
BUT—You pay ONLY $312.50 . . . saving $39.95!

This offer may be withdrawn at any time.

Manufacturers of a Complete Line of Community Antenna Equipment and Accessories

WRITE TODAY for complete catalog and price lists . . .

CRAFTSMAN ELECTRONIC PRODUCTS, INC.
133 WEST SENECA ST.
MANLIUS, N.Y. 13104

Area Code 315 Phone OVerbrook 2-9105
IRA KAMEN OPERATING AS KAMEN ASSOCIATES

Electronics executive, Ira Kamen, is now directing Kamen Associates, a New York City consulting firm.

Mr. Kamen, formerly Executive Vice-President of Teleglobe Pay TV Systems, Inc., is now serving clients in the broadcast and communications fields.

Mr. Kamen has been issued twelve major patents which have been licensed and/or assigned to RCA, General Bronze, McFadden-Bartell Corp., Teleglobe and others. His kudos include citations for outstanding performance from the United States Air Force, the United States Navy and Western Electric for his design of the DEW Line Communications Antenna System. He has served as President of Portland Industries; Vice-President of the General Bronze Corporation; and as a consultant to RCA, Paramount Pictures Corporation, Jerrold, TEMCO and a host of others.

JERROLD SCHOOL TEACHES MASTER TV

Engineering contractors and technicians from all over the country attended a recent Master TV antenna school in Philadelphia.

The one week course covered all aspects of Master TV antenna system design, installation and maintenance techniques.

According to Jack Beever, Jerrold National Training Director, this was “one of the most productive training courses we’ve ever run.”

CATV VETERAN JOINS TELEPROMPTER

Caywood C. Cooley, Jr., a pioneer in the development of community antenna television and microwave systems and equipment, is joining TelePrompTer Corporation as General Manager of its CATV Division, it was announced by Irving B. Kahn, Chairman and President.

Mr. Cooley has for the past 14 years been associated with Jerrold Electronics Corp., most recently as Vice President and General Manager of its Industrial Products Division.

He has been instrumental in the development of much of the equipment and the engineering techniques now in use throughout the CATV industry and helped to design and install the first professionally built system at Lansford, Pa., in 1951.

Subsequently, he was involved directly or in supervisory capacities in the design and installation of several hundred CATV systems.

Mr. Kahn said: “Mr. Cooley brings to our rapidly expanding CATV operations a background that is virtually unparalleled in the industry. We expect him to be a great asset as this division continues to grow.”

SCHNEIDER IS NAMED TO STAFF

The appointment of Raymond V. Schneider as Vice President and General Manager of Meredith-Aveo, Inc. has been announced by Frank P. Fogarty, President of the community antenna television (CATV) firm. Mr. Schneider previously was Vice President and General Manager of TelePrompTer Corporation.

Mr. Schneider has been in the community antenna television business since 1952, starting as manager of the Williamsport Cable Co., later part of National General, with whom he remained until 1961. He then became eastern regional manager with TelePrompTer, and was named general manager in 1962.

Mr. Schneider will headquarter in New York. He is a resident of Springdale, Conn.

HORNE SALES MANAGER FOR ARMADILLO

Frank C. Walz, Jr., President of Armadillo Manufacturing Co., manufacturers of engineered package equipment buildings and systems, recently announced appointment of Mel A. Horne as Sales Manager.

Horne will be based at the general offices of the company at 847 E. Colfax Ave., Denver. He will be responsible for sales of all Armadillo products.

A naval veteran of both World War II and the Korean conflict, Horne spent eleven years with AT&T in Kansas City, El Paso and Denver before joining Fab-Electric Engineering Corp. of Dallas, Texas in 1960. Fab-Electric Engineering is associated with the Armadillo Manufacturing Co. As manager of Fab-Electric, he was responsible for Armadillo sales in the Southwestern and Southeastern regions.

BCS NAMES BUSH

The Broadcasting Company of the South (BCS) announced recently that it has named Leonard M. Bush as Manager of its Sumter (S. Carolina) community antenna television (CATV) operations.

For the past two years, Mr. Bush
These new connectors make positive contact to eliminate any and all "pull-outs" that interrupt service and put out the picture. Designed to mate electrically and mechanically with #4920 and #4930 "Cell-O-Air" coaxial cable with "Coppergard" shield. Superior's captive contact connectors assure full-system compatibility.

Both cable and connectors have been designed exclusively by SUPERIOR for the CATV Industry.

### FULL CRIMP TYPE 75 OHM CONNECTOR

<table>
<thead>
<tr>
<th>CABLE DESIGNATION</th>
<th>PLUGS</th>
<th>JACKS</th>
<th>SPICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4920</td>
<td>SC2CRN</td>
<td>SC2CRU</td>
<td>SC2CRNJ</td>
</tr>
<tr>
<td>4930</td>
<td>SC3CRN</td>
<td>SC3CRU</td>
<td>SC3CRNJ</td>
</tr>
</tbody>
</table>

Superior Cable Corporation • Hickory, North Carolina
has served as National Sales Coordinator for WIS-TV in Columbia, which in addition to community antenna systems in Florence, S.C.; Ocala, Fla.; and WSFA-TV in Montgomery, Ala., is owned and operated by BCS.

Mr. Bush will be in charge of the overall development of CATV in Sumter for BCS. When completed, the Sumter CATV complex will deliver multi-channel, all-network television service to residents of Sumter on a subscription basis.

Mr. Bush has served in various marketing capacities with the General Electric Company in Bloomfield, New Jersey. He was area manager for G. E. Supply Company in South Carolina with offices in Columbia. Mr. Bush left G. E. to become a sales engineer with the General Wholesale Distributing Company in Greenville, S.C., and joined BCS in 1961 following the FCC announcement that it was proposing to do away with wide-range VHF television channel ten in Columbia.

JERROLD APPOINTS GERARD WHITE

Gerard I. White has been appointed Regional Manager of the Jerrold Distributor Sales Division's Northeastern territories.

According to Sanford Berlin, Sales Manager of the Jerrold Division, Mr. White will be responsible for the sales of TV and FM antennas, antenna preamplifiers, and other home TV reception aids in the entire northeastern area. The territory includes all of New England, Metropolitan New York, New York State, Ohio, Western Pennsylvania, West Virginia and Michi gan.

When The Jerrold Corporation acquired TACO, in 1961, Gerard White was a TACO Regional Sales Manager. He then became a Regional Product Manager for The Jerrold Corporation, a position he held until his present promotion.

Salter  Bapp  Rollason

AMECO ADDS PERSONNEL

Bruce Walters, Director of Production for Ameco, Inc., announces personnel changes in the production department.

Farrell B. Salter has joined the company in the capacity of production department personnel manager. His background includes nine years with Boeing Aircraft and three years with Bell Aerosystems. Salter is currently an instructor in the Phoenix Adult Night School teaching "Supervisor Training" courses.

Another change in the production department is the advancement of Floyd Bapp who has moved from production supervision to the newly created position of production analyst and expeditor. Bapp has been with Ameco for six and one-half years, preceded by four years service in the Air Force, stationed at Williams Air Force Base in Chandler, Arizona.

Robert H. Huson, Director of Public Relations & Advertising for Ameco, announces the addition of Thelma M. Rollason who joins the company in the capacity of commercial artist. Mrs. Rollason will assume the duties of Jerry Noble who is returning to Arizona State University where he plans to continue studying commercial art.

BLONDER-TONGUE NAMES NEW REPRESENTATIVE

George Petitt Company, Inc., Chicago has been appointed as manufacturer's representative for Blonder-Tongue Laboratories, Inc., it was announced by Richard B. Helhoski, director of marketing.

The new representative will cover northern Illinois, eastern Iowa and all of Wisconsin with the full line of Blonder-Tongue products—closed-circuit TV, master antenna and home UHF and VHF reception equipment—which will enable Petitt to provide products for complete systems.

George Petitt, president of the company bearing his name, has been in the electronic distribution field for 30 years. Prior to forming his own organization in 1948, he served as general sales manager for Drake Electronic Soldering Iron Co.

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Plastoid goes to great lengths for better CATV transmission. Cable lengths up to one mile mean fewer splices, less chance for moisture penetration.

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Special hydrostatic tests prove the Plastoid aluminum sheath stronger than conventional seamless. Neither seam nor sheath burst at pressures over 1,000 lbs. And why not? Seams are actually stronger than parent metal as proved by ASTM Cone tests.

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THE STORY BEHIND
THE CATV INDUSTRY’S FINEST
Thousands of units now coming

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SOLID-STATE EQUIPMENT
off the JERROLD production lines!

Three years ago, we firmly determined not to rush on the market with transistorized CATV gear until we developed the highest-quality, most reliable equipment ever offered the community-antenna industry.

Between 1961 and 1964, our top engineers devoted 50,000 manhours of hard, relentless design work to this program, always insisting that Jerrold solid-state channel preamplifiers, super-cascader mainline amplifiers, bridging amplifiers, and line extenders must possess 12-channel capability, with picture quality beyond compare...must perform day-in and day-out without interruption...must, in short, guarantee you the most solid foundation on which to build subscriber satisfaction and expanded system services in the years ahead.

Jerrold is now producing and shipping the equipment that meets these stringent performance requirements. Production facilities, already expanded to meet the demands of Jerrold's biggest CATV year in history, have been increased to accommodate the very heavy advance orders for transistorized units. The largest production runs ever undertaken by Jerrold will fulfill both present and future requirements of the CATV industry.

The scenes on these pages are a small example of current CATV activity at Jerrold. Each department—sales, engineering, production, shipping—is ready to meet your needs for the most advanced solid-state CATV equipment.


ORDER THE QUALITY YOUR DOLLARS DESERVE—GO JERROLD SOLID-STATE NOW!

Community Systems Division • 15th & Lehigh Ave., Phila., Pa. 19132 • 215-226-3456

JERROLD ELECTRONICS

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617-828-0767  412-441-3050  6-2555  415-593-8273  206-6283  1-911  509-248-1717
Utilizing Local Newspaper for CATV PR

By Charles Wigutow, TeleSystems Corporation

Pictures are the end product of cable television. All our technical skills are devoted to one purpose; that is to bring to the subscriber better pictures and more programs than he can get economically with individual reception devices.

If we think of ourselves as merchandisers of the materials that are delivered by cable, then we should be authorities on our products. No one questions the need to be expert in the ways of transporting pictures to the customer. However, there may be some doubt about the need to be familiar with the substance of what is seen daily in the home of the subscriber.

After all, the customer has his own tastes, and probably knows what he wants better than you do. This may be true, but television is not his business. It is yours. The same customer with well defined preferences will still be seeking answers on what programs, what quality and where and when shown, from an authoritative source.

If yours is a competitive situation you will not question the value of being the sole source of television information. A principle of physics learned in high school illustrates this point. Two objects cannot occupy the same place at the same time. The more it is you to whom they look on television matters, the less they will turn to others. Filling this place early enough in the game is one way of forestalling potential competition, or opposition to the cable system.

But there is more to being the fount of television knowledge than trying to beat or keep out competition. The plain fact is it helps you sell cable connections. Of course you can sell these because cable is a better value, or you are making a special offer. That takes care of those who are subject to hard sell. Many more people, however, prefer to feel that they have sold the idea of subscribing to the cable to themselves. These are the subscribers who are generally most loyal.

Such people do not necessarily buy quickly. You will find that building a reputation with them takes time. One method of adding stature is to be frequently quoted in the news on your opinions of television matters. This is fine if the newspaper editor turns to you on occasions of unusual programs. It shouldn’t be hard to offer newsworthy comments when the cable brings something of local interest, otherwise not available off the air; or when co-channel weather is playing tricks on reception, all over town.

If these appearances in the press are spotty, the effect...
THE CABLE TV VIEW

By: Glenn Heck, Mgr
ROBINS TELESCABLE CORP.

Cable television, the kind of reception we enjoy in Warner Robins, "is the only television service which grew up in the grass-roots." Cable TV grew out of the needs of home town America.

By contrast, "all other forms of television have been or are being developed in the great population centers." How true are these quoted words from an address by Federal Communications Commissioner Frederick W. Ford to the community television industry convention last week in Philadelphia.

Commercial television had to locate inside of huge concentrations of population to earn its keep. Cable television was an answer by American enterprise to a demand by unserved and fringe reception areas for equal television treatment.

Cable television has not only come up with equal reception, but in many communities, it has bettered metropolitan viewing by providing more channels than are available in the larger cities. "In the United States," said the Commissioner, "we have developed the greatest television system in the world." And, "this (TV) is perhaps the most dynamic, powerful and influential of all the means of mass media in existence today."

I continue quoting the Commissioner in this column since his words come out of living with the broadest picture of electronics communications. He further said, "I am concerned here only with satisfying the need for expanded television service over and above what can be provided by the present allocation (that is the number of television stations we could have at maximum here)."

As I view it, this expanding need can and should be satisfied by the use of the alternate means; namely, wire (which in Warner Robins means cable television).

"The cable television industry has demonstrated that it has the capacity, desire and ability to furnish that additional service in the public interest. They have done it and undoubtedly will continue to do it on an ever increasing basis."

I don't mind saying that these words filled me with a sense of pride in the job we in cable TV are doing by providing our people with more information, news and entertainment than could ordinarily be made available by other means.

of a news credit is likely to be lost by the time the next one appears. Writing a steady TV column which will appear week after week seems to be the solution to getting into print, often and authoritatively. Such a column can skip around the entire area of TV. Programs can be anticipated or reviewed. Performing personalities can be discussed. The place and meaning of television in the United States and in your town are readable subjects. After all, what other leisure time occupation is voluntarily attended so many hours each day by so many people.

A column has the virtue of appearing when you want it to appear. You don't have to wait on the editor's whim as to how much of it will be printed, or whether it will appear at all. You buy the space; it is up to you to make

CAPITAL FOR THE
Community Antenna Television Industry

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Two Gateway Center, Pittsburgh, Pa. 15222
A SMALL BUSINESS INVESTMENT COMPANY

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Sadelco's Model FS-2

The easiest and most accurate field strength meter for CATV use. Fully transistorized battery operated. Peak reading of carriers from minus 35 db to plus 60 db. Calibrated in 1 db divisions. Two ranges cover VHF-TV M bands (54-108 mc and 174-216 mc).

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Carrying case & 3 sets batteries incl.

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5. Commercial Pilot
6. Extensive knowledge of:
   Public Relations
   Advertising
   Electronics magazine publishing/ writing
7. IQ 143 Blood type "O"
8. Fair politician in that I've got bills passed
9. Total background in Electronics sales—
   OEM - Wholesale - representatives - dealer
10. Some financial experience

I've a few investments here and there.
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I'm currently broke and interested in $$, but only if
it's worth it to you.
(Broke by my standards, but Shell, Hilton, Diners,
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it interesting enough to keep a reader following. Once you
have this, you can take time out to call attention to some
praiseworthy qualities of cable television as they become
timely.

The column, as a public relations tool has drawn some
interesting responses. A column on The Munsters, recently
resulted in a letter from a highly placed Georgia official
expressing gratitude to the publisher of this article for
pointing out, “that odd shape of frame or feature might
be the result of illness or injury, and such a person seeks
affection with greater intensity than others.”

Television Today

Frontier's 'Idea' Aids Westerns

By CHARLES VIGOTOW
Nine out of ten top popularity rated programs on television are
Westerns. I have been wondering what the significance of this
could be. There comes to mind the Theory of the American Frontier
by the historian, Frederick Jackson Turner, which says that a new kind of historical de-
velopment was shaped for America because of its Western Front-
tier.

Into this frontier escaped those who were oppressed by the close-
ess of cities, its crowds and factories, here came adventurous people who lived by codes fash-
oneed from need and the spirit of daring.

It seems to me that the love of the “western” does not merely
lie in gun duels and galloping horses. There is contained in the
better dramatizations the saga of an adventurous era. If it were not
a frontier, our land in the past would have been populated by or-
dinary work-a-day folk. Legends would not have developed; the
folklore would not have been of
gigantic men who strode over
impossible obstacles.

We might say that the frontier period represents the high pitch-
ed enthusiasm of America, and in watching a West-
ern, there is a certain amount of sharing in this age. Here, too,
there are various levels of viewer participation. Of course there is
the usual blood and thunder TV show in which the sheriff gets the
bad man in the last minute. There is the program that deals with the
west of the last century in terms of men and women as honest
to goodness human beings of that time; and most spectacular
are the pictured legends of the west carried out almost on the
scale of Superman Paul Bunyan, A rich history is contained in
these exploits which might excuse a sometimes too frequent repeti-
tion of a certain pattern. How-
ever, when the creative level is
lifted as it is in the showing of an
adult program on our open re-
ions, there is a glimpse for those
who will see, into the making of
America and its peoples of today.

A New England dealer magazine, Dealerscope, spoke
of the help Phil Lothrop of Green Mountain cable system
was giving Burlington's dealers in publicizing the variety
of programs for the coming television season. A Michigan
banker wrote Richard Bur of Marquette commending him
on his efforts by column to promote the worthwhile events
that came by television.

How do you go about writing these periodic pieces?
You can read up on television. There are plenty of fasci-
nating books around on how programs are written and
produced. There are research pieces on the effects of tele-
vision, and the psychological uses to which the set is put
by viewers. Soap Operas to ease one's own troubles; escape
for relaxation; thrillers to bring excitement for the hour.

Why not study these social and dramatic aspects of
the television set. It's fascinating because TV has become so
much a part of most peoples' every day lives. It's a know-
ledge you can share with all your readers with surprisingly
beneficial results to your cable system.
TRANSISTORIZED

CATV All-Band Trunk & Distribution Combination Amplifier

Maximum output capability exceeds by far all transistor CATV Equipment now available

The CAS TRA-220 transistorized CATV amplifier is designed for easy, economical mounting—NO CONNECTORS REQUIRED! The cast-aluminum housing is permanently mounted to the messenger strand and will accept any cable size from RG-59/U to 3/4" aluminum. A door that is hinged to open downward seals out dust and moisture and permits the transistorized module to be easily removed or adjusted.

A unique AUTOMATIC TEMPERATURE COMPENSATION (ATC) circuit controls the gain of the TRA-220 and compensates for cable variations due to temperature.

A built-in regulator that requires no adjustment- accepts cable-fed voltage from 20v. to 30v. a.c. and provides maximum protection from lightning and surges.

FEATURES

- COMPLETELY TRANSISTORIZED
- WIDE BANDWIDTH (40 - 220 MC)
- CABLE POWERED
- GAIN AND TILT TEMPERATURE COMPENSATED
- WEATHER PROOF STRAND MOUNTING ENCLOSURE
- FLAT STABLE RESPONSE
- TABS CONTROL FLOW OF CURRENT IN AND OUT OF AMPLIFIER
- TRANSISTORIZED CIRCUIT CUTS OPERATIONAL EXPENSE MANY TIMES OVER
- NO CONNECTORS REQUIRED
- ACCEPTS ANY CABLE FROM RG-59 U - 3 4" ALUMINUM
- DIMENSIONS - 12" X 4" X 3.5"

SPECIFICATIONS

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<tr>
<th>TRUNK AMPLIFIER</th>
<th>DISTRIBUTION AMPLIFIER</th>
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<tbody>
<tr>
<td>GAIN: 24 db plus 2 as temperature compensation.</td>
<td>USABLE OUTPUT LEVEL AFTER 4-WAY SPLIT Plus 46 db.</td>
</tr>
<tr>
<td>BANDWIDTH: 40 - 220 MC</td>
<td>GAIN CONTROL: 5 db.</td>
</tr>
<tr>
<td>INPUT V.S.W.R.: 1.2</td>
<td>TILT CONTROL: 4 db.</td>
</tr>
<tr>
<td>GAIN CONTROL: 5 db</td>
<td>SINGLE OUTPUT FEEDS 2- or 4-WAY SPLITTER SUPPLIES AC POWER TO OUTPUT FOR LINE EXTENDER OPERATION</td>
</tr>
<tr>
<td>TILT CONTROL: 4 db</td>
<td>NOTES</td>
</tr>
<tr>
<td>RECOMMENDED INPUT LEVEL IN CASCADE, Plus 12 db flat</td>
<td>V.S.W.R.: An overall improvement in V.S.W.R. has been obtained by eliminating connectors and jumper cables in the trunk line.</td>
</tr>
<tr>
<td>RECOMMENDED OUTPUT LEVEL IN CASCADE, Plus 34 High Band Plus 24 Low Band*</td>
<td>CASCADING: High maximum output capability allows the TRA-220 to be cascaded and still maintain a safety margin from distortion.</td>
</tr>
<tr>
<td>TEST POINT: Minus 20 db input and output</td>
<td></td>
</tr>
<tr>
<td>POWER SOURCE: 25 - 35 volts A.C. or plus D.C.</td>
<td></td>
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</tbody>
</table>

TRA - 220 $325.00

CAS CO
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www.americanradiohistory.com
CATV, A Success in Sedona!

The view from the ivory tower offices high above Austin, Texas had lost its glamour. The martini circuit that meant long lunch hours and the expressway arteries flowing automobiles to the suburbs and rivaling the Indianapolis speedway had become too much. In short, Jim Geary was sick of the rat race.

Although already considered one of Austin's outstanding young attorneys and well established with a leading law firm, Jim decided that what he needed was a new view and a new field. He found both in Sedona, Arizona.

As the spectacular splendor of the red rock country at the foot of Oak Creek Canyon came into view through the windshield of the Aero-Commander, Jim Geary knew that this was it. Austin was six weeks behind and Jim had seen most of the West in his search for "the spot." Now he knew he had found it.

When Jim Geary decides on something, he moves fast. Within a month, the home in Austin was sold and the Gearys were comfortably settled beneath the towering rocks of Sedona.

As the sunlight splashed over the mountains surrounding Sedona and bathed the area in a riot of color each morning, the country club social pyramid of Austin became insignificant. The roots in Sedona grew deeper. And if there was ever any doubt during the day about the decision being the wrong one, it was quickly dissolved each evening as the sunset provided a perpetual ebb tide of color to close the day.

Jim's first business venture in the Sedona area was to establish "Sedona West." This real estate development would be familiar to anyone visiting Sedona because it has served as the back-drop for 40 western movies. For two decades Hollywood had been turning to the rocks of Sedona for their technicolor spectaculars. To name just a few of the movies that have been shot on location on the land purchased by Jim: "Rounders," "Johnny Guitar," "Pony Soldier," "Drum Beat," "Flaming Arrow," "Broken Arrow" and "Gun Fury."

Three years and many beautiful homes later found Jim Geary in need of a greater challenge than that offered by a subdivision. In a town the size of Sedona Jim wondered what further opportunities might present themselves.

Looking around for another business venture, he discovered the obvious in a very antiquated cable system. With Phoenix 120 miles away and several ranges of mountains blocking a good TV signal, television reception could be termed poor at its best. Due to the use of five different kinds of equipment and several miles of open wire, the cable picture at that time couldn't be classified as much better. Naturally enough, under these adverse circumstances, the cable service was inconsistent; the cable company's public image none too bright. To make matters worse—for the cable owner—a translator also served Sedona.

Until his arrival in Sedona, Jim had never heard of cable television. But now he realized he had found an intriguing business and a great challenge. He set out to do something about it.

The first thing that Jim did upon purchasing the existing system was to make arrangements to replace all of the equipment and cable. Realizing he must learn the business from the ground up, Jim spent the next several months climbing poles as Ameco constructed a complete solid-state turnkey system. By the time the system was finished, Jim truly knew community cable operation "from the ground up."

While an antenna on a mountain adjacent to Sedona with cable running down the side of the mountain to the town could have provided a better than average picture, Jim was determined to go "first class" all the way.

The population of Sedona was small but Jim still felt that the quality of a microwave conveyed picture would pay off in the long run. Time has proven him right because most of the 1,000 homes in the area are now clamoring for a cable hookup. Four Phoenix channels of television and two FM radio stations are being microwave to Sedona by Antennavision Service Company at the present time. Three Los Angeles channels will soon be added to the attractive entertainment package offered the Sedona-Oak Creek TV Cable Company customer.

Many of the innovations introduced by Jim are living proof that a cable system need not be large to provide unique service. For example, the equivalent of the "long ring" of the old...
fashioned party line telephone is available for civil defense or public service use. With just the flick of a switch, all channels on the Sedona-Oak Creek Cable System can be preempted in case of an emergency to provide modern “party line.” If there is a large fire or a child is lost in the area, the fire chief or sheriff can appear on all cable system channels to make an announcement and alert virtually the entire community.

This unusual and valuable service has made an immense improvement in public relations for the cable system.

Realizing that the prior cable company had a poor public image due to a poor and undependable picture, Jim undertook another important step to improve his system’s public image. Although it was a long and tedious job, he personally started knocking on doors and calling on every home in the Sedona area to explain exactly what he was doing to bring them a new world of television entertainment. This kind of “shoe leather” public relations promotion has paid big dividends in cable hook-ups.

Since most of the people have come to Sedona from large cities such as Los Angeles and New York, they were used to the very finest in television reception. They now have it with the combination of aluminum-sheathed cable, solid-state equipment, and dependable microwave service.

One of the new features that is surprisingly popular is the two FM radio stations being carried via microwave. Sedona, being in a mountain-trapped area, lacked good radio reception prior to its being offered on the cable.

In the operation of the community television system Jim faced two obstacles. One was the reputation of the previous cable service; the other was the translator serving the area. Realizing that the best way to overcome competition is to give the public an opportunity to compare, Jim invited one and all to view television reception via translator side by side with cable reception. The television sets were set up in an area that received the very best translator picture in town, but even then the cable television showed the translator picture to be inferior.

The seven monitors carrying the seven pictures available on the cable have proved to be an extremely popular addition to the cable office. Each morning it has become necessary to wash hand and nose prints off the cable company windows from prospective customers who were anxious to see for themselves the excellent pictures available on cable!

In addition to the regular weather scan channel with FM background music, Jim offers a unique feature called “Today in Sedona.” This channel serves as a community bulletin board for all community activities. Rotary, Kiwanis, Chamber of Commerce, schools, churches, etc. all take advantage of this channel and use it as a community bulletin board to publicize current activities.

Jim Geary has truly turned a poor public image into an excellent public image by updating his equipment and proving to one and all that a cable system can be an important part of a community. With today’s advanced television distribution technology to aid him, Jim delivers six entertainment and two auxiliary channels to his customers. Soon the cable subscribers in this remote town will receive seven channels of television entertainment, two FM stations, weather channel and a community service channel.

Jim Geary has met a big need in his beautiful community—and made CATV a success in Sedona!
THE ECONOMICS OF CABLE TELEVISION

By R. L. COWART
Vice President,
National Trans-Video, Inc.

One of the primary considerations in the construction and operation of a cable system is the initial cost and the accumulated operating cost over a five-year period. Our procedure is to analyze the various configurations of cable and amplifier as the first consideration when planning a new system.

We will discuss today a theoretical cable system of 100,000 ft. and see the various ways that this system can be built. We will consider only the trunk line for our purposes here, but this same procedure is applicable to the distribution portion of a system as well.

The goal of most modern systems is to accomplish transportation of signals from an antenna site to a distribution area with minimum deterioration of quality and for minimum initial cost and a minimum operating cost. Because of the rapid changes in technology we normally assume that new and vastly changing techniques and materials will be available in periods of approximately ten years and, therefore, it makes better sense to design a system for efficient operation for a ten-year period instead of attempting to design one that will operate for fifty years. Surprisingly enough, we find that our design approaches to the system built for five years, or ten years, is almost exactly the same system designed for the fifty-year life.

You often hear that various systems are being built with maximum quality. What this usually means is that the initial cost is extremely high and the operators are hoping to recover part of this cost by reduced maintenance in operation of the system. When you actually examine the systems that are built under this philosophy you almost invariably find that they have not achieved this goal and that their operating costs are far higher than had they chosen procedure other than the "Deluxe" approach. This can be so easily shown that I am somewhat at a loss to understand what method they used to reach their conclusion.

For the purposes of this discussion I shall refer to four typical cable types as follows:

- Type (A): .480" O.D. Corrugated
- Type (B): .650" O.D. Corrugated
- Type (C): .480" O.D. Strip Braid
- Type (D): 1/4" O.D. Foam
  - Dielectric
- Type (E): 3/4" O.D. Foam
  - Dielectric

Let's take, as an example, a 20-mile section of trunk, and use in our example the Type (A) and Type (B) as two possible cables for this system and see just what the difference in actual

<table>
<thead>
<tr>
<th></th>
<th>Broadband</th>
<th>Transistorized</th>
<th>Split Band</th>
<th>Transistorized Split Band</th>
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</thead>
<tbody>
<tr>
<td>No. Trunk Amps</td>
<td>37</td>
<td>22</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>No. Distribution Amps</td>
<td>57</td>
<td>74</td>
<td>39</td>
<td>45</td>
</tr>
<tr>
<td>No. Enclosures requiring Pole Mounting</td>
<td>67</td>
<td>27</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>No. Enclosures or locations requiring power</td>
<td>67</td>
<td>7</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>No. Tubes</td>
<td>839</td>
<td>0</td>
<td>494</td>
<td>354</td>
</tr>
<tr>
<td>Total Power Required, Watts</td>
<td>5,781</td>
<td>1,400</td>
<td>4,550</td>
<td>3,550</td>
</tr>
<tr>
<td>System s/n degradation at end of trunk</td>
<td>-15.5 db</td>
<td>-14 db</td>
<td>-12 db</td>
<td>-12 db</td>
</tr>
<tr>
<td>Total Cost - Active Portion</td>
<td>$18,182.00</td>
<td>$13,053.40</td>
<td>$12,810.00</td>
<td>$10,876.00</td>
</tr>
</tbody>
</table>

OCTOBER, 1964
cost would be with each of these cables. For the sake of simplicity, let's round it off to 100,000 ft. of each type. We will take the loss figures of 1 1/2 db per hundred at Channel 13 for (A) and 1 db per hundred at Channel 13 for (B). Since this is to be a high quality system, let's use a broadband distributed constant amplifier and to give us a little reserve, we will use only 20 db of spacing. We find that the (A) gives us a total attenuation of 1,500 db versus 1,000 db for (B). At 20 db spacing this line using (A) will require 75 amplifiers and (B) will require only 50 amplifiers. If we can buy these amplifiers for $300 each and install them on the poles for $40 this will give us an installed amplifier cost of $25,500 with cable (A) and $17,000 with cable (B). We can immediately see that we have saved $8,500 in amplifier cost if the system were built with (B).

Now the problem is to see whether the difference in price of (B) can be made up by our amplifier savings of $8,500. This is not the only savings possible as we will see later. Let's assume the price for (A) is $75/M and $120/M for (B). We can buy 100,000 ft. of (A) for $7,500, and (B) would cost us $12,000. Our additional cable cost, if we were to use (B), would be $4,500 but we have already saved $8,500 in amplifiers so our net initial savings is $4,000.

Now, let's look at the operating costs for a five-year period for these two systems. We will assign some normal costs to each amplifier such as:

<table>
<thead>
<tr>
<th>Pole Space, Misc.</th>
<th>$12 per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>$30 per year</td>
</tr>
<tr>
<td>Maintenance (incl parts)</td>
<td>$40 per year</td>
</tr>
</tbody>
</table>

The total for each amplifier is $82 per year. With the Type (A) system we will be using 75 amplifiers and in five years can anticipate an operating cost of $30,750. With the Type (B), we are only using 50 amplifiers and our total attenuation of $45,600 (incl Misc) $30 |

<table>
<thead>
<tr>
<th>Initial</th>
<th>5 years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type (A)</td>
<td>$33,000</td>
<td>$33,225</td>
</tr>
<tr>
<td>Type (B)</td>
<td>$29,000</td>
<td>$39,750</td>
</tr>
</tbody>
</table>

Let's look again at the system with the trunk Type (B). This system has only $12,000 invested in trunk cable. Were he to lose 50% of his cable plant due to moisture, increased attenuation and so forth, he can replace it still be $13,000 ahead of the "Deluxe" system. This is the real key—the fact that the actual value of the cable is generally a small fraction of the total initial cost and that it is not realistic to consider a useful life in excess of ten years. It simply does not make economic sense.

Someone might comment that these figures would be greatly different if "X" brand amplifiers were used. Let's see if this is true. There are three major techniques in the industry today: one is the tube broadband dis-
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tributed amplifier (that we based our first figures on); the second is a broadband transistorized amplifier and the third is a split band type that uses separate amplifiers for the low and the highband portions of the TV spectrum.

For the second analysis we will consider a system using a split band technique. The only major difference in these three types of systems is the slightly higher gain available per amplifier and the fact that the number of tubes is reduced as only half as many lowband amplifiers as highband are required.

Upon examining these figures it is readily apparent that the proportionate costs are exactly the same but it is most interesting to note that they are all less.

The next obvious step in our analysis is to try a combination of various amplifier types with various cables in order to determine the best cable/amplifier combination. We will concern ourselves now only with the initial cost as it is somewhat difficult to acquire reliable operating histories on the transistorized type systems.

As certain types of transistorized amplifiers lend themselves well to low cost distribution, we have made a study of an actual system laid out four different ways. The first is a broadband distributed tubed amplifier; the second is a completely transistorized system; the third is a complete split band system and the fourth is a combination split band/transistorized system. In this combination other factors are also considered as shown in Table 1.

We have demonstrated in the preceding discussion several important basic rules that guide cable system philosophies. We have discovered that a profitable system can not be built unless each item is analyzed as to how it fits into the total system operation. We have demonstrated that an item may be very satisfactory when compared to others of its kind but does not blend itself well into the composite system. We have also discovered that a few minutes’ simple analysis of the various system equipment combinations can result in savings of thousands of dollars in over-all operation. We have destroyed some myths of the “Deluxe” approach.

We have pointed the way to vastly increased economic potential for the system operators.
CONVEYOR SYSTEM MONITORED BY CLOSED-CIRCUIT TELEVISION

New, cost-saving applications for closed-circuit television (CCTV) are being discovered with increasing frequency. One of the hundreds of CCTV uses found in the mining industry. For example, closed-circuit television is reducing overhead expenses and, at the same time, helping to control ore movements for White Pine Copper Co. at Pine, Mich. The system has freed several men from watching critical transfer points along an extensive underground conveyor belt network. To achieve these benefits, the company uses three separate television systems comprising six cameras and six monitors.

In the ten-year old White Pine mine, the largest room-and-pillar copper mine in the country, two television systems monitor more than 15,000 tons of ore as it is carried to the surface each day. The third system is in the recently opened Southwest mine.

The largest television system uses three monitors located in a central control room overlooking a crusher. Connected to the monitors by coaxial cable are cameras 2,450 ft., 1,900 and 40 ft. away—at transfer points along the main conveyor line.

In daily operations, the man at the control point observes the flow of ore at the transfer stations pictured on the monitor screens. If jam-ups occur at the transfers, the belts are stopped immediately and arrangements made to remove the obstruction.

A second system at another crusher station, consisting of two monitors and two cameras, permits remote observation of two conveyor transfer points where ore is carried from the crusher to the main conveyor line. In this system, the cameras are 2,300 and 1,200 ft. away from the monitors.

Specially designed for operation in high humidity atmospheres, the television equipment is moisture-proof and dust-proof. The monitors are encased in heavy gauge steel housings, with the 14-in. picture tubes protected by laminated safety glass windows. To prevent damage by fine dust particles, the cameras are also enclosed in special metal cases, with lenses covered by safety glass. Illumination for cameras at transfer points is provided by 400-watt mercury vapor light.

The system at the Southwest mine uses one monitor and one camera, enabling a hoist operator to watch the dumping movements of two 5-ton capacity skips. The camera is connected by 250 ft. of coaxial line to the monitor on the hoist operator’s platform.
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32 OCTOBER, 1964
After a pleasant half hour drive from the Washington National Airport we arrived at Montgomery Industrial Park in Silver Springs, Maryland. This is the home of Entron, Inc., a pioneer CATV manufacturing and engineering firm.

We anticipated our visit with Entron, Inc., and its energetic President, Mr. Robert J. McGeehan, with high expectations, and we were not disappointed. The new Entron facility (occupied since mid-1962) is a splendid evidence of the CATV industry's dynamic growth. Located in a beautiful suburban industrial development, the Entron plant reflects careful functional planning. Every department is well lighted and spacious with bright, cheerful decor.

A thorough briefing was provided covering the company sales program, long-range objectives, and describing the Entron concept of community television for big cities. The idea of wiring large cities, even multi-station markets, dates back to 1960 in Entron thinking. Today we are witnessing the implementation of this concept on an industry-wide basis.

Since the eventuality of big-city CATV was clearly foreseen, Entron has been particularly conscious of factors affecting performance, reliability, and costs. In any system, losses and picture degradation are cumulative. Therefore, the larger the system, the higher the quality requirement for system components. Entron introduced the large scale use of highly reliable and premium quality 10,000-hour tubes as well as voltage regulating transformers in their electronic equipment, scoring another industry "first."

For specific details on Entron engineering approaches we went, quite naturally, to see Vice-President Heinz Blum, who heads the engineering department. He has been with Entron, in his present capacity, since 1953 and has more than seventeen years of electronic systems design and installation to his credit.

Heinz detailed the formation of key company philosophy relative to community antenna requirements. In 1960 two separate production programs were initiated: Plan (A) for construction of new all-band systems in large cities, and Plan (B) for conversions of existing low-band systems to all-band. The immediate need was for high-band amplifiers for addition to existing systems with intermediate amplifiers between two low/high-band stations. Consequently, the HRA series of high-band repeaters was introduced along with the LHB series of bridging amplifiers. Heinz pointed out that Entron had been the first to build...
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a low-band bridging amplifier with gain; the same design concept was retained in the new high-band equipment.

To implement Plan (A) it was apparent that high output amplifiers would be necessary. In 1960 an average "big system" probably included 50 miles of plant. Entron was, of course, aiming for the capability of supplying the 1,000-mile system. Indications are that the "state of the art" has just about reached that point.

The new LHR low/high repeater series, introduced this year, and the LHD low/high distribution amplifiers brought out in 1963 are already in operation in several systems. Among them is the Utica, N. Y. system which anticipates growth to a 300-mile plant. Credit for implementing the Plan (A) high performance equipment goes to Mr. Irving Kuzminsky, Director of Advanced Engineering. Mr. Andy Silins and Mr. William Hsiao, design engineers, performed the necessary design engineering to provide the Plan A equipment.

Heinz is an authority on television distribution and a very personable gentleman. We would have enjoyed talking with him for many more hours—but we had a schedule to keep. So we reported back to our very gracious hostess and tour guide, Mrs. Joan Homa, Entron's Advertising Manager. Next on the itinerary was an inspection of manufacturing and system design facilities.

Presiding over production, is Mr. Anthony Vendemia, Manager of Manufacturing. Typical of Entron's well-schooled executives, Tony holds a law degree from the University of Baltimore. A decade in electronics manufacturing experience well qualifies him for the direction of all manufacturing at Entron.

From the customer's viewpoint, prompt delivery is high on the priority list. Essential to Entron's timely product delivery is the efficient purchasing department which channels materials and components for manufacture. We had an opportunity to view tens of thousands of stockpiled components—and we can appreciate the complexity of Purchasing Agent John Paszek's job.

An outstanding characteristic of Entron, Inc., is its emphasis on publications, both external and internal. A complete library is maintained by a full-time librarian, (our curiosity was well rewarded by the discovery of all past issues of TV&C neatly shelved) and a large department is devoted to the production and filing of internally produced publications, schematics, brochures and advertisements.

Climaxing our visit to Entron was a very enjoyable chat with President McGeehan. In answer to a question about the company's beginnings he recalled that it was started back in 1951. Entron was organized in its present corporate form in February, 1953, in a consolidation of The Bellmore Company and The Entron Company. Bellmore had been engaged in master antenna installation and
Entron had been manufacturing electronic and electromechanical components for use in coaxial cable television transmission systems. Founders included Bob McGeehan and Hank Diambra.

The MATV business was held in the summer of 1953 and Entron concentrated on CATV manufacture, engineering and installation. An immediate effort to build a marketing network throughout the U.S. and Canada resulted in the establishment of major Entron distributors such as Davco Electronics, Batesville, Ark. among others. The year 1953 was also marked by Entron's move from the original Que Street location in Washington, D.C. to larger quarters in Bladensburg, Md.

The first products manufactured were the "Fastee" tapoff to which the first patent in the CATV industry was assigned, the RA-1 Broad Band Amplifier, the BA-4 Bridging Amplifier, and the "Acrasplit" and "Hyt" Line Splitters. Entron Inc. entered the coaxial field by introducing solderless connectors for RG-11 and RG-59 type cables. These are the well known "Shuvee" connectors.

In 1957 the firm initiated secured financing of Community Antenna Systems with the assistance of the Small Business Administration.

Quality control is emphasized in every phase of Entron manufacture and assembly.
Business Administration, and local banking houses, and by 1958 Entron had entered the Turnkey System construction business.

Doug Burch is busily engaged with a layout drawing in Entron drafting department.

At about the same time the company formulated its long range plans (A and B) for conversions and new all-band construction; it also outgrew the Bladenburg location. Thoroughly committed to the community antenna industry, and involved in nearly every aspect of it, Entron management elected to build a single plant large enough to house the entire operation. In August, 1962 the Montgomery Industrial Park headquarters were occupied. The new building was specifically designed for Entron's planned expansion programs as well as for its immediate needs. The steady growth of the company, subsequent to the move, has substantiated the need for growing room.

The exceptionally high demands for Entron products stemming from the unprecedented growth of the industry will undoubtedly necessitate an additional increase of production facilities.

Having analyzed CATV growth trends in advance, the company now has available a product line consisting of more than 225 products, including high-output amplifiers, new transistorized line extenders, coax connectors, tapoffs and a complete selection of other signal distribution equipment. Bob McGeehan pointed out the significance of Entron's versatility, which has enabled the firm to supply components for the pay-TV operations in California while engaged in several turnkey construction jobs. Meanwhile, the supply of Entron products direct and through U.S. and Canadian distributors continues at an ever increasing pace.

There is no doubt that Entron is now looking well into the future of CATV, perpetuating the engineering efforts that have solidly established the company as an industry leader. Some of the biggest systems in the country, such as Altoona, Pa. with an excess of 13,000 subscribers, and Kingston, N.Y. with more than 7,000 subscribers are Entron-equipped. We feel certain that the future will see the advent of even larger community antenna systems using Entron equipment.

NEW LOW-COST BUILDINGS

The development of Lustre-Span, a new high-strength rigid vinyl, has made it possible to produce extremely versatile pre-fabricated buildings at very low cost. Specifications of the new structures reveal their usefulness in dozens of applications, such as CATV Head-End equipment buildings, microwave relay stations, remote transmitters and commercial buildings. Modules are available as small as 4' x 4' with no limit on maximum size of structure.

Quickly erected, pre-fabricated units are constructed of rigid-vinyl corrugated panels with framework of extruded aluminum alloy. Simple, one-day erection requires only screwdriver, wrenches and drill. These lightweight buildings are secured to foundation by anchor bolts, per "South Florida Building Code." Roof will take a live load of 20 lbs./s.f. Tensile strength of vinyl walls and roof is 7,500 psi, with compressive strength of 9,400 psi.

LOW THERMAL CONDUCTIVITY

Ideal for extreme climatic conditions, the walls and roof have a thermal conductivity factor of only 1.3 BTU/s.f./hr./in. (Will not rust or rot and is not subject to insect attack or fading.) The glossy surface of the tough rigid-vinyl reflects the sun's rays, maintaining a low interior temperature. All of these properties are equally valuable whether in a 4' x 4' transmitter shack or a 20' x 80' retail or service facility. And the savings are just as great, proportionately, in either type of application.

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OCTOBER, 1964
PREAMPLIFIER FOR TV INTERFERENCE AND FRINGE AREA COLOR RECEPTION

A 75 ohm coaxial cable TV antenna preamplifier, Model SPC-103, is being introduced by Jerrold Electronics Corporation. Manufacturer reports that the new coaxial super powermate is primarily designed for locations where there are spurious signals or interference problems and for optimum color installation in semi-fringe and fringe areas.

In announcing the new unit, Walter Goodman, Manager of Jerrold's Distributor Sales Division, said that the SPC-103 preamplifier has coaxial output achieved by a built-in matching transformer. It is contained in a metal waterproof housing and is usually mounted on the boom of the antenna or on the mast, although it may be mounted on any flat surface.

The accompanying remote power supply, Model 103, contains a choice of outputs—either 75 ohm or 300 ohm, selectable by a switch. It may be mounted on any flat surface, generally the back of the television set. The unit plugs into any 117v, 60-cycle a.c. source.

L BAND AMPLIFIERS

C-COR Electronics, Inc. announces a new technical capability in the design and manufacture of "L" band amplifiers. Band pass characteristics can now be controlled to a degree here-to-fore unavailable.

For example, band pass shapes similar to 60 mc IF strip results are possible with the new C-COR techniques. The accompanying picture shows the pass band from 1300 mc to 1380 mc, indicating sharp skirts and flat top response.

To achieve this capability, ceramic triodes, type 7768 and 7913, by General Electric, are used. The same techniques can be extended to other tubes, including the 7077 and the 6299. Noise figures are low, meeting the tube manufacturer's best predictions. Power outputs, up to one watt depend upon tube type, etc.

Typical specifications for a three stage amplifier, C-COR Model 3077, are: f.c. 1340 mc, BW: 80 mc plus or minus 1 db, Skirts: down 30 db at plus or minus 80 mc from f. Gain: 37 db, Z in and out: 50 ohms P out: plus 27 dbm (1/2 watt), VSWR out: 1.5:1, N.F.: 11 db max.

For further information, contact James R. Palmer, President, at C-COR Electronics, Inc., P. O. Box 824, State College, Penna.

TRANSISTORIZED LINE EXTENDER

An all-band line extender is now available from CAS Manufacturing Company of Texas. Employing "the unique CAS distribution output," the CAS TRA-215 features solid state circuitry and can be used with either tube or transistorized trunk line equipment.

Wide bandwidth of 40 to 220 mc, the extender provides 20 db gain with a capability of up to 45 db. It can be used as a distribution amplifier and can be cascaded.

Full details and price can be obtained by contacting CAS Manufacturing Company, P.O. Drawer B, Mineral Wells, Tex.

76A2 MICROWAVE BROCHURE AVAILABLE

Lenkurt Electric Co., Inc. has issued an eight-page brochure describing its Type 76A2 Microwave System, which furnishes broadband radio transmission facilities in the common carrier frequency band of 5925-6425 mc.

Each RF circuit can accommodate up to 960 carrier-derived voice channels, or a black and white, or color TV channel with or without program subcarrier, or the equivalent in other forms of information.

The publication includes performance figures, circuit description and photos of the system.

A free copy may be obtained by writing Department A134, Lenkurt Electric Co., Inc., 1105 County Road, San Carlos, Calif.

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This is just part of hundreds of racks of custom Head-Ends that have been designed, assembled and delivered by Davco! Many of the most experienced CATV engineers across the country consistently choose Functional Design by Davco. There must be a reason! And that reason is the performance, reliability and economy of Davco’s Functional Design systems.

CATV operators everywhere depend on Davco for fast delivery of all materials and equipment for their systems. You’ll find the largest, most complete inventory of CATV equipment and supplies at DAVCO where you always receive prompt, courteous service. Reasonable prices, too!

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Productions Director, W AJR-FM
West Va. Radio Corporation

• Carl, we wish you much success in the operation of your new station, W AJR-FM. The cable television systems within your coverage area will undoubtedly be interested to learn of your station.

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OCTOBER, 1964

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entron's LHR-45 repeater amplifier is the ultimate.

This is the high gain, high output level amplifier of all future CATV systems. It has many superior characteristics compared to any other CATV repeater amplifier available. Automatic level controlled low and high bands, including full FM, are combined in the LHR in one single chassis. The LHR's high power handling ability extends the mileage of CATV systems and improves picture quality. Frequency response is flat (if aligned through cable); input and output are matched; there are separate high-low band gain and tilt controls, and input attenuators. The LHR is equipped with a regulating transformer for gain stability under varying line voltage conditions, and for the increase of tube reliability as it keeps filament and cathode temperatures constant. For complete information and specifications on this advanced amplifier, the LHR 45, write to:

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