



MR. A. BROADY - B 085
KOP-TV Channel 13
915 N. La Brea
HOLLYWOOD, CALIF.

JUNE 1965

TV & Communications



SPECIAL PRE-CONVENTION ISSUE

PLUS

TROPO-SCATTER RECEPTION

MORE CHANNELS = MORE SUBSCRIBERS!

Convert to a JERROLD

12-Channel

Solid-State System



The Jerrold 12-channel solid-state system has set a new industry standard in picture quality and reliability.

Picture quality and program variety are what sell subscriptions. Reliability not only keeps subscribers happy, but is the key to profits.

Featuring the Model TML-1 trunkline amplifier and its companion AGC unit, Model TAGC-213, the Jerrold system has proved itself in CATV systems all over the country.

More and more systems are being built or modernized with Jerrold solid-state equipment. There must be a reason. Find out for yourself why Jerrold is first in picture quality, first in reliability, and first in sales. Contact Jerrold Electronics, CATV Systems Division, 15th & Lehigh, Philadelphia, Pa. 19132. Phone (215) 226-3456.

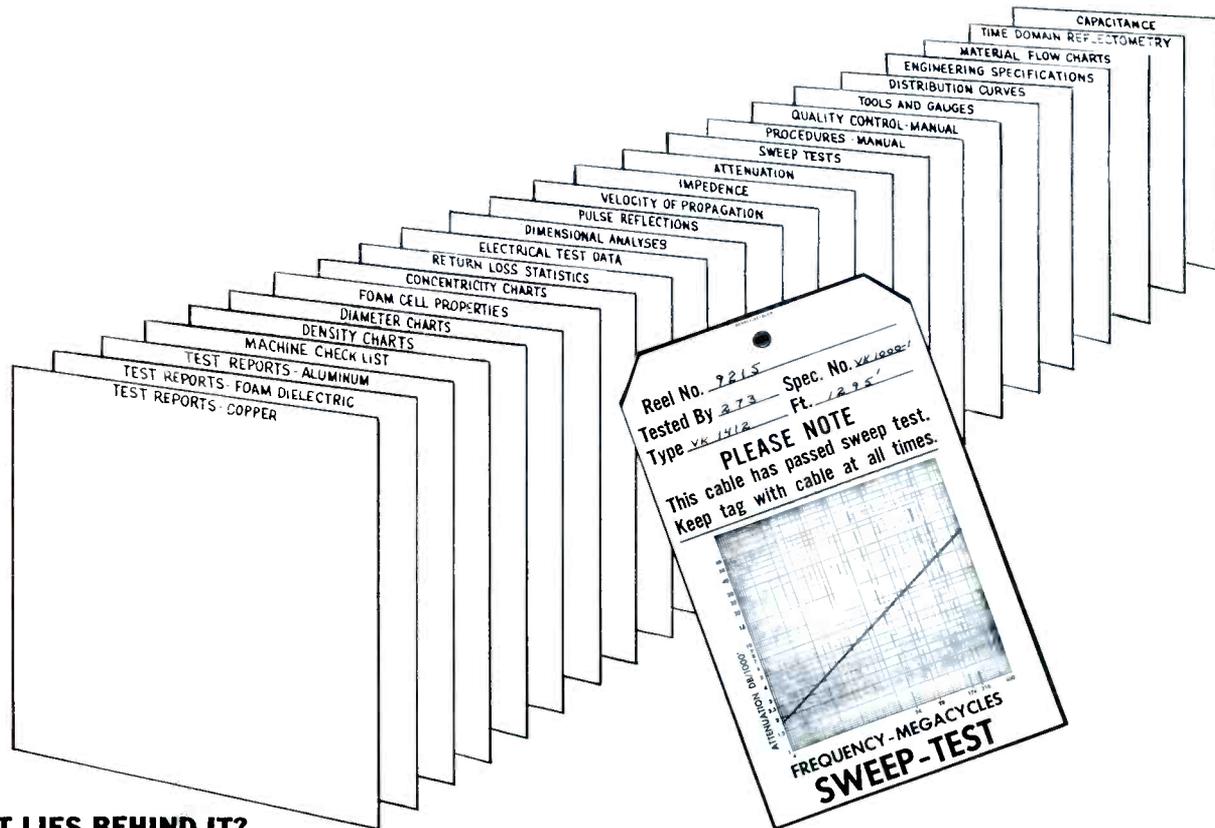
ORDER THE QUALITY YOUR DOLLARS DESERVE—NOW!

JERROLD

FIRST IN CATV

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

How Viking's Seamless Aluminum CATV Cable Insures Your System!



WHAT LIES BEHIND IT?

The Sweep-Test tag accompanying each reel of seamless aluminum CATV cable is Viking's way of simplifying the results of our fully-documented product history, from the basic raw materials until the cable is delivered to your System.

We want you to be aware that, at Viking, we not only maintain rigid controls in every stage of our manufacturing process, but we double-check these controls with a rigid, fully documented, Quality Assurance Program.

Viking's Quality Control System consists of three basic elements — Inspection, Analysis and Performance. Inspection begins with careful chemical, physical and electrical testing of all incoming raw materials. It is carried through the processes of extrusion, application of the seamless aluminum sheathing and polyethylene jacketing. These inspections consist not only of sample and in-process inspections, but also of (1) accurate recording of gauge and meter readings and machine settings by continuous strip chart monitoring and recording of every foot of cable produced.

A key operation in the manufacture of CATV cables is the extrusion of the foamed dielectric onto the copper wire. Foam extrusion is a process of many interdependent variables. The Viking Automated Extrusion Process is designed to control these variables within strict tolerances to ensure the ultimate in cable uniformity. Such critical factors as conductor temperature, plastic

melt temperature, degree and uniformity of foaming, concentricity of the conductor in the dielectric, capacitance, density and diameter are both monitored and controlled within $\pm 1\%$.

Final inspection consists of not only high precision testing to Viking's stringent CATV specifications for attenuation, return loss, impedance and velocity of propagation, but also the day-to-day evaluation of the less obvious parameters that influence the above properties.

Thus, Viking's Test Lab is constantly checking such seemingly subordinate factors as conductor resistance, power factor, and dielectric constant to detect trends that might ultimately cause cable malfunctions. This philosophy of anticipating problems, instead of waiting for them to arise, has resulted in a consistently high degree of uniformity of Viking Cables.

The Analysis phase of Quality Control has contributed greatly to Viking's success in the CATV cable field. The accumulation of data is a useless and costly exercise, unless they are statistically analyzed to reveal quality levels and trends. Viking's highly skilled Quality Control team and engineering staff is constantly aware of the current status and trends in production quality and is prepared to take immediate action. Specifically, some of the everyday analytical activities at Viking include:

1. Detailed statistical analysis of extrusion monitoring charts which re-

- cord every foot of cable manufactured.
2. Analysis of reel-by-reel compilations of return loss vs. frequency and correlations with process monitoring charts, machine settings and previous test results.
3. Analysis and interpretation of other test data and correlation with raw material properties, process variables and cable history.

The performance of all Viking Products undergoes constant surveillance in our experimental CATV test station. Here, the characteristics of Viking Cables—both current and experimental—are always being evaluated for compatibility with other system components (many of which are also manufactured by Viking). This station also serves as a proving ground for products developed in Viking's extensive research and development program.

You, our satisfied customers, have convinced us that our Quality Assurance Program is well worth the investment. We will take no chances. We must continue to produce high quality products because CATV is Viking's only business. So rest easy when you file our sweep test tag and admire your trouble-free Viking System.

viking
CALL US COLLECT

830 Monroe Street, Hoboken, N.J.
New York: (212) WH 3-5793
Hoboken: (201) OL 6-2020



Which twin has the heterodyne?

IF you want to carry color programming for any distance at all you need clean color tones like those of our heterodyne "twin" in the top set above. (It is in color, in case your magazine's monochrome.)

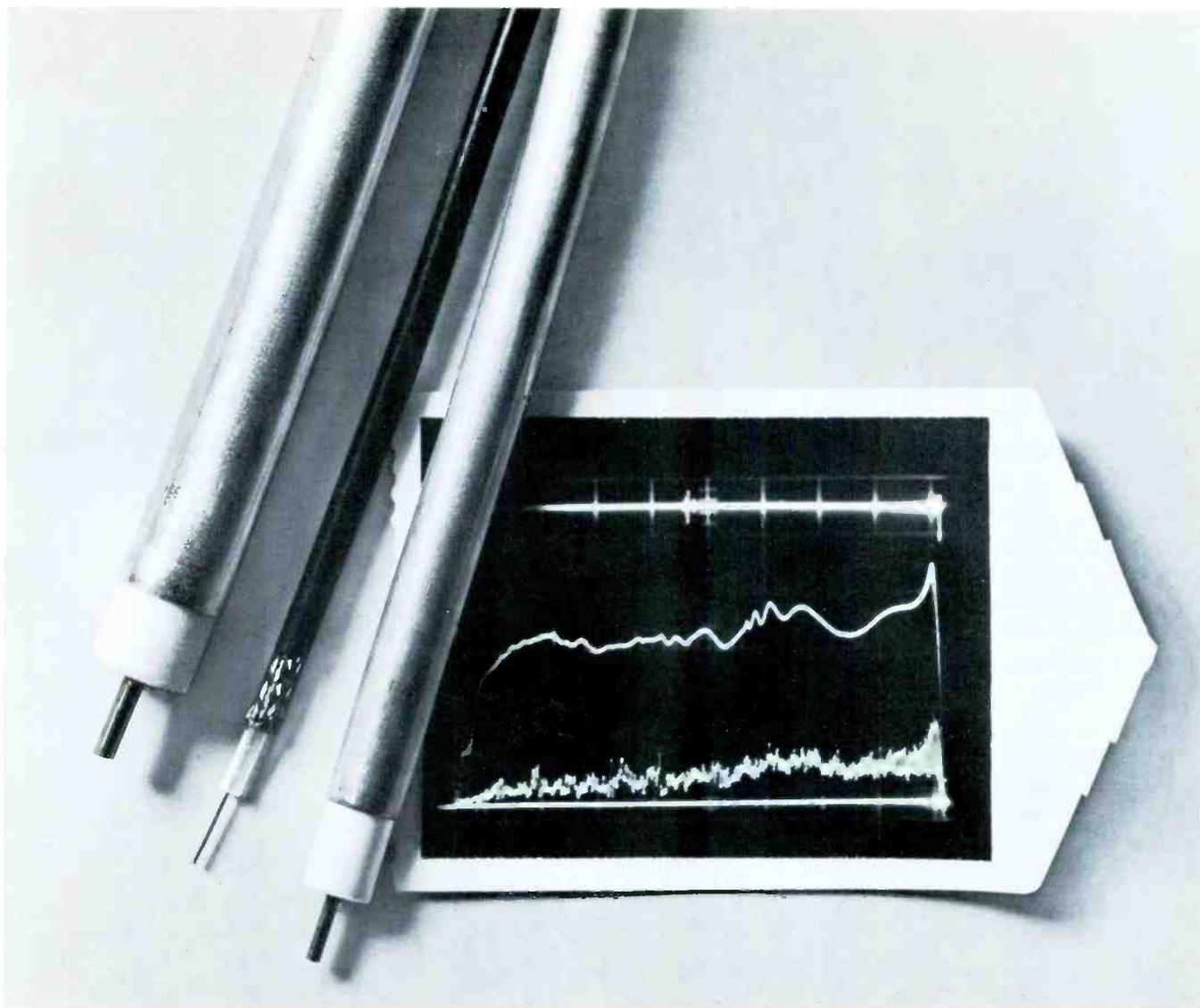
Lenkurt's 75A microwave relay system will deliver color or black and white TV clear and sharp because its heterodyne repeaters are especially designed for heavy-duty long-haul routes.

Since there's *no* baseband demodulation enroute, there's less chance for degradation of signals on a long-distance hook-up. Yet you have the capability to drop TV channels for CATV or ETV operations along the way, which greatly extends the 75A's flexibility. It exceeds CCIR specs for noise performance,

and meets both CCIR and NTSC requirements for monochrome and color television transmission. Frequency stability is held to within $\pm 0.002\%$. And one-for-three path protection is available.

If top performance is what you're looking for, ask us about our true blue (not to mention red and green) 75A Microwave Radio. Lenkurt Electric Co., Inc., San Carlos, California. Offices in Atlanta, Chicago, Dallas, and New York City.

LENKURT ELECTRIC
SUBSIDIARY OF
GENERAL TELEPHONE & ELECTRONICS **GTE**



Three New Amphenol CATV cables offer you low loss, low attenuation, uniform VSWR

The proof is in the picture! Every inch of Amphenol CATV cable is tested for structural return loss. It must pass these quality standards: 26 db structural return loss for minimum ghosting, consistently low attenuation and uniform 75 ohm impedance. Based on this performance, CATV contractors have installed over 1,000,000 feet of Amphenol cable.

1. HEAD-END CABLE. Seamless, lightweight aluminum cable, .750" in diameter, gives you moisture and radiation protection. Attenuation variance is minimal from

the smooth curve: 0.25 db/100' at channel 2, 1.01 db at channel 13. Easy to install in 1000' minimum lengths. Available with all-weather black poly jacket.

2. FEEDER CABLE. Amphenol .500" aluminum cable is a star performer from deep South to stormy Seattle. Attenuation is low for its size: 0.65 db/100' at channel 2, 1.22 db at channel 13. This CATV cable also comes in .412" diameter with attenuation figures of 0.85 db/100' at channel 2, 1.57 db at channel 13. Both available with black poly jacket.

3. HOUSE-DROP CABLE. Performance proved, Century 59/U drop-line cable features Amphenol quality polyethylene dielectric and copper braid shielding for best signal transmission. Attenuation is uniformly low: 2.4 db/100' at channel 2, 4.9 db at channel 13. Polyfoam® version available to satisfy lower attenuation needs.

SEE VISUAL PROOF of Amphenol CATV cable quality at the NCTA Show, July 18-23, Denver, Colo. Amphenol Cable Division, 6235 S. Harlem Ave., Chicago, Ill.



Specify Amphenol . . . the leading name in cable, connectors, assemblies, RF switches, potentiometers, microelectronics



HELP!

Need help in finding help?
Or a new and better job?
TSC offers a unique Personnel Placement Service, designed to match qualified applicants with engineering, technical and management opportunities in the burgeoning CATV industry.

Employers and job seekers alike benefit from TSC's industry "know-how" and vast experience in personnel evaluation. They like TSC's prompt, confidential service.

Call for help today.
215 TU 4-6635

Or clip and mail the coupon.

(Mail to TSC)

Gentlemen:

I need help in filling a job.

Finding one.

Please send job order form.

Application form.

Resume enclosed.

NAME _____

STREET _____

CITY _____ STATE _____



**PERSONNEL
PLACEMENT
DIVISION**

**TELESYSTEMS
CORPORATION**

113 S. Easton Road • Glenside, Pa.

TV & COMMUNICATIONS

THE PROFESSIONAL JOURNAL OF THE CABLE TELEVISION INDUSTRY



JUNE, 1965

Volume 2 — Number 6

Published By Communications Publishing Corp., PO Box 63992, Oklahoma City, Okla.

TABLE OF CONTENTS

Texas CATV	
Staff Report on Annual Convention	16
NCTA Convention Preview	
Exhibitors Booth Location at Annual Show	22
CATV History & Scope	
Part II; L'Heureux	25
Tropo-Scatter Reception	
A "New" CATV Design	32
Salesmobile	
Trip With Mobile Tech Rep	36
Additional Services for CATV Systems	
Vic Nicholson, Jerrold Electronics	39
Rohn Visit	
Staff Report on Tower Manufacturer	40
Editorial	8
News Spectrum	10
Our Cover	13
Subscription Card	14, 34
Focus on Progress	18
New Product Review	46
Classified Advertising	47
Letters to the Editor	48

STAFF

Stanley M. Searle
Editor

Sherrill D. Dunn
Managing Editor

Charles Wigutow
Lon Cantor

Leo G. Sands
Contributing Editors

Jean Schaefer
Art Director

Patrick T. Pogue
Business Manager

Robert A. Searle
Advertising Sales

Donald R. Hardesty
Circulation Manager

Linda Taylor
Editorial Assistant

CIRCULATION: TV & Communications is circulated through United States and foreign mails on the tenth day of each month, to individuals and firms dealing in products and services for closed circuit and community antenna television, television broadcast, and microwave. A detailed circulation breakdown is available upon request.

SUBSCRIPTIONS: TV & Communications subscription rate in the North American continent is \$5.00 per year for surface mail. Subscriptions outside continental North America are \$7.00 per year, remittances to be made by bank money order or check, negotiable in United States banks. TV & Communications is published 12 times per year.

ADVERTISING: Commercial display advertising is accepted from manufacturers and suppliers of electronics equipment and allied services, at the discretion of TV & Communications management. Advertising rate card and circulation breakdown are available upon request.

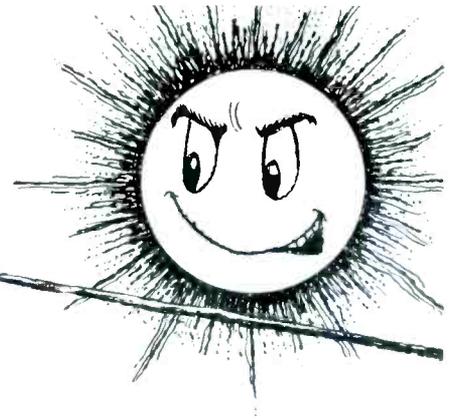
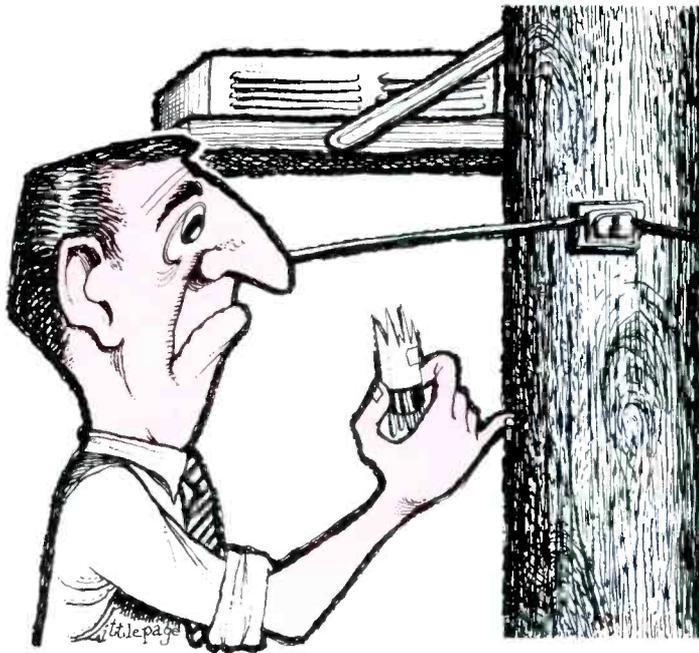
COPYRIGHT: Contents of this publication are copyrighted by Communications Publishing Corporation. No material, either written or graphic, may be reproduced without the written permission of the Publishers.

TV & COMMUNICATIONS (title registered at U.S. Post Office). Second-class postage paid at Oklahoma City, Okla. Subscribers should allow six weeks for change of address.

PUBLISHERS: Patrick T. Pogue and Stanley M. Searle.

GENERAL OFFICES:
1839 N.W. 16th, Oklahoma City, Okla. 73106 (405) JA 8-3523

BPA Membership applied for.



Dreading the LONG HOT SUMMER?

Facing those hot summer months with an increase in tube replacements got you down? Cheer up! There's still time to do something about it!

The something to do is **preventative installation** of temperature compensated Ameco solid-state amplifiers. An Ameco solid-state mainline amplifier can save both time and money through a reduction of maintenance and operating costs.



With Ameco solid-state you no longer have to anticipate tube replacements. You don't have unexpected tube failures when the temperature begins to go up. Your system is more dependable.

The Ameco ATM-70 Mainline Amplifier is available now and can provide you with performance you need for new system life.

Consider the following:

- uses less power
- lower noise figure
- provides higher output
- wider operating temperature range
- greater cascability
- dependable etched circuitry

Don't wait for hot weather to catch you. Get all the details on the Ameco ATM-70 solid-state Mainline Amplifier now. Contact your convenient well-stocked Ameco Warehouse today!

AMECO, INC.
P. O. Box 11326
Phoenix, Arizona 85017
Phone: 602-252-6041

349 Peachtree Hills Ave., N.E.
Atlanta, Georgia 30305
Phone: 404-261-1951

6111 Harry Hines Blvd.
Dallas, Texas 75235
Phone: 214-351-1567

3443 S.E. 31st Street
Portland, Oregon 97215
Phone: 503-232-7051

P.O. Box 3343
Harrisburg, Pa. 17101
Phone: 717-737-0487



P. O. BOX 11326 ☐ PHOENIX, ARIZONA 85017
2949 WEST OSBORN ROAD ☐ (602) 252-6041

SEE THE AMECO SOLID-STATE DISPLAY AT THE NCTA CONVENTION!

BOOTHS 49 through 53, 75, 76

LET'S TOPPLE TAME!

Those of us who depend upon CATV for our livelihood should be alert to the potentially damaging effects of even the most blatant, groundless anti-CATV propaganda.

When TAME (Television Accessory Manufacturers Institute) was formed to hinder CATV progress, its early failure seemed sure — because of the group's strictly mercenary motives. (Public statements by TAME amateurishly admitted that the organization's sole reason for fighting CATV was the feared loss of antenna sales.) Because of its naive and selfish efforts TAME is not seriously regarded by professionals in broadcasting.

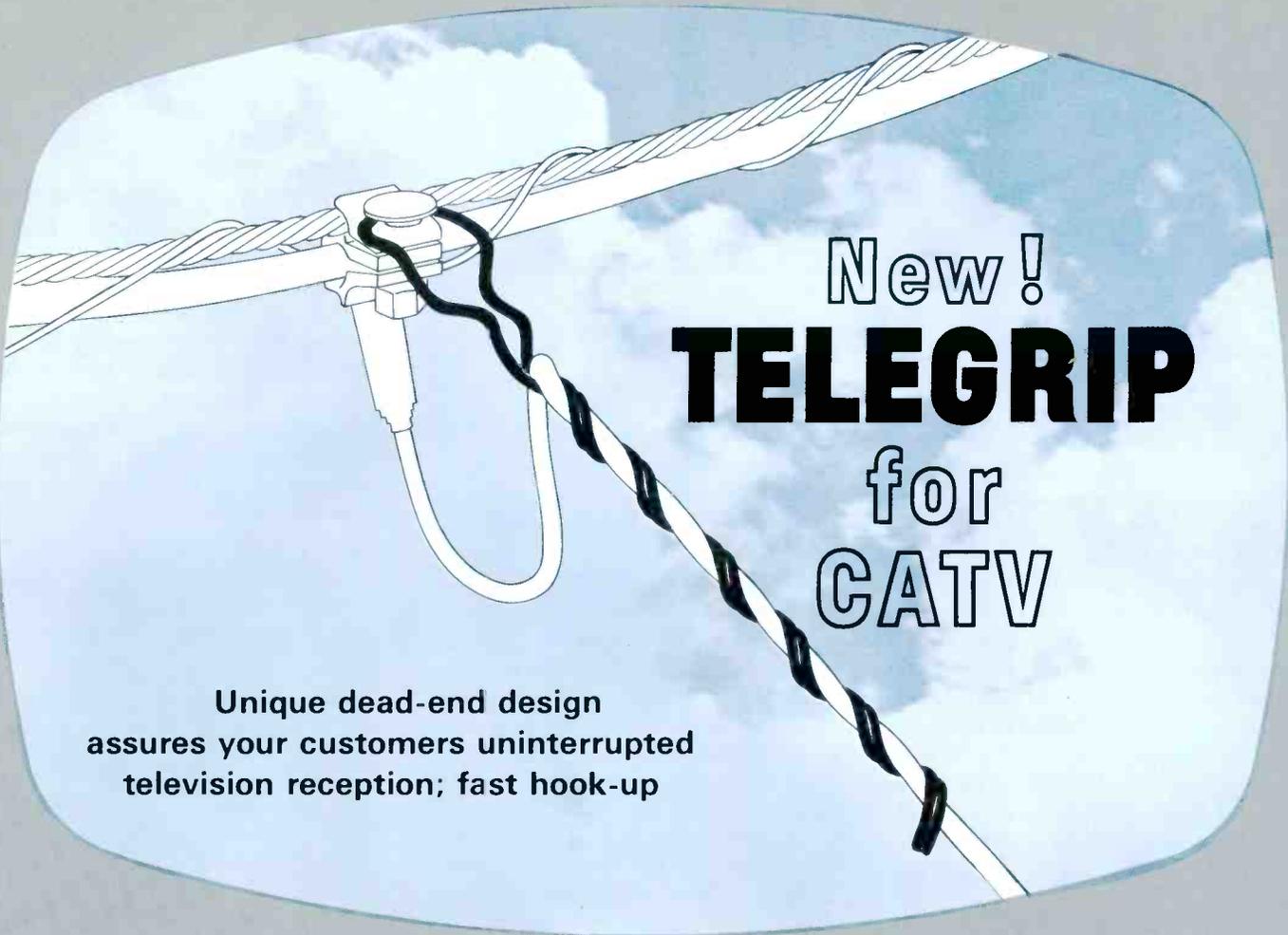
However, TAME is now directing its propagandizing thrust at more impressionable targets: the officials of city governments. A strong attempt is being made to raise doubts and to flatly discredit community antenna television among the people who must decide on franchises. (TAME advises "every city in America to protect the interests of its citizens by postponing action on all pending CATV franchise applications until fundamental jurisdictional and policy problems . . . have been resolved by the FCC, the Congress, State Legislatures and regulatory bodies and courts.")

In the "open letter to American cities" dated May 10, 1965, TAME's publicity agency refers to "excessive rate demands" and states that its FCC petition "will lead to a federal court test of whether CATV systems are 'public utilities' or 'common carriers'." The following significant quotation is also taken from the letter to city officials: "We also strongly urge communities to consider first of all if CATV is **needed at all**. It has been found that to get more or better television service communities need not saddle themselves and their citizens with CATV and its substantial installation charges and its ad infinitum monthly charges and possible later conversion to Pay-TV. Many communities have found the answer to inadequate reception lies in translators or in the installation of better antennas."

The TAME letter generously states that the "Institute" will be "glad to answer any questions . . . on our information or views on the many knotty problems posed by CATV." We hope that our industry will soon dispose of the naughty problem called TAME. To this end, we urge system managers and persons engaged in franchise acquisition to scrutinize the activities of TAME. When you observe practices of questionable ethics and legality, try to document the questionable acts. Then contact Bob L'Heureux at N.C.T.A.

There never was enough truth or logic in the TAME "war chest" to cause any serious misgivings among CATV owners. But the other weapons in the antenna sellers' bag of tricks should be disarmed for the good of our industry and the people served by cable TV. Your vigilance and careful observation, when you see TAME at work, may help to hasten the failure of that organization's harmful ill-conceived and self-serving ambitions.

Stan Seale



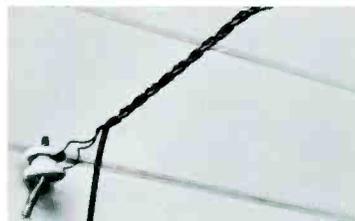
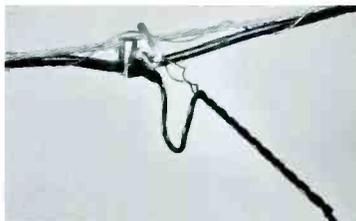
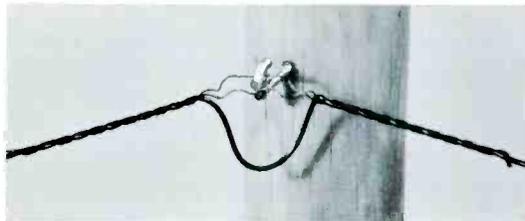
New!
TELEGRIP
 for
CATV

**Unique dead-end design
 assures your customers uninterrupted
 television reception; fast hook-up**

Check these benefits:

- ✓ Economical to buy and apply.
- ✓ Wraps on in seconds without tools.
- ✓ One piece — easy to handle; easy to stock.
- ✓ Made of stainless steel to resist abrasion and corrosion.
- ✓ Only flexible CATV dead-end commercially available.
- ✓ Holds full rated strength of RG-59/U coaxial cable.
- ✓ Won't crush cable or affect its dielectric properties.
- ✓ Holds cable in straight-line suspension; prevents kinking.
- ✓ Twist at end of leg prevents spin-out of cable.
- ✓ Performance proven by extensive laboratory and field testing.

Use TELEGRIP on all three connections — pole, tap, and house



**PREFORMED LINE PRODUCTS
 COMPANY**

5349 St. Clair Avenue • Cleveland, Ohio 44103 • UTah 1-4900 (DDD 216)

600 Hansen Way • Palo Alto, California 94306 • 327-0170 (DDD 415)

**PREFORMED LINE PRODUCTS COMPANY
 CATV Department** 5349 St. Clair Avenue, Cleveland, Ohio 44103

- Please send 4 FREE samples of TELEGRIP. Please send Price List and Product Information Bulletin No. H-39. Please send TELEGRIP Laboratory Test Data.

NAME _____ TITLE _____
 COMPANY _____
 ADDRESS _____
 CITY _____ STATE _____ ZIP NO. _____

News SPECTRUM

PHONE GIANT NOW IN CATV

United Utilities, Inc., the nation's second-largest independent telephone system, has announced the formation of a new subsidiary, *United Transmission, Inc.*, to develop and operate CATV systems within the nearly 500 communities served by United subsidiaries in a fifteen-state area. United's president, P. H. Henson, describes CATV as "a natural adjunct to telecommunications operations. We have the transmission media, the personnel, the tools, the experience and the financial ability to provide dependable, high quality, multi-channel television reception in those areas where reception now is less than perfect or where television programming is not sufficiently comprehensive."

United Transmission, Inc. is negotiating for franchises in several communities in Missouri and for the purchase of existing, privately-owned CATV properties. The growth activity will be accelerated throughout the entire United System within the next several months, Henson said.

Raymond M. Crockett, vice-president of United Utilities, is president of the new corporation. *Leland B. Hallett* is operating vice-president, and *James S. Keller* has been named as systems manager.

STV TO RETURN

Following Superior Court victory on the Pay-TV ban in California, Subscription Television, Inc. officials advised TV & Communications of their plans to resume operations as soon as possible. The decision, by Judge I. H. Perluss, stated that the voter approved ban was unconstitutional, being in violation of the basic freedom of speech. Court ruling came in suit by STV President Pat Weaver against California Secretary of State F. M. Jordon, who refused to grant corporate charter to STV for Pay-TV operations. The ruling was a clear cut victory for Pay-TV.

If, however, the Attorney General of California elects to appeal the case to the state Supreme Court, STV opera-

tions there will be further delayed. And a reversal by the state high court would undoubtedly send the Pay-TV issue to the U. S. Supreme Court for final determination of the constitutionality of the Pay-TV ban.

ILLINOIS CATV HEARINGS TO START

Hearings on Illinois Bell Telephone Co. proposed CATV activities, and opposing petitions have been scheduled for June 17 by the Ill. Commerce Commission in Springfield. Similar proposals are on file from many of the 150 other phone companies in that state.

In favor of its proposal to provide cable service to Illinois residents, Bell Co. representative Ronald Cate stated, "We have the basic communications structure already in existence along with the experience that can provide and maintain the highest quality in distribution systems."

CITY BLOCKS CATV; COURT REVERSES ACTION

The City Council of Brunswick, Ga. received stern rebuke from Glynn County Superior Court as well as a court order to issue a business permit to CATV applicant Rentavision of Brunswick, Inc. The firm, which has an agreement with Southern Bell Telephone Co. for distribution facilities in Brunswick, was denied a business permit by the council, which had also failed to act on franchise applications filed with the city over two years ago.

In handing down the decision, Judge W. D. Flexer pointed out that no franchise was necessary for Rentavision, nor was the proposed telephone company distribution service outside of that firm's franchise agreement with the city of Brunswick. The business license fee, the ruling stated, must be in line with fees for other businesses. The Judge went on to rebuke the city council for its failure to act on pending CATV franchise applications, denying the people the opportunity of choosing, individually, whether or not they want to use such optional monthly service." J. B. Fuqua sought the court action on behalf of Rentavision, in

which his firm, Fuqua Industries, Inc. owns part interest. Rentavision's plans call for 8 signals to be carried on the Brunswick system.

NCTA CONVENTION NEXT MONTH

Cable television operators from all parts of the United States will converge on Denver, Colorado, July 18 through 23 for the 14th Annual NCTA Convention. This year's meeting is being hosted by Bill Daniels of Daniels & Associates of Denver.

Highlights of the week-long conference include the most comprehensive collection of CATV equipment manufacturers, a "well-balanced" program



and top quality entertainment. (See page 22 of this issue for a listing of exhibitors and map of booth locations.) Included in this year's entertainment are such well-known personalities as the King Sisters with the King Family, currently on ABC Television; the Ray Block Orchestra, and TV performer Debbie Drake. Miss Drake will give a lecture and demonstration in connection with the Ladies style show.

NAB SUPPORTS FCC'S POLICY ON CATV

National Association of Broadcaster's Board of Directors recently held a special meeting to determine its stand on the Commission's April 23 proposal to regulate community antenna television (see Special Supplement to "TV & Communications," May 1965). By an overwhelming margin, 34 to 3, the board voted to defend FCC's claims of authority to regulate CATV under present interpretation of the Communications Act.

Although the board indicated it "welcomes" Congress's guidance for the FCC, it expressed dissatisfaction with Rep. Oren Harris's proposed bill

on CATV and national television policy. According to the Board, the bill is not in the public interest as presently written. Several board members expressed the opinion that the Harris bill was "poorly written" and "would favor CATV interests" rather than broadcast interests.

Voting against NAB's supporting decision were Lloyd Sigmon, KMPC, Los Angeles; David E. Adams, NBC-TV, and William B. Lodge, CBS-TV. They reportedly agreed with Commissioner Lee Loevinger's dissenting comments that the commission does not have jurisdiction over CATV without specific authority from Congress.

MIDWESTERN SIGNS WITH JERROLD

Midwestern Cablevision Corporation has contracted with Jerrold Electronics Corp. to build a CATV system in Traverse City, Michigan. The new system will serve a potential of 4800 homes with six signals plus a weather-music channel.

Midwestern Cablevision is owned by the owners of Midwestern Broadcasting Company. Midwestern Broadcasting presently operates five radio stations and two television stations.



Les Beiderman, President of Midwestern Broadcasting (right) signs contract for Kipp Fletcher (standing center) of Jerrold, while Elmer Metz, Jerrold Sales Manager, beams his approval. Contract called for turnkey installation of Jerrold's new transistor CATV system, to serve a potential of 4800 homes in Traverse City, Michigan.

Les Biederman, President of Midwestern Broadcasting, said that the move into CATV was natural for his company. "We consider ourselves to be in the entertainment business," said Mr. Biederman. "Whether we provide that entertainment to our public through cable or transmit it over the air is immaterial."

The Traverse City system will use Jerrold solid state trunkline equipment, installed on a turnkey basis. Services include planning, engineering, installing and checking out the entire system. Jerrold will also train Cablevision

personnel in system maintenance and management.

The system will use semi-flexible aluminum sheathed cable, supplied by Times Wire & Cable Company.

Present plans call for service to begin early in July.

NJCTA FORMED

The New Jersey Community Television Association was formed in early May during a meeting of major CATV system operators in the state.

Mr. J. Phil Franklin, newly elected president of the association, stated that the purpose of the organization will be to further the development of quality television reception in New Jersey by providing subscribers with multi-channel, interference free, crystal clear television reception, via community antenna cable systems. Mr. Franklin pointed out that the rapid growth and acceptance of CATV will demand a closer working relationship with all system owners to insure an orderly growth of the industry and provide the public with quality television, by informing all members of the latest technical developments on CATV equipment and system installation techniques.

Mr. Franklin is Executive Vice President and General Manager of the South Jersey Television Cable Corp., Ocean City, N. J.

Other officers of the newly formed association are: Vice President — Mr. Frank Scarpa, Vice President and General Manager of Garden State Television Cable Corp., Bridgeton, N. J.; and Secretary-Treasurer, Mr. Peter H. Lucin, Vice President and General Manager, Alpine Cable Television, Inc., Norwood, New Jersey.

The association is making membership available to any CATV owner or operator in the State of New Jersey. An associate membership is also available to companies that provide a service or product to CATV operators in the state.

GAVIN DENIES PATENT INFRINGEMENT; SEEKS DISMISSAL OF BLONDER LAW SUIT

Gavin Instruments, Inc. of Somerville, New Jersey, has denied the patent infringement charges made by Isaac S. Blender of Blender-Tongue Electronics in a law suit recently filed against Gavin and Channel Master Corporation of Ellenville, New York in the Federal District Court for the Southern District of New York.

John Perkins, President of Gavin, countered that in the opinion of his company, its parent organization, Advance Ross Electronics Corporation, and its attorneys, there is "no legal substance" to the charges made by Blender against Gavin UHF converters. He added that the Blender patent in suit has a filing date of August, 1953, and that Gavin UHF converters "follow the constructions of UHF tuners and converters known and marketed by others long prior to the Blender patent date."

Gavin has filed a motion with the Federal Court asking that this law suit be dismissed against it. A hearing on this motion is expected to be set shortly.

HOFFMAN ENTERS CATV

Hoffman Electronics Corp. of Los Angeles recently announced its entry into the cable industry, and has reported to stockholders that expansion in the CATV field is planned. First system for the firm will serve a Hollywood Hills subdivision where a franchise has been granted Hoffman. R. B. Cox, company Vice President, has reportedly announced plans for seeking other franchises in that area. Hoffman also announced re-entry into the TV receiver manufacturing business last month, and plans to have color and black and white sets on the market by this fall.

CATV RECOMMENDED TO PUBLISHERS

In a recent speech to the Institute of Newspaper Controllers and Finances Officers, J. W. Diederich urged publishers to look into CATV for possible investment. The Telecable Corp. Vice President and Treasurer said "If your newspaper seeks an unusually profitable avenue of diversification, you should consider entering the (cable) industry."

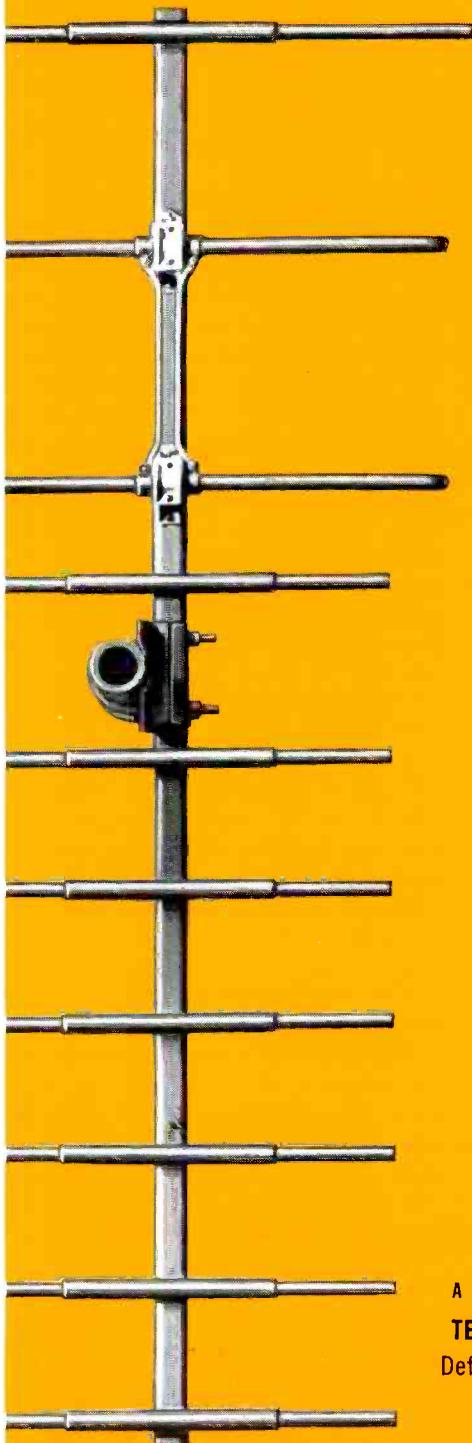
Diederich's informative and detailed description of the cable industry supplied the publishing representatives with comprehensive information concerning their possible entry into system operation.

JERROLD PRESIDENT SUPPORTS HARRIS BILL

In a speech before the Pennsylvania Community Television Association, Inc., Milton J. Shapp, President of The Jerrold Corporation, took a slap at the FCC's stand on CATV. He then went on to voice his support of Representative Oren Harris' bill for CATV regulation.

THE
BUSINESS END
OF

CATV



Quality CATV must start with a high performance antenna. Literally thousands of field installations have proven that TACO Ruggedized Yagis eliminate the high expense associated with repair or replacement of less durable antennas. These significant cost-savings make TACO CATV Yagis your best dollar buy.

HERE'S WHY

- High strength aluminum alloy
- Heli-arc welded construction
- Internal baluns
- Vibration Dampeners
- Foam-filled coaxial feed terminal boxes
- Heavy duty square crossarms

These PLUS FEATURES add up to reliability you can count on under all environmental conditions.

TACO CATV Antennas feature low VSWR and unexcelled front-to-back ratios. A wide choice of performance characteristics is available through 5, 8, or 10 element models, plus the extended capabilities made possible by a broad line of screen reflectors.

Write today for complete technical data.

TACO

A subsidiary of THE JERROLD CORPORATION
TECHNICAL APPLIANCE CORPORATION
Defense & Industrial Products Division
SHERBURNE, N. Y.

"It seems to me" he said, "that the FCC is actually trying to revive the Divine Right of Kings." According to Shapp, three kinds of kings are being protected by the FCC: broadcasters, the reigning kings; CP holders, to whom he refers as Crown Princes; and "airs apparent", those who have not yet even applied for a channel that has been allocated.



Shapp took sharp issue with the commission stand on two counts: The proposed 15 day before and after non-duplication ruling, and the position on four channel markets. He insisted that the broadcast industry needs no protection from CATV, citing the FCC's own Seiden report to support his viewpoint.

Pointing out the need for more than four channels in a market, Mr. Shapp said, "We in the CATV industry know how insatiable the public is in the matter of choice of programming. We started with three channel systems and have worked our way through five channel systems, seven channel systems, nine channel systems and now 12 channel systems, with more to come."

Speaking of the Harris bill, Shapp said "This regulation will cause us some difficulties." He explained, "We won't be able to make our own decisions as freely as we did before . . . Specifically we might object to his (Harris) plan to authorize the FCC to obtain full information from CATV systems."

In spite of this, Shapp lauded the pending legislation, saying, "But I like the spirit of Mr. Harris' bill. He's not out to protect the broadcasting industry or to punish the CATV industry."

Shapp told the CATV group that he thought that regulation of CATV will ultimately help the industry. "Regula-

tion will give us an equal status with broadcasters," he said. "It will dispel once and for all the erroneous notion that the CATV industry is temporary and not quite legal."

In conclusion Shapp stated that the Harris bill is "designed to give the people of the United States the greatest possible variety of educational, public service, and entertainment television programming. "We in the CATV industry must take our proper place in the communications picture to achieve this goal."

CANADIAN CONVENTION HELD

The National Community Antenna Television Association of Canada held its Ninth Annual Convention and Trade Show May 11-14 in Toronto, Ontario. Described as a "success", the meeting featured panel discussions on "More Subscribers Through Auxiliary Services" and on Government Regulation; technical presentations; a sales and marketing workshop; exhibits of products, and professional entertainment. Highlight of the 4-day meeting was a field trip to Guelph to view a parabolic antenna in operation. This system uses the tropo-scatter method of antenna reception for CATV.

Featured speaker for the event was W. R. Wilson, Technical Adviser, Board of Broadcast Governors. His luncheon address was entitled "The Future" of U.H.F., Satellites, Color T.V. Other addresses included one on "Testing Techniques For All Band Systems" by I. Switzer; and a talk by R. M. Sayliss, Hewlett-Packard Canada Ltd., on "Time Domain Reflectometry."

Exhibitors were Ameco Inc., Phoenix, Arizona; Benco Television Associates Ltd., Rexdale, Ontario; Canada Wire & Cable Co., Ltd., Toronto; Delta Electronics Ltd., Rexdale; Entron Canada Limitée, Magog Quebec; Jerrold Electronics (Canada) Ltd., Toronto, and Northern Electric Co., Lachine, Quebec.

OUR COVER

This month's cover shows the large parabolic antenna system at Guelph, Ontario. Attendees of the Ninth Annual National Community Antenna Television Association Convention in Canada had opportunity to visit the system and view its operation first-hand.

A story on tropospheric scatter reception via parabolic antenna appears on page 32.

REMINDER:

Deadlines for Comments, Replies

June 25 — Comment deadline on Part I and Paragraph 50 of Part II, Notice of Inquiry and Proposed Rule Making for the Commission to assume jurisdiction and regulate non-microwave CATV systems.

July 1 — Comment deadline on frequency allocations and technical standards of proposed rules to control licensing of microwave stations used to relay television signals to CATV systems.

July 26 — Reply comment deadline on Part I and Paragraph 50 of Part II, Notice of Inquiry and Proposed Rule Making relating to jurisdiction and regulation of CATV (non-microwave).

August 3 — Reply comment deadline on frequency allocations and technical standards for microwave stations serving CATV systems.

TEST OF NEW MEXICO LAW BY CATV OPERATOR

A court test is underway to determine constitutionality of a New Mexico statute to outlaw out-of-state cable distribution of telecasts which include advertisements prohibited within that state. Subject of the New Mexico law is the prohibition of advertising prices for eyeglasses.

Plaintiffs in the suit filed with U. S. District Court are Midwest Video Corp., operator of a system in Clovis and Black Hills Video Corp., a common carrier serving the Clovis system. Facing alleged violations of statute prohibiting advertising of eyeglass prices, a criminal offense, the two firms requested appointment of a three-judge court to test constitutionality of the statute. This request, along with NCTA's request to file a brief in the matter, were granted.

The NCTA document claims that the statute in question should not be held as pertaining to simultaneous re-distribution of broadcast signals. The NCTA brief points out the extreme financial burden and operational difficulties in censoring such prohibited commercial statements from the signals being re-distributed by means of cable.

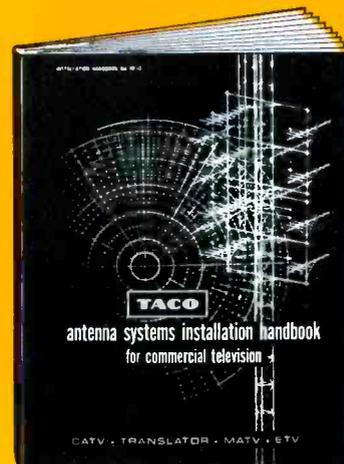
NEW NAB CHAIRMAN OWNS CATV SYSTEM

Newly elected chairman of the National Association of Broadcasters, John F. Dille, Jr., holds part interest in Greater Lafayette TV Cable Company, Inc., Lafayette, Ind. Dille, President of Communicana Stations and Vice Chairman, TV Board, was unanimously elected to be the working chairman for NAB. He will be based in Washington.

Elected without opposition, Dille is scheduled to take over position June 26. He replaces outgoing chairman

SOLVED!

antenna installation problems



A MUST for Antenna Systems Engineers, Contractors and Installers.

TACO now offers a unique approach to the installation of antennas and antenna arrays... from the simplest to the most complex configurations. Each is illustrated and detailed... Antenna Installation Made Easy!

Handbook Contents Include:

- Single or Mixed Antenna Installations.
- Horizontal or Vertical Stacked Arrays; up to 16-bay.
- Array Adjustability; fixed, elevation, azimuth, or elevation and azimuth.
- Electrical Stacking Dimensions; for antennas 30-500 mc.
- Stacking Line Systems.
- Skewing Information for Increased Beamwidth.
- Co-channel Interference Elimination.
- Graphs and Charts—To eliminate complex computations.
- Weight, Thrust and Windload Data.
- Over 200 Illustrations, Diagrams and Photographs.

Write today on Company Letterhead for your copy — free to all qualified system engineers, contractors and installers. Available to all others at a publication cost of \$10.00.

TACO

A subsidiary of THE JERROLD CORPORATION
TECHNICAL APPLIANCE CORPORATION
 Defense & Industrial Products Division
 SHERBURNE, N. Y.

Willard Schroeder who has suggested that Dille be made Chief Executive Officer to aid President Vincent T. Wasilewski.

In addition to ownership in the Lafayette system, Dille owns 53% of Communicana and 15% of WKJG-TV-AM in Ft. Wayne.

ADVISORY GROUP ON TV POLICY PROPOSED

Representative Oren Harris (D-Ark.) has proposed the establishment of an advisory group on national television policy. His proposal came in an address to the Association of National Advertisers in Chicago.

Reviewing his call for a national television policy, the Chairman of the House Commerce Committee noted the FCC's attempt to deal "in the public interest" with CATV and broadcast functions. Harris commented, "these two words alone (public interest) constitute too narrow and too insecure a basis for the commission to regulate this important resource (television)." He added, "Television is too vital a medium to be regulated by seven men, or any number of men, without the guidance provided by Congress by means of a law which seeks to spell out reasonably specific and concrete national television policy goals and reasonably specific and concrete ways of reaching these goals."

Harris then proposed an advisory group be formed to aid Congress in

establishing the policy. "The purpose of the advisory group," he said, "would be to generate and evaluate alternative methods" in order to accomplish the goals. The Representative further proposed that the advisory group consist of one member of each segment of the TV industry. He emphasized that it would not represent a single segment of special interest group.

Members of the advisory group, Harris suggested, would come from networks, affiliates, CATV systems, advertisers, station representatives, ETV's and independent stations. "Public members" such as communications lawyers, engineers and a few persons who have had no previous connection with any segment of the industry, should be included on the committee Harris suggested. Chairman should come from the last group he said.

OPEN LETTER FROM TAME

Television Accessory Manufacturers Institute (TAME) has submitted an "Open Letter to American Cities" urging all cities to postpone action on pending CATV franchises. The letter also proposed that the cities determine "if CATV is needed at all," and suggested that communities use translators or better antennas.

"We strongly urge every city in America to protect the interests of its citizens," TAME said, "by postponing action on all pending CATV franchise applications." They also urged state

public utility commissions "to institute an immediate study of their possible responsibilities to regulate CATV."

TAME further suggested that "communities need not saddle themselves and their citizens with CATV" because of "possible later conversion to Pay-TV." In addition, the organization of antenna manufacturers commented that they would be "glad" to give their views "on the many knotty problems posed by CATV."

SYSTEMS PURCHASE

Jack Kent Cooke, president of Jack Kent Cooke, Incorporated, Beverly Hills, Calif., has announced the purchase of additional CATV systems. American Cablevision Company, a division of that corporation has completed negotiations for Cable, Inc. systems and three systems owned by Fortnightly Corporation.

The Cable, Inc. systems are located in Brainerd and Rochester, Minnesota and serve over 9,000 subscribers. Purchase price was two million five hundred thousand dollars. Paul J. Smitt is president of Cable, Inc.

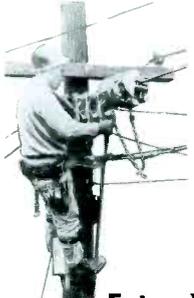
CATV systems owned by Fortnightly Corporation are located in Clarksburg and Fairmont, West Virginia, serving over 15,000 subscribers. Cooke also announced that work on converting the Clarksburg and Fairmont systems to a 12 channel capability would begin immediately after the closing date of the purchase.

With the addition of these systems, American Cablevision company now owns 19 systems serving over 67,000 subscribers.

ZENITH PAY-TV

Climaxing almost three years of the successful Hartford, Connecticut, test of Zenith's "Phonevision" system of subscription television, Zenith has filed a petition with the Federal Communications Commission requesting that this new broadcast service now be authorized on an extended nationwide basis and made available to all operating or proposed TV stations as a supplemental broadcast service.

Joseph S. Wright, President, reiterated the Company's position that "the time has come to give subscription TV a chance to go to the market place so that viewers throughout the country can have the opportunity to choose for themselves the economy and convenience this box office entertainment distribution system makes possible."



Is he doing his best ?

Well informed employees will earn more money for you . . . and more for themselves. Your engineers, management people and technicians will be better equipped for their jobs when you make sure that each one reads TV & COMMUNICATIONS

Make an investment in knowledge! Enter a group subscription now for your key men.

Enter Your Group Subscription Order Now!

	3-10	11-20	21 or more
Subscriptions	Subscriptions	Subscriptions	Subscriptions
1 Year	\$4.00 ea.	\$3.75 ea.	\$3.50 ea.
2 Years	7.75 ea.	7.00 ea.	6.00 ea.
3 Years	11.00 ea.	10.00 ea.	8.00 ea.

Include names and mailing addresses on separate sheet of paper.

Firm

Address

City/State

TV & COMMUNICATIONS • P.O. Box 63992 • Oklahoma City, Okla.

If you bought aluminum sheath co-ax before, you probably bought seamless; don't make the same mistake twice!

Of course you thought you were buying the best. At the time, maybe you were. Perhaps you bought before Plastoid abolished metal torture in cable-making. That was a couple of years ago when we introduced our exclusive UHF-weld.

We did away with the swedging—or drawing out process—that distorts the shape of seamless with thick spots and thin, that weakens metal structure, leaves seamless cable vulnerable to breakage and fissures that leak radiation, let moisture in to deteriorate your dielectric.

Plastoid introduced cable made from precision-rolled strip-aluminum. This is curved up and around the polyethylene foam core, then seam-welded by beams of ultra-high frequency radiation. The process is so fast that the plastic core never heats, yet the welded seam is stronger than

the parent metal as proved by ASTM cone tests. Uniformity and concentricity are assured, yet the basic metal structure remains strong and flexible. Because our manufacturing process lets us test every step of the way, you are assured of the ultimate in strength and reliability.

You buy aluminum sheath cable to protect your long term CATV investment. With Plastoid welded aluminum co-ax, you get the last word in lasting strength and performance. And you get a wide choice of sizes, jacketed and unjacketed. Use our .75-inch cable (TA-8) for your head-end. The .50-inch co-ax (TA-5) is ideal for trunks; specify .412-inch (TA-4) for feeders. Footage is certified. All reels are sweep-tested. The engineering "specs" are unsurpassed. For full details and pricing information, call, wire or write.

PLASTOID
CORPORATION
42-61 24TH STREET / LONG ISLAND CITY 1, N. Y. / ST 6-6200

TEXAS CATV

Cable television operators in Texas have completed their Fifth Annual State Convention in Dallas, Texas with events and topics "covering most every phase of our fast growing industry" according to Convention Director John Campbell, CAS Manufacturing.

Starting off the conference was a Pre-Convention Technical School held by Vic Nicholson, Jerrold.

The program officially got underway Wednesday, May 19 with a golf tournament at the Dallas Country Club. Following the tournament, Associate Members of the Association held a Grand Opening of the Exhibit Hall located in the Marriott Motor Hotel.



Tommy Moore and Ed Dart, Jerrold.

Thursday was the big day in Dallas. The First General Assembly was held with President Frank M. Dowd calling the conference to order. Dallas County Judge Lew Sterrett welcomed the participants.

First speaker of the Convention was Wally Briscoe, Administrative Assistant to NCTA. His topic was "CATV Crisis". After a coffee break, Texas Senator Tom Creighton, John Campbell and Richard Graig, Association Legal Counsel discussed "State Affairs." Dale Milford, President, Weather Warnings, Inc., Dallas, followed.



At Davco's booth which featured a live CCTV and video tape recorder demonstration are (L to R) Kim Sanford, William J. Morrow, Jim E. Davidson, John Andrews, John B. Hill, and Jerry Porter.

Luncheon came next with guest speaker Bruce Merrill, NCTA Chairman and President of Ameco, Inc.

When the general assembly resumed, Bill Daniels, President, Daniels & Associates, Denver spoke on "A Prognostication of CATV Future." He was followed by Ben J. Conroy Jr., and Jack R. Crosby, both directors of NCTA.

Stanley M. Searle, Editor of TV & Communications and Cable Television Review was next at the speaker's rostrum. His topic was an informative look at "CATV Promotions and Advertising." Gail Oldfather, Economy Finance Corporation, Indianapolis, came next.



Discussing latest technology are (L to R) Ernest Hicks, Vumore, Laredo; S. L. Spencer, Viking Tech-Rep, Dallas, and Arthur Baum, Viking Cable Co.

The Association then held election of officers for the coming year. In

Bill Melin with Frank Lee in CAS's booth.



Mrs. Hurshel Tyler (L.) with Mr. and Mrs. Jim Hudson at R. H. Tyler Co's. Weather Scan display.



(L-R) President-elect Peter Kempf, Lufkin, Tex., Dwight W. Martin, guest speaker and vice president of Royal Street Corp., Director of BMI, Director NAB Committee on CATV. John Campbell, v.p. elector NAB, Member NAB TV Board and Chairman of Association and Convention Chairman and outgoing president Frank M. Dowd.



charge of the Nominating Committee was Seibert Worley, Shamrock. Newly elected officers are Peter Kempf, Lufkin, as president; John Campbell, Vice President; John Mankin, Secretary-Treasurer. Directors named were Charles Williams, Graham; Bob Edins, Brownwood, and Mel Gilbert, Snyder.

Don Mehl, Collins Radio discusses new microwave rules for CATV.



Bill Karns, Bob Cowart and John Hill pose for TV & Communications camera.



Seibert Worley, Shamrock, Texas presents gavel to Frank Dowd (R.).

An annual banquet was held with guest speaker Dwight W. Martin, Vice President of Royal Street Corporation and a Director of NAB. Mr. Martin told members, "I would urge . . . our industries continue their fine efforts to reach a workable solution to our differences. and I am still hopeful that a statesman-like approach to our problem on the part, both of your industry leaders and those who are equally concerned in the broadcasting industry, may result in finding a solution that will permit both of us to continue our growth and our service to the public."



(L-R) Jerry Conn, Craftsman, Randy Wright, Rep-Tronics and Wally Briscoe, NCTA.

The final day featured a panel discussion with Don Nelson, Ameco; Preston Spradlin, CAS; Vic Nicholson, Jerrold and Winfield Bemis, SKL, as panel members. Don Mehl, Collins Radio spoke on Microwave Rules. An Open Forum with Seibert Worley presiding closed out the sessions.

Associate members who participated and exhibited their products included Ameco, Inc., Andrews Tower, CAS Manufacturing, Collins Radio, Craftsman Electronics, Davco Electronics, Entron Inc., Fort Worth Tower, Jerrold Electronics, Kaiser Aerospace Electronics, Nelson Electric, Rep-Tronics, Rome Cable Division of Alcoa, TeleMation, Viking Cable Company and Weather Scan.

Fred Garza, Dallas; Bill Grant and Leon Brodsky both of Plastoid; Randy Wright, Rep-Tronics, and Glenn M. Rhode of Channell Co., Glendora, Calif. pose in Rep-Tronics booth.



If you find our weld, you're lucky; buy it and you've got an aluminum sheath cable that's stronger than seamless.

Our exclusive Plastoid weld is nearly invisible. Engineers have been known to argue about where it is. This tiny seam is worth discussion. It marks the strongest aluminum sheath made today.

Plastoid co-ax is welded by the same process that is used in making high-pressure boiler tubes, hydraulic lines, steam condensers and helicopter rotor shafts. UHF-welding—but only UHF welding does the trick, does away with the metal stress and strain that comes with making seamless cable.

Welding lets Plastoid begin manufacture with precision rolled aluminum strip. Since every inch can be tested for uniformity, cable walls will have the same uniform thickness throughout. When the strip is curved around the poly-foam core, the

sheath is sealed by a radio-frequency weld that makes the seam stronger than the parent metal. Since there is no pulling and hauling, as there is in the making of seamless, the extra strength of Plastoid cable is completely preserved to protect your CATV investment.

Just to make sure, we test and re-test. Highly sophisticated eddy current tests at the end of Plastoid's production line verify the tests that we begin with. Finally, we sweep-test every reel.

Your best test, however, is installation in your CATV system. Here's where the all-but-invisible Plastoid weld will pay off for you. It means strength, uniformity, lasting value. For detailed specifications and special pricing information please contact Plastoid today.

PLASTOID
CORPORATION

42-61 24TH STREET / LONG ISLAND CITY 1, N. Y. / ST 8-6200

FOCUS

... On Progress

New CATV Company

American Cable Television, Inc. was recently formed as a parent organization coordinating the efforts of *Kentucky Cable TV* in Kentucky, *Tri-Town Video* in New York state, *Decatur Cable TV* in Alabama and *Valley Telecasting* in Arizona and southern California.

In early May regional managers of the different systems met at *Ameco, Inc.*, Phoenix, to discuss CATV problems and plan for future months. Those attending were *Homer Harmon*, Valley Telecasting; *Helmut Dieter*, Decatur Cable TV; *Lex Walters*, Kentucky Cable TV and *Charles Wigutow* representing Tri-Town Video. *Donald R. Atwell*, American Cable Television's new president conducted the forum.

Atwell was systems manager for *H & B Communications Corp.*, 1960-1965; chief systems engineer for *Jerrold Electronics Corp.*, 1957-1960; chief engineer for *Williamsport TV Cable Company*, 1953-1957, and field engineer for *Jerrold Electronics*, 1950-1953.

Blonder-Tongue Names Advertising Manager

John Loog has been named advertising manager of *Blonder-Tongue Laboratories, Inc.*, in an announcement



made by *Harry A. Gilbert*, Vice President and general manager. Prior to joining *Blonder-Tongue*, Loog was di-

rector of development at *Connecticut Educational TV Corp.* He was also head of production, visual aids and commercials for *B-F Production, Inc.*, N.Y. Loog was national advertising manager for *RCA Sales Corp.*, Camden, and was a partner in *Loog, Katz and Barrington Advertising*, in Philadelphia.

Systems Construction Expands

Systems Construction Company, of Dallas, Texas, a *Viking* affiliate, has announced the promotion of *Joey Pate* to Chief Draftsman and Technical Director. Systems Construction has expanded its facilities with additional offices in Dallas.

Jerrold Hosts CATV Trip to Paris-Rome

A planeload of happy CATV operators and their wives has returned from a "Roman Holiday" trip to Rome and Paris courtesy of *Jerrold Electronics*. *Sel. Kremer*, *Jerrold Advertising Manager* reports that 130 persons made the trip. Mr. Kremer planned and coordinated the European visit.

Highlights of the trip included an audience with the Pope, a visit to the Sistine Chapel, Versailles, the Arc de Triumphe and the Folies Bergere. The group ate in such restaurants as *Giggi Fazai*, *Pavillon Henri IV* and *Maxims*.

Travis T. Arnold, *Fort Smith (Arkansas) TV Cable Company*, said, "The trip was a dream come true for me and my wife." Adding "I don't think this trip could have been improved upon one iota—it just couldn't have been better."

John P. Threadgill, *TV Enterprises, Ltd.*, *Brady, Texas*, commented, "The trip was fabulous. Really well planned." And *Edward Glockner*, *Multi-Channel Cable Co.*, *Portsmouth, Ohio* added that "I've never seen anything so friendly, so at ease, or so well planned as this trip."

The trip also provided an opportunity for CATV operators to exchange ideas and "talk shop" among themselves according to *Jerrold* representatives. "I had a chance to discuss business in person with other operators,"

Mr. Arnold said, "and I picked up some good tips about promotional campaigns." Mr. Threadgill said he "Picked up many new ideas about the cable business in general." CATV operators took advantage of the trip, according to Mr. Glockner, to "discuss the problems of CATV, especially those of growth and franchise seeking."

C-Cor Appoints Reps

C-COR Electronics, Inc., *State College, Pa.* has announced the appointment of three new sales representatives according to *James F. Lastra*, Marketing Manager.

Added to the rep staff of the video amplifier manufacturer were *Paratech*, *Seattle, Washington*, covering *Washington and Oregon*; *Vanguard Associates, Inc.*, *Melbourne, Florida*, covering the southeastern U.S. and *Electronetic Systems, Ltd.* in *Canada*.

TelePrompTer Promotes Two

Donald L. Guthrie and *Robert H. Symons*, *TelePrompTer Corporation* CATV system managers, have been advanced to newly created positions in the New York headquarters of the company's *Community Antenna Television Division*.

Mr. Guthrie, manager of *TelePrompTer's* largest system at *Elmira, N.Y.* for the past two years, has been named *Director of Marketing* for the CATV division. Mr. Symons, manager at *Liberal, Kans.* since 1960, becomes *Director of Budgets*.

Caywood C. Cooley, Jr., vice president in charge of the division, said both appointments are in keeping with the growing administrative demands of *TelePrompTer's* CATV operations, which have had a growth rate of more than 20 per cent annually for the past five years.

"We have been taking a series of steps to improve the scope and effectiveness of our management, and we are pleased to be able to promote men such as Mr. Guthrie and Mr. Symons from within our own organization," Mr. Cooley said.

Mr. Symons is being succeeded as manager at *Liberal* by *Leo O. Levisay*, formerly chief engineer of the system there. Mr. Guthrie's replacement at *Elmira* will be announced at a later date.

Salesmobile #15 Added

William Gibson of *Great Falls, Montana* has joined the staff of *Ameco, Inc.*, *Phoenix, Arizona* as a tech-rep. He will be operating *Salesmobile*

If you're buying a "turn-key" CATV system, make them prove you're getting Plastoid welded aluminum sheath co-ax; it's stronger than seamless!

It's the same whether you buy or build. If something should go wrong later, recourse can be difficult indeed. So you want to start with the very best.

With Plastoid welded aluminum sheath co-ax, you get the ultimate in strength and lasting performance. We're years ahead in cable-making.

Plastoid bends precision rolled aluminum strip into a uniformly concentric sheath, then welds it together by means of UHF-radio frequencies. This way we avoid crystalizing the metal grain structure, avoid the pushing and pulling that goes with making seamless cable and that makes for thin spots, thick spots—points of potential breakage.

Plastoid's UHF weld is actually stronger than the metal in the rest of

the sheath; yet the seam is the same thickness as the wall.

Further, the exclusive Plastoid manufacturing process permits unequalled lengths—up to a mile for our TA-5 half-inch trunks and TA-4 .412-inch feeders, 2,000 feet for TA-8 three-quarter inch head-end cable. Less need for splicing where moisture can penetrate, radiation leak out.

As color TV comes in, you owe it to yourself to know that your CATV system is built for technical stability. Whether you are buying a "turn-key" system, or building your own, we will be glad to provide you with complete information about the finest aluminum sheath cable made today. It's UHF-welded. It's by Plastoid. Exclusively. Write, wire or call us today.

See us at the NCTA Convention, Booth #25

PLASTOID
CORPORATION
42-61 24TH STREET / LONG ISLAND CITY 1, N. Y. / 51 6-6200

No. 15, covering Idaho, Montana and Wyoming.

Before coming with Ameco, Inc. his background of experience included drafting in layout and design, working



for the Colorado Televents Co., Swanson-Rink, Automatic Control and Equipment Co. and the Frank Mayer Engineering Co., Denver, Colorado, and the Electric Information Co., Broomfield, Colorado.

Toeller, Kanen Join Miratel

William S. Sadler, executive vice president of Miratel Electronics, Inc. in New Brighton, Minn. announces that *William J. Toeller* and *George C.*



Toeller



Kanen

Kanen have joined the executive staff of the company.

Mr. Toeller, now general manager at Miratel, formerly managed manufacturing operations and plant facilities for Entron, Incorporated in Maryland. He also held administrative positions with Thompson Ramo Wooldridge Corporation.

In joining Miratel as sales manager, Mr. Kanen has full responsibility for the expanded marketing program of the company. He also comes from former positions with both Entron and Thompson Ramo Wooldridge, including offices of regional sales manager and marketing manager.

Sparkman Joins Viking

Viking announces the addition of *J. C. Sparkman* to the staff of Field Engineers and Technical Representatives.

Mr. Sparkman was formerly with North West Electronics in Spokane, Washington servicing CATV systems

in the Pacific North West territory and before that with A & J Distributors.

Mr. Sparkman resides in Lewiston, Idaho and will work the Pacific North West territory.

Beisswenger Elected to Jerrold Board of Directors

Robert H. Beisswenger, Executive Vice President of The Jerrold Corporation, has been elected to the Corporation's Board of Directors.



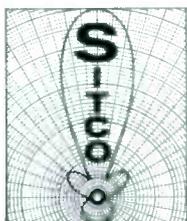
Beisswenger joined Jerrold Electronics, a subsidiary of The Jerrold Corporation, as General Sales Manager in 1961. Within the next four years he was named General Manager, then Vice President and General Manager of Jerrold Electronics, and most recently Executive Vice President of The Jerrold Corporation.

Cummings is Kaiser Sales Engineer

Alvin S. Cummings has joined *Kaiser Aerospace Electronics* as Sales Engineer. He will be responsible for customer service in the CATV market. Cummings has more than ten years' experience in CATV management and field engineering in the U.S. and Canada. And, has constructed and operated a community antenna television system serving 850 subscribers. Since sale of his business interests in Canada, Cummings has been active in CATV field engineering.

Ameco Goes to Canada

Ameco, Inc. Phoenix, Arizona has established a fully equipped Ameco salesmobile operation in Canada. Ameco reports it has become increasingly aware of the need for an energetic organization with the necessary willingness and ability to develop solid-state equipment sales in Canada.



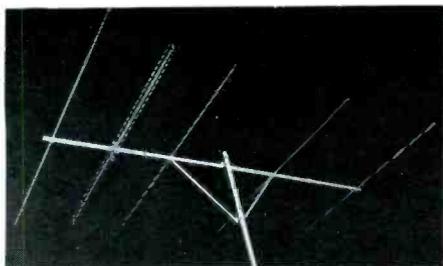
Excellent For Black and White Ideal for Color

SITCO MD SERIES VHF ANTENNAS

QUALITY SOLID BAR CONSTRUCTION

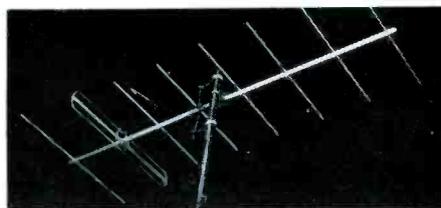
SOLID BAR means strength and ruggedness no rolled tube antenna can match.

Finest engineered performance obtainable for hotel, hospital, and other multi-set installations.



MODEL MD-5—Three conductor dipole construction affords excellent step up matching to a 300 ohm line and load. Its band pass satisfactorily covers with flat response the entire 6 mcs. channel width making it IDEAL FOR COLOR. Channels 2 to 6.

Ask, also, about SITCO SHD Heavy Duty Quads and Yagis. Free catalog.



MODEL MD-8—Three conductor dipole construction affords excellent step up matching to a 300 ohm load. Standing wave ratio measures less than 2/1. Its band pass satisfactorily covers with flat response the entire channel for which designed. IDEAL FOR COLOR. Channels 7 to 13.

SITCO Antennas

10330 N. E. MARX ST. • P. O. BOX 7691
PORTLAND, OREGON 97220

The company is extending the salesmobile service into eastern Canada for the benefit of system operators in that area. The salesmobile will be operating out of Toronto, Canada and will serve the Province of Ontario and part of Quebec.

Albert De Boer was named Canadian Technical Representative for Ameco and operates Salesmobile No. C-1 out of Toronto, Canada.

Before joining Ameco De Boer was an engineering technician for Litton Systems of Canada, working on inertial guidance systems, and spent nine years as a technical representative for Van Der Heem of Holland.

Telecable Selects Two

Telecable, Inc., a Washington state CATV corporation announces the addition of two men to its staff. *Frank M. Cohee* will join *Telecable*, in June after graduation from Harvard Business School. His position with *Telecable* will be Assistant to the President, *Richard Evanson*. Cohee will spend most of his time in marketing and control.

Lloyd C. Hannah joined *Telecable* this month as an engineering administrator. Hannah has had considerable radio experience including the position of chief engineer for KOL of Seattle, Washington and KELA, Centralia, Washington in addition to considerable CATV experience.

Kentucky Association Elects

F. L. Dupree of London, Ky., was elected president of the newly organized Kentucky Association of CATV recently in Lexington, Ky. Other officers elected were *Bill Betts*, Maysville, First Vice President; *John Gerrard*, Frankfort, Second Vice President; *Lex Walters*, Glasgow, Secretary, and *Tom Gullett*, Winchester, Treasurer.

Viking Names Reps

Edwin T. Baldrige, former Chief Engineer of Technical Operations at Alpine Cable, Alexandria, Louisiana, has joined Viking, Hoboken, New Jersey as Technical Sales Representative in the States of Alabama, Arkansas, Louisiana and Tennessee.

John L. Leavy, Oneonta, New York has joined Viking, from Oneonta Video. At Viking Mr. Leavy will join the staff of Technical Representatives and will be responsible for servicing customers in New York State and the New England States with new cable and equipment. □

TV & COMMUNICATIONS

KAISER QUALITY WORKS FOR YOU TODAY AND TOMORROW



**KLE-20
All-Band Line Extender**

NEW!

from Kaiser CATV

- A product of Kaiser research, engineering and quality control, the KLE-20 all-band Line Extender is a new high-output ALL SILICON transistorized Line Extender designed for service in CATV systems with up to 12 Channel TV and full FM band capability.
- The high output level and 20 db gain together with the convenient cable powering through input or output connectors, permits its use in a variety of feeder line applications.

The rugged hermetically-sealed aluminum housing is designed to effectively seal out moisture — whether mounted overhead, under-ground or under water.

KMD Marker/Detector

Fully portable, with 20 db more gain than simple diode detectors, the KMD Marker/Detector is ideal for use in amplifier alignment, return loss measurement, and cable testing and system maintenance. \$75 net delivered.

"We'll see you at NCTA Convention, (Booth 5, Denver Hilton) where you'll see more proof of how Kaiser quality works for you."

Gay C. Kleykamp,
Marketing Manager



KAISER CATV

KAISER AEROSPACE & ELECTRONICS

PHOENIX ELECTRONICS PLANT
P. O. BOX 9098 • PHOENIX, ARIZONA 85020
PHONE (602) 943-3431

14th ANNUAL NCTA CONVENTION

July 18-23, 1965

Denver Hilton Hotel, Denver, Colorado

EXHIBITORS

ABERDEEN COMPANY
Booth 1

ALPHA WIRE CORPORATION
Booth 74

AMECO, INC.
Booths 49,50,51,52,53,75,76

AMPHENOL CABLE DIVISION
AMPHENOL BORG ELECTRONICS
Booth 24

ANACONDA WIRE & CABLE COMPANY
Booths 39 and 40

ANDREWS TOWER, INC.
Booth 72

ARMADILLO MANUFACTURING CO.
Booth 80

BENCO TELEVISION ASSOCIATES, LTD.
Booth 22A

BLONDER-TONGUE SYSTEMS, INC.
Booth 26

BURNUP & SIMS, INC.
Booth 41

CABLE TELEVISION REVIEW
Booth 46

CAS MANUFACTURING COMPANY
Booths 59 and 60

CINE-SONIC SOUND, INC.
Booth 67

COLLINS RADIO COMPANY
Booths 65 and 66

CRAFTSMAN ELECTRONIC
PRODUCTS, INC.
Booths 29 & 30

DYNAIR ELECTRONICS, INC.
Booth 73

ELECTROLINE TV EQUIPMENT, INC.
Booth 33

ENTRON, INC.
Booths 54,55,56,57

FORT WORTH TOWER COMPANY
Booths 81,82

JERROLD ELECTRONICS CORP.
Booths 8,9,10,11,12,13,14

KAISER AEROSPACE &
ELECTRONICS CORPORATION
Booth 5

LENKURT ELECTRIC COMPANY, INC.
Booth 31

NATIONAL CONSUMER SERVICES
Booth 23

NATIONAL THEATRE SUPPLY COMPANY
Booths 43 and 44

THE PLASTOID CORPORATION
Booth 25

PHELPS DODGE ELECTRONIC
PRODUCTS CORPORATION
Booth 58

JACK PRUZAN COMPANY
Booth 4

ROHN SYSTEMS, INC.
Booth 36

ROME CABLE DIVISION OF ALCOA
Booths 68,69,70

SONY CORPORATION OF
AMERICA
Booth 71

SPENCER-KENNEDY LABS., INC.
Booths 61 and 62

STATE LABS, INC.
Booth 37

SUPERIOR CABLE CORPORATION
Booths 47 and 48

T.C.A. TOWER COMPANY, INC.
Booth 32

TAPE-ATHON, INC.
Booth 34

TELEMATION, INC.
Booths 2 and 3

TELESYSTEMS CORPORATION
Booths 6 and 7

TIMES WIRE & CABLE COMPANY
Booths 77,78,79

TV & COMMUNICATIONS
Booth 46

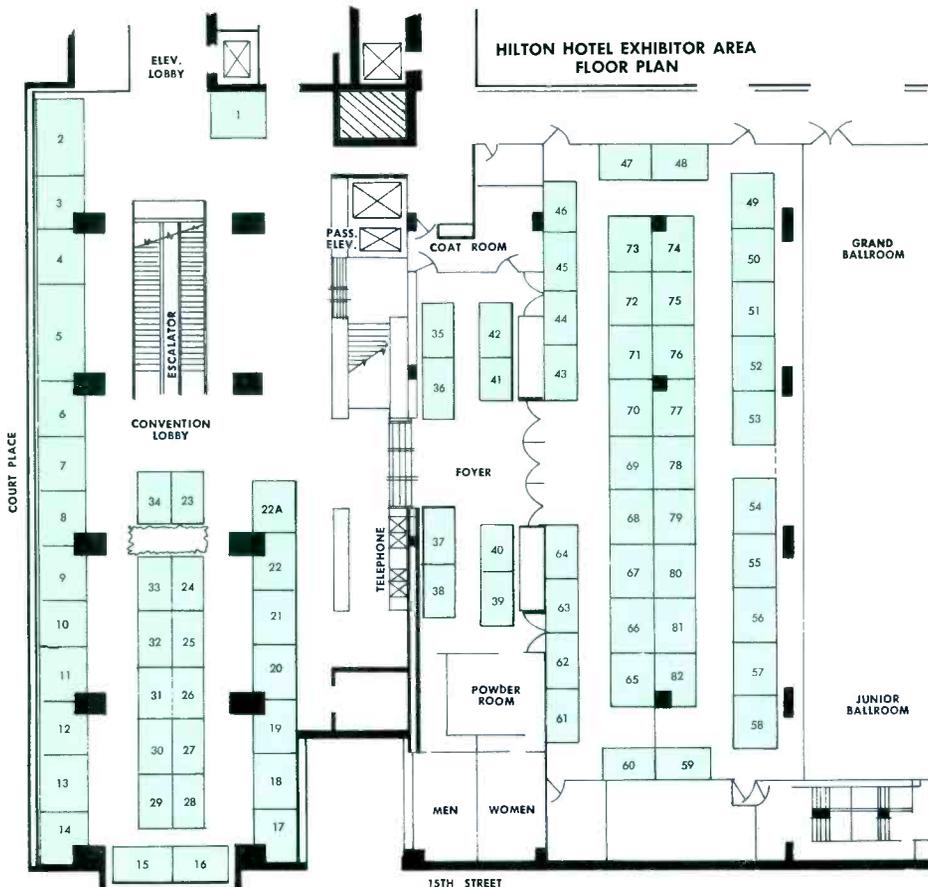
TV GUIDE
Booth 35

UTILITY TOWER COMPANY
Booths 63 and 64

VIKING CABLE COMPANY
Booths 17,18,19,20,21

WEATHER-SCAN
Booth 28

WESTBURY CATV CORPORATION
Booth 27

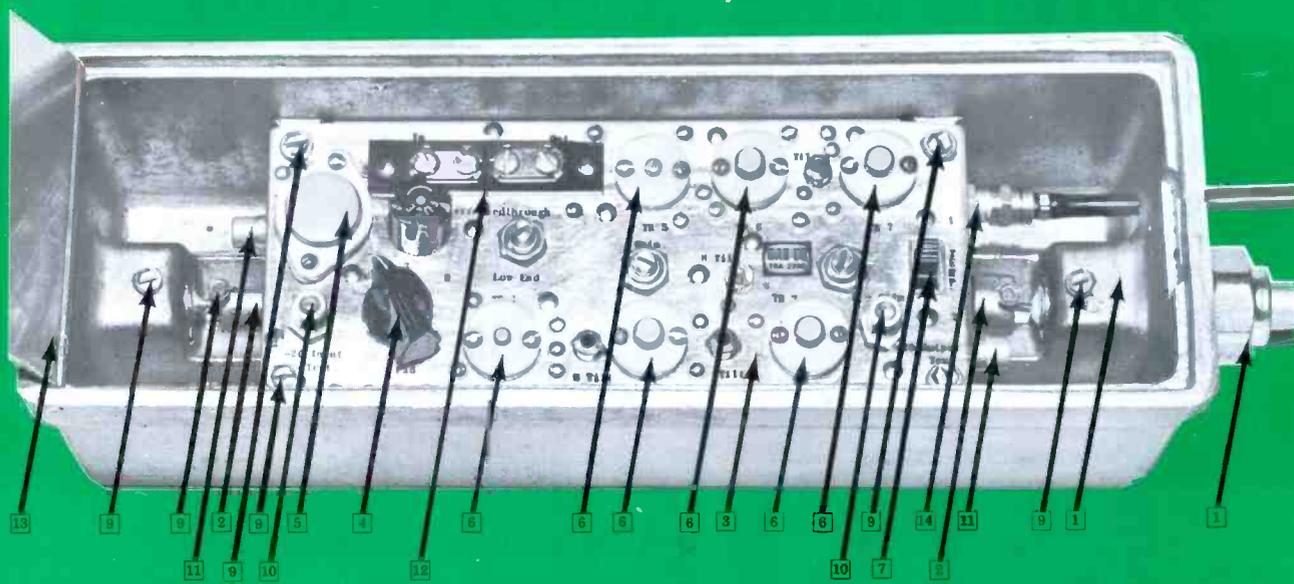


TRA-217

TRA-220S

TRA-220D

Your Biggest Value in CATV Transistorized All-Band Amplifiers



- 1 Requires no connector. Adjustable, waterproof entrance fitting provides greater strength, reduces wear, and readily adapts to 0.412-, 1/2-, and 3/4-inch aluminum cable.
- 2 Unique "floating" feature of CAS center conductor permits temperature expansion or contraction to move conductor into and out of housing with no strain or stress on the positive internal connection.
- 3 Thick copper chassis assures proper heat transfer from transistors to housing.
- 4 Attenuator on input adjustable for 0, 3, and 6 db positions.
- 5 150-watt power transistor protects other transistor circuits from surges and provides positive regulation of DC voltage with AC input changes of 22 to 35 volts.

- 6 Exclusive CAS heat dissipating mounts for silicon (RF) transistors are an important factor in the high output capabilities of the TRA-220D.* Because they are not soldered in, transistors can be removed easily for testing or replacement.
- 7 Switch provides two positions for temperature compensation.
- 8 Aluminum housing is installed on messenger strand with brackets as shown.
- 9 Transistor chassis module is inserted in housing, already in place on the messenger strand, and mounts to the housing with eight 1/4-inch hex screws.
- 10 Both input and output are provided with 20 db test points ("F").

- 11 Parallel "F" fittings provide for easy bench sweeping and testing when the chassis is removed from the housing.
 - 12 Like all CAS transistor gear, the TRA-220D is line powered with 22-35 volts AC. The tab shown provides positive connection to AC source, either at input, output, both or feed-through.
 - 13 Folding door opens downward to provide easy access to chassis module and controls and is provided with a keyed lock.
 - 14 Distribution amplifier output (with output levels up to 50 db) (all band), feeds a 2- or 4-way splitter.
- *Pat. applied for on components which provide this and other features.



The TRA-220D is specifically engineered to meet the most rigid environmental requirements of CATV systems. It is a deluxe 28 db high-level CAScader and distribution amplifier in a weatherproof, cast-aluminum housing. Unique features of the TRA-220D, illustrated above, make it the leader in its field.

Also packaged in the 220 housing are two other CAS line amplifiers designed to meet specific CATV needs. The TRA-217 is a 24 db line amplifier for applications not requiring the high performance specifications of the TRA-220D. The TRA-220S is identical to the TRA-220D except that it is a CAScader only.

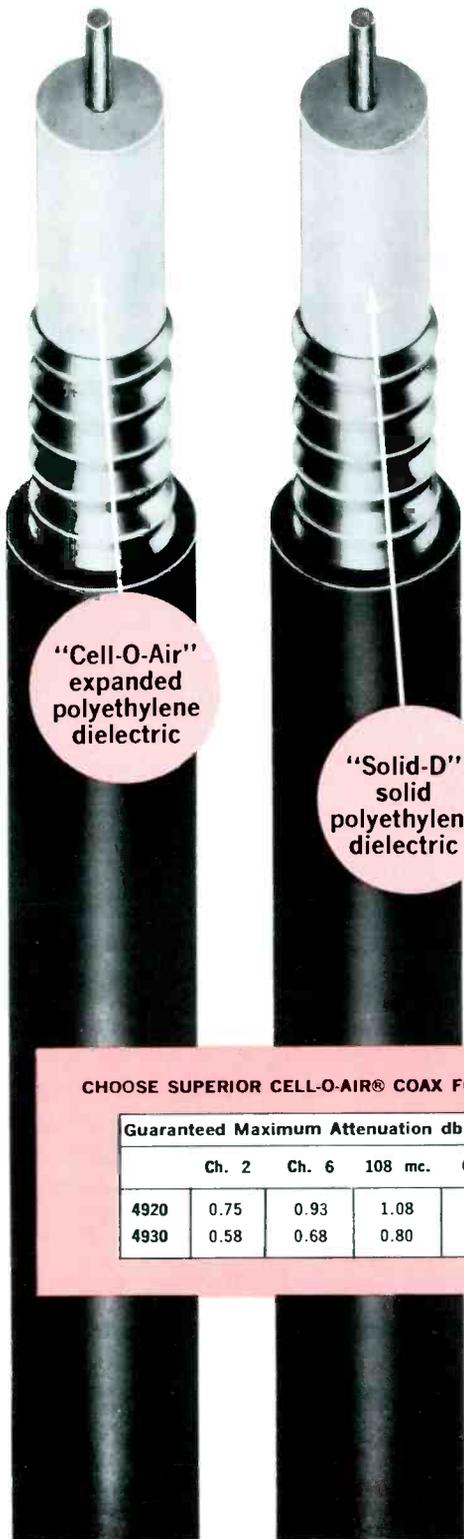
Write today for complete specifications and prices of the TRA-220D, TRA-220S and TRA-217.

SEE US AT NCTA SHOW, BOOTH 59-60

Our New Mailing Address: P. O. Box 47066, Dallas, Texas
Telephone: Area Code 214 / BL 3-3661



Performance Unmatched by Any Other CATV Cable!



SUPERIOR Coaxial Cable

with "Coppergard"

- Long-term transmission stability
- Sharp, clear pictures without interference
- Full spectrum capability

Superior Coaxial Cable with Coppergard offers you performance unmatched by any other cable. That's because it's quality controlled from raw material through every phase in the manufacturing process.

*Every Reel Sweep-Tested
Over Its Full Length*

SEE US AT NCTA SHOW, BOOTH 47-48

CHOOSE SUPERIOR CELL-O-AIR® COAX FOR AERIAL PLANT

CHOOSE SUPERIOR "SOLID-D" COAX FOR BURIED PLANT

Guaranteed Maximum Attenuation db/100' at 68° F					
	Ch. 2	Ch. 6	108 mc.	Ch. 7	Ch. 13
4920	0.75	0.93	1.08	1.41	1.57
4930	0.58	0.68	0.80	1.07	1.20

Guaranteed Maximum Attenuation db/100' at 68° F					
	Ch. 2	Ch. 6	108 mc.	Ch. 7	Ch. 13
6020	0.74	0.91	1.05	1.38	1.55
6030	0.56	0.67	0.79	1.05	1.19

For detailed information and prices, write



**SUPERIOR
CABLE**

SUPERIOR CABLE CORPORATION • HICKORY, NORTH CAROLINA

THE CATV INDUSTRY

Its History, Nature and Scope

By Robert D. L'Heureux
NCTA Legal Counsel



PART II

The Communications Act of 1934, as Amended, Constitutes a Complete Occupation of the Field of Governmental Control of Radio and Television Broadcasting.

The fact that the Congress, although it has studied the matter at length, has not legislated specifically with respect to community antennas⁷ and that the Federal Communications Commission has ruled that it has no jurisdiction over community antennas as "common carriers" under Title II of the Communications Act of 1934, as amended, and that it cannot regulate community antennas as broadcasting stations under Title III of the Act,⁸ does not mean that the states have not been excluded from the exercise of general regulatory authority in the field.⁹ The authorities are clear that Congress has fully occupied the field of radio and television and that if Congress has not provided for regulation there can be none.

There can be no doubt that the regulation of television broadcasting was, in the contemplation of Congress, embraced within the authority of the Federal Communications Commission by the Communications Act of 1934, as amended.

47 U.S.C. Sec. 151, et. seq. In addition to the legislative history and the breadth of the sections defining its purpose and scope of application, the comprehensive definition of radio communications in the Act and the Act's administrative history are conclusive on the question. In its Report discussing S. 3825, 73rd Cong. (1934), later enacted as the Communications

Act of 1934, the Senate Committee on Interstate and Foreign Commerce said, "The purpose of this bill is to create a Communications Commission with regulatory power over all forms of electrical communications . . ." S. Rept. 781, 73rd Cong., p. 1 (1934). See also Report of the House Committee on Interstate and Foreign Commerce, H. Rept. 1850, 73rd Cong., p. 3 (1934). Thus, for example, Sections 2(a), 3, and 301 were enacted, and read as follows:

"Sec. 2(a). The provisions of this Act shall apply to all interstate and foreign communication by wire or radio and to all interstate and foreign transmission of energy by radio . . . 47 U.S.C. Sec. 152(a)

Sec. 3. For the purpose of this Act, unless the context otherwise requires—

(a) 'Wire communication' or 'communication by wire' . . .

(b) 'Radio communication' or 'communication by radio' means the transmission by radio of writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities apparatus, and services (among other things, the receipts, forwarding, and delivery of communications) incidental to such transmission. 47 U.S.C. Sec. 153(b).

Sec. 3(o). It is the purpose of this Act, among other things to maintain the control of the United States over all channels of interstate and foreign transmission. 47 U.S.C. Sec. 301."

The legislative history of the Federal Radio Act and of the Communications Act is a valuable source of material in aid of a determination of the national public policy with respect to broadcasting. It contains a clear indication of what the legislators thought should be the purposes of the Act and of the rights and duties of all concerned (the Government, the public and the broadcasters). The bulk of the legislative history relates to the Radio Act of 1927 as this was novel legislation conductive of debate. Many of the legislators had thoroughly acquainted themselves with the problems they were facing and the debate indicates deep concern with protecting and furthering

the local interests of the area which they represented. The Communications Act of 1934 did not enjoy such a foundation, but it should be borne in mind that the Congress was confronted with an immediate problem relative to the Radio Act of 1927, i.e., that of remedying certain chaotic conditions that existed in the radio broadcast field at that time, whereas the problems giving rise to the Communications Act were more administrative than substantive. Therefore the basic legislative history underlying radio law relates to the Radio Act of 1927. The motivating purpose of the Communications Act of 1934 was not to change the substance of the existing legislation. Therefore the legislative history of the Radio Act was in effect carried over to the Communications Act of 1934, since both acts reveal the same purpose and thus the reasoning behind and purpose of. The Radio Act remains substantially unchanged in the present legislation. There is little or no legislative history in connection with the Communications Act so far as the provisions germane to this argument are concerned. Mr. Rayburn of the Committee on Interstate and Foreign Commerce,¹⁰ in setting out the general purposes of the Bill established the relationship between the Radio Act of 1927 and the Communications Act of 1934 as follows:

"The Communications industry has been subject to disjointed regulation by several different agencies of the Government . . . The report of the Interdepartmental Committee on Communications and the hearings before both the House and Senate Committees have shown the great need for the creation of one central body vested with comprehensive jurisdiction over the industry . . . it is the primary purpose of this bill to create such a Commission armed with adequate statutory powers to regulate all forms of communications and to consider needed additional legislation. The bill is largely based upon existing legislation and

⁷ The Senate Committee on Interstate and Foreign Commerce in 1960 recommended and reported to the Senate S. 2653, a Bill to give the Commission licensing jurisdiction over CATV. See footnote 5 *supra*. This Bill was recommended by the Senate to the committee for further study. May 17-18, 1960.

⁸ Report and Order of Federal Communications Commission in Docket No. 12443, *op. cit.*, p. 7.

⁹ Notwithstanding that it is argued that the states are excluded from regulating CATV because of Federal occupation of the field, it is not contended here that municipal or state authorities may not impose reasonable use or permit taxes on CATV, and reasonable conditions governing the use of streets and alleys, etc.

¹⁰ H.R. No. 1850, 73rd Cong., C.A. of 1934; (1 RR 10:241).

INTRODUCING SKL

Transistor Amplifiers

SKL MODEL 263 TRANSISTOR LINE EXTENSION AMPLIFIER

FEATURES

- ALL-CHANNEL
- CABLE-POWERED-AC
- GAIN AND TILT CONTROLS
- BUILT-IN CABLE COMPENSATION
- HIGH OUTPUT CAPABILITY • LOW CURRENT

DESCRIPTION

The SKL Model 263 Line Extension Amplifier is a new high output, transistorized amplifier with full 12-channel bandwidth. It is designed for use as a line extension amplifier in any wide-band distribution system. The nominal gain is 22 db at 216 mc, with a 7 db slope across the 54 to 216 mc band. Manual gain and tilt controls complete the compensation for the average cable losses encountered in feeder lines. Low noise and cross-modulation allow the Model 263 to be used even at the most remote ends of a distribution system. AC cable powering provides flexibility in designing new and in extending or updating existing distribution systems. The unit is housed in a rugged, waterproof, cast aluminum box (pictured above) with a captive cover, and may be mounted on the messenger or on a pole, with a bracket.

SPECIFICATIONS

ELECTRICAL

1. **TYPE:** Transistor, wide-band line extension amplifier
2. **BANDWIDTH:** 54-216 mc
3. **FREQUENCY RESPONSE:** 54-216 mc with 7 db slope
4. **GAIN:** 22 db +2, -1 db
5. **GAIN CONTROL:** Manual, 7 db range
6. **TILT CONTROL:** Manual, 4 db range, 54 mc
7. **NOISE OUTPUT:** -24 dbmv, independent of gain setting
8. **CROSS-MODULATION:** 0.05% maximum at 43 dbmv, independent of gain setting (SKL two-carrier method)
9. **SYSTEM CHARACTERISTICS (12 CHANNELS):**

Recommended Gain	20 db
Recommended Output	+41 dbmv
Carrier-to-Noise Ratio	65 db
Cross-Modulation	0.1%
10. **OUTPUT MONITOR:** -26 db
11. **POWER:**
Line Voltage: 21-25 volts, 60-cycle AC

Current Consumption: 100 MA, maximum
Feed: Via either cable connector.

12. **CONNECTORS:** Type N, matched impedance

MECHANICAL

13. **HOUSING:** Waterproof cast aluminum box
14. **SIZE:** 10 x 4 $\frac{3}{4}$ x 3 $\frac{3}{4}$ overall
15. **WEIGHT:** 3 lbs., 1 oz.
16. **MOUNTING:** Hung on messenger or pole-mounted with a bracket

POWER SUPPLY REQUIRED

One SKL Model 284 Regulated Remote AC Power Supply will operate up to 12 Model 263 amplifiers
One SKL Model 285 Unregulated Remote AC Power Supply will operate up to 6 Model 263 amplifiers

ACCESSORIES

One male and one female Type N cable connector
One monitor output cable connector (SKL 400-2A)

SKL Model 265 Transistor Trunk Amplifier

FEATURES

- HIGH CASCADABILITY
- EXCLUSIVE SKL TEMPERATOR*
- LOW CURRENT — 150 MA AC
- CABLE POWERED — AC
- GAIN AND TILT CONTROLS
- WATERPROOF HOUSING AND CONNECTORS
- COMPACT — RUGGED
- COMPETITIVELY PRICED

DESCRIPTION

The SKL Model 265 Trunk Amplifier is an all new high output, wide-band transistorized trunk amplifier with full 12-channel response. Its built-in, exclusive SKL TEMPERATOR*, gain and tilt controls, AC cable-powering and power regulation adapt it to both new system design and modernization of existing systems. Model 265 with TEMPERATOR* compensates for all losses in 20 db of cable over the band of 54 to 216 mc from -20°F to $+120^{\circ}\text{F}$. Low noise output and low

cross-modulation permit unusually high cascading. In long line applications more than 50 Model 265 amplifiers may be cascaded.

Model 265 is housed in a rugged, waterproof, cast aluminum box (pictured left) with a captive cover; it may be mounted on the messenger or on a pole, with a bracket. The unit is equipped with special sealed waterproof Type N connectors.

*Patents pending

SPECIFICATIONS

ELECTRICAL

1. **TYPE:** Transistor wide-band trunk amplifier
2. **BANDWIDTH:** 40-220 mc
3. **FREQUENCY RESPONSE:**
Amplifier only: ± 0.5 db, 40-220 mc
With Temperator: Matches 20 db of cable within ± 0.5 db, 54-216 mc, -20° to $+120^{\circ}\text{F}$.
4. **GAIN (Amplifier only):** 21 ± 1 db, maximum
5. **GAIN CONTROL:** Manual, 6 db
6. **TILT CONTROL:** Manual, ± 1 db
7. **NOISE OUTPUT:** -28 dbmv, independent of gain setting
8. **CROSS-MODULATION:** 0.05% at 46 dbmv, independent of gain setting (SKL two-carrier method)
9. **SYSTEM CHARACTERISTICS (12 CHANNELS):**
Recommended Gain 20 db
Recommended Output $+33$ dbmv
Carrier-to-Noise Ratio 61 db
Cross-Modulation 0.008%
10. **TERMINAL IMPEDANCES:** 75 ohms

11. **MONITORS:** Input and output, -26 db
12. **POWER:**
Line Voltage: 21-25 volts, 60-cycle AC
Current Consumption: 150 MA, maximum
Feed: Via either cable connector
13. **CONNECTORS:** Waterproof, Type N, matched impedance

MECHANICAL

14. **HOUSING:** Waterproof cast aluminum box
15. **SIZE:** 10 x 4 $\frac{3}{4}$ x 3 $\frac{3}{4}$ overall
16. **WEIGHT:** 3 lbs., 11 oz.
17. **MOUNTING:** Hung on messenger or pole-mounted with a bracket

POWER SUPPLY REQUIRED

One SKL Model 284 Regulated Remote AC Power Supply will operate up to 8 Model 265 amplifiers

ACCESSORIES

One male and one female Type N cable connector
One monitor output cable connector (SKL 400-2A)

Visit us at the NCTA Show, Booths 61-62,
Denver Hilton Hotel, July 18-23

Call or write for literature and prices.



SPENCER-KENNEDY LABORATORIES, INC.

1320 SOLDIERS FIELD ROAD • BOSTON, MASS. 02135 • TEL. 617-254-5400

except for the change of administrative authority does not very greatly change or add to existing law; . . .¹¹

In discussing the objective of securing "fair and equitable distribution" of radio facilities Mr. White, then Representative White of Maine, stated: "We have recognized in that compromise provision that it is not the right of a community to demand a station, not a right of a particular state to demand a station but it was the right of the entire people to service that should determine the distribution of those stations; . . ."¹²

During the debates on an amendment to the Radio Act of 1927, Senator Walsh made the following remarks:

"I understood the purpose of the House Amendment was to equalize radio power and radio stations. It seems to me that the real end and object to be attained is the equalization of radio service. While the number of stations and the amount of radio power are factors in determining the equalization of service it seems to me that what the commission ought to try to work out is a plan that will give the people of all parts of the country an opportunity to listen to and receive the best radio programs and to have the very best of radio service."¹³

As Senator Pittman in the same vein commented: "I just wanted to call attention to the fact that the whole basis of the bill is public service to the listeners in."¹⁴

Also illuminating in this area are the thoughts of the members and attendants of the Third and Fourth National Radio Conferences, the final two of a series of four held between 1922 and 1925.

At the close of this conference it was stated in the final recommendation to the Secretary of Commerce that:

"The conference has been impressed with the necessity of placing broadcasting upon such a basis that it may be of continued service at all times of the year and all times of the day, its signals reaching with proper intensity and clarity all classes of people. We must have at all times a special thought for the owner of small sets and for those whose homes are far from great centers of population. The true mission of broadcasting will not be realized until its service is available to each one of them at all times as it is now available in our larger cities."¹⁵ (Emphasis supplied)

Thus from the foregoing it can be seen that the legislators envisioned a nation-wide policy with respect to radio (and now television) broadcasting, and realized the necessity for uniformity both in its determination and in its application.

This concept of an integrated and exclusive federal policy over communications was reiterated in February of 1934, by President Roosevelt in his message to the Congress:

"In the field of communications . . . there is today no single government agency charged with broad authority.

"The Congress has vested certain authority over certain forms of communications in the Interstate Commerce Commission, and there is in addition the agency known as the 'Federal Radio Commission'."

"I recommend that the Congress create a new agency to be known as the 'Federal Communications Commission', such agency to be vested with the authority now lying in the Federal Radio Commission and with such authority over communications as now lies with the Interstate Commission—the services affected to be all of those which rely on wires, cables, or radio as a medium of transmission."¹⁶

The declared purpose of the Communications Act of 1934, as amended, is to control all the channels of interstate radio transmission and make available to all the people of the United States a Nation-wide communications service. By Section 1 of the Act it is the clear duty of the Commission to devise through its rulemaking authority, the basis upon which "all the people of the United States" may receive service. Thus, Congress envisioned a policy to promote the "public interest" in enjoying maximum service. Congress did not intend that its exclusive policy be freighted with, or subject to, the "eroding process" of varied and perhaps conflicting provisions of state enactments and policies. Neither the states nor the courts can place obstacles to the accomplishment and execution of the "full purpose and objectives" of Congress.¹⁷

The policy of the Communications Act is to make available as far as possible to all the people of the United States, radio and television reception regardless of where the receiver may be located.

Section 1 of the Communications Act sets forth its purpose:

"For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide and world-wide wire and radio communication service . . . there is hereby created a commission to be known as the 'Federal Communications Commission', . . ."

Section 307(b) is one of the more significant policy provisions of the Act and serves as a guidepost for the Commission:

"In considering applications for license, and modifications and renewals thereof, . . . the Commission shall make such distribution of licenses, frequencies, hours of operation, and of power among the several states and communities as to provide a fair, efficient, and equitable distribution of radio service to each of the same."

It will be noted that this section is the codification of the Congressional objective to assure the development of a non-discriminatory broadcast service.

The Act contains further evidence of the Congressional intent to extend the

benefits of radio, in this instance in recognition of probable development of uses and devices that were unknown at the time of enactment. To this end Section 303 provides that: ". . . the Commission from time to time, as public convenience, interest, or necessity requires, shall — (g) study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest; . . ."

One of the earliest Supreme Court decisions in this area was the landmark case of *Federal Radio Commission v. Nelson Brothers Co.*¹⁸ *Nelson Brothers* involved a situation wherein the Federal Radio Commission had licensed a station in Indiana to operate on a frequency (a modification of an existing license) theretofore assigned to two other stations in Illinois thus terminating the licenses of the latter two. The plaintiffs alleged that this action was arbitrary and capricious. The Federal Radio Commission was governed by the Federal Radio Act wherein the assignment of frequencies was under a system of quotas to various established zones as distinguished from the present standard of 307(b), 47 U.S.C. Sec. 307(b). The Court held that the FRC had the power to license a station in an under-quota state on a frequency previously assigned to a station in an over-quota state (the situation in *Nelson*) so long as the FRC did not act in an arbitrary or capricious manner. The Court recognized that, "by Section 9, (Radio Act) as amended in 1928, the Congress declared that the people of all the zones 'are entitled to equality of radio broadcasting service, both of transmission and of reception,' . . ." ¹⁹ The Court then held that the FRC had the power to delete existing stations to achieve this equality. The FRC must consider the equities but that in this case the FRC had not acted arbitrarily or capriciously.

In 1950, the Federal Communications Commission restated the basic proposition as set forth in *Nelson Brothers* couched in phraseology parallel to that in the present Section 307(b). Thus, the FCC in a proceeding before it had the occasion to define the word "efficient" as used in Section 307(b), 47 U.S.C. Sec. 307(b).²⁰

The Commission stated:

"The word as used in Section 307(b) means that the frequency be used so as to provide service to the

11 Id. at 10:243.

12 68 Cong. Rec. 2580, January 29, 1927 (House).

13 69 Cong. Rec. 5293, March 24, 1928 (Senate).

14 68 Cong. Rec. 4111, February 18, 1927 (Senate).

15 Third National Radio Conference, Oct. 6-10, 1924, pages 13, 14.

16 H.R. Rep. No. 1850, 73rd Cong., 2d Sess. 1-2 (1934).

17 *Hill v. Florida*, 325 538 (1945).

18 289 U.S. 266 (1933).

19 289 U.S. 266 at p. 279 (1933).

20 In re Application of Grand Haven Broadcasting Co., et al., 14 FCC 1351; 3 RR 1313, (1949).

Would you have accepted these two lengths of CATV cable?

ROME UNIFOAM

DA 190

ROME CABLE DIVISION OF ALCOA

SIZE 412" 75 ohm
TYPE UNF Plain
DATE 4/13/65

R. F. Cable Inspection Report

FO No 70319
CO No _____
CUSTOMER _____

TRACE NUMBER	LENGTH	TEST	CORONA	INSULATION	CAPACITANCE	ATTENUATION				V _p	Z ₀	RETURN LOSS	
						meas	pf	meas	meas				meas
A070A11	1 1217	ok	ok	ok	20300	16.7	12.0	.988	18.2	1.5	80.6	75.5	29
B070A12	1 1219	"	"	"	"	"	12.0	.986	18.2	1.49	REJ. @ 68 MC	→ 24	
A070A18	1 1218	"	"	"	"	"	12.0	.986	18.3	1.50			29
B070A13	1 1220	"	"	"	"	"	12.0	.985	18.3	1.50	REJ. @ 127 MC	→ 22	
A070A9	2 1217	"	"	"	"	"	12.3	1.01	18.3	1.50			32
B070A14	1 1218	"	"	"	"	"	12.1	.995	18.4	1.51			26
B070A19	1 1214	"	"	"	20200	16.6	12.0	.988	18.3	1.51	50.4	76.2	27
B070A15	1 1215	"	"	"	"	"	12.0	.988	18.4	1.51			28
A070A15	1 1220	"	"	"	"	"	12.1	.993	18.3	1.50			28
B070A16	1 1218	"	"	"	"	"	12.0	.986	18.3	1.50			30
B070A17	1 1200	"	"	"	20000	16.7	11.9	.992	18.1	1.51			29
A070A5	1 1210	"	"	"	20000	16.6	11.9	.985	18.1	1.50	81.0	75.6	30
A070A17	1 1228	"	"	"	"	"	12.2	.995	18.4	1.50			28
A070A14	1 1220	"	"	"	"	"	12.1	.993	18.3	1.50			27
A070A20	1 1220	"	"	"	"	"	12.1	.993	18.2	1.49			30
B070A11	1 1213	"	"	"	"	"	12.0	.940	18.3	1.51			26

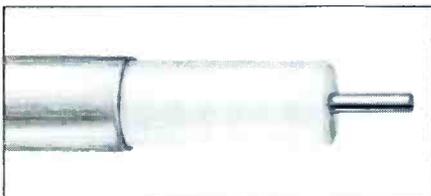
Remarks

File Orange R Ralston Maycock DA

Inspector *[Signature]*

They're only a little off spec. You might not ever have noticed it. But we did. So these two lengths of Rome Unifoam® cable were never shipped. You see, when it comes to producing uniformly high quality CATV cable, we're good. But we're not perfect. Not yet anyway. That's why we examine every reel we make. And why we still have to reject a few lengths.

For example: This test sheet lists routine factory tests and inspection on 20



This is the Rome Unifoam CATV cable used in the majority of installations: unjacketed, unvarying, unbeatable.

reels of .412" 75 ohm Rome Unifoam CATV cable. Length B070A12 was rejected by the inspector because it failed to meet our quality standard on the 20-220 mc return loss test. The note on the test sheet explains that the 'scope traced showed a spike at 68 mc that was only 24 db down. Our acceptance standard requires that all cable be at least 25 db down at any frequency, 20-220 mc.

Cable for tomorrow's system: The inspector also rejected length B070A13 because the 'scope display showed a return loss spike at 127 mc that was only 22 db down, and our quality standard is 25 db minimum, 20-220 mc. What does this prove? It proves that Rome Unifoam quality is uniform across the entire 20-220 mc spectrum, not just TV channels 2-13. If it isn't, it won't get past our inspectors. This cable

is ready to handle tomorrow's added program services anywhere in the spectrum. Where else can you buy cable like this?

Rome Unifoam can save you money. Can you save a few repeaters in your system by buying cable with lower attenuation? Can you save time and worry if you know your cable lengths are essentially identical mechanically, dimensionally, and electrically? If so, get acquainted with Rome Unifoam CATV cable. Ask for our fact-filled folder on the subject. Just call your nearest Rome/Alcoa representative or write Rome Cable, Division of Alcoa, Dept. 4065, Rome, N.Y. 13440.

*Rome Unifoam — Trademark of Rome Cable Division of Alcoa.

Rome Cable
DIVISION OF ALCOA

SEE US IN DENVER, CATV CONVENTION, JULY 18-23 AT BOOTHS 68, 69, 70

greatest population and area possible, and that it be allocated with appropriate consideration being given to the interference (electrical) problems involved and the character of and existing service in the area to be served in order to produce the maximum service, both transmission and reception, to the communities and states." (Emphasis supplied)²¹

The United States Court of Appeals for the Third Circuit construing certain sections of the Communications Act has held that the states are precluded from any regulation of television because, "the language (of the Act) is so all inclusive as to leave no doubt that it was the intention of Congress to occupy the television broadcasting field in its entirety." *Allen B. DuMont Laboratories, Inc. v. Carroll*, (3rd Cir. 1950), 184 F. 2nd 153, *Cert. den.*, 340 U.S. 490. The court in that case concluded its opinion, in which it held that a regulation of the Pennsylvania State Board of Censors requiring that all motion picture films intended to be broadcast by television in Pennsylvania be submitted to a board for censorship purposes, was invalid by stating:

"We think it is clear that Congress has occupied fully the field of television regulation, and that the field is no longer open to the states, Congress possessing the constitutional authority to effect the result."

C. J. Community Services, Inc. v. Federal Communications Commission, (D. C. Cir. 1957), 246 F.2d 660, is in point. This was a proceeding against an organization operating an unlicensed television "booster" or "repeater" station to enable an isolated mountain town in the State of Washington to receive regular commercial television signals in a situation not unlike that in which community antennas are often found, i.e., where direct reception of the originating station was not feasible because of distance and mountainous terrain. The Commission entered a cease and desist order against the "booster" operator on the grounds that the Commission had not issued a construction permit or license for the construction and operation of the "booster" station, and that the Rules of the Commission did not provide for the license, construction, or operation and installation. In reversing the Commission in part on the question of whether a cease and desist order was mandatory under the Act, but sustaining the Commission's jurisdiction over the television "booster" station, the United States Court of Appeals stated in part:

"We are satisfied from a reading of the section (47 U.S.C. 301) as a whole that Congress intended to assert control by the federal government of 'all the channels of interstate . . . radio transmission', and that the sweep of the Commission's authority includes the booster stations here involved. *Op. cit.*, p. 663."

The Federal Communications Commission has, in fact, as mentioned previously herein, in the exercise of its broad jurisdiction over radio communications promulgated specific Rules and Regulations applicable to community antenna television systems.²²

Joint Federal and State Regulation Not Permissible or Practical

Joint Federal and State regulation in this field is not permissible. This is one of the fields in which the Congress has decided that any state regulation is an obstacle to the full accomplishment and execution of national legislative policy, and is, therefore, not permitted. *Hill v. State of Florida, ex rel. Watson*, (1945), 325 U.S. 538; 65 S. Ct. 1373, 89 L. Ed. 1783; *reh. den.*, 326 U.S. 804, 66 S. Ct. 11; 90 L. Ed. 489; *Hines v. Davidowitz*, (1941) 312 U.S. 52; 61 S. Ct. 399; 85 L. Ed. 581. In specific reference to the field of television broadcasting, the *DuMont* case, *supra*, makes it clear that even where the congress has not acted to authorize regulation, and has even denied its agency (the FCC) the right to act, in the absence of a specific reservation to the states—even in such an essentially local matter as censorship—the states may not make regulations affecting television.

Thus, in *DuMont*, it was held that even though Congress specifically prohibited the Federal Communications Commission from censoring television programs, this did not leave the field of censorship of television open to the states which have traditionally exercised this right in the motion picture field. By analogy, the fact that Congress thus far, even though recognizing fully its authority to act, has not provided a regulatory scheme tailored specifically to the community antenna system does not leave this field open to the states.²³

The intention of Congress to occupy fully the field of communications relating to broadcasting may be illustrated in another way. In Title II of the Communications Act of 1934, as amended, 47 U.S.C. Sec. 201, *et seq.*, Congress set up a system of regulating common carriers by wire or radio and imposed upon such carriers the usual burdens incident to public utility regulation. It made clear, however, in Section 2(b) of the Act that the regulation of communications common carriers was to be shared with the states. It did this by saying that, subject to the radio licensing provisions of Section 301, nothing in the Act would give the Com-

mission jurisdiction over common carriers engaged in intrastate communications. Section 221(b) of the Act is also illustrative in this regard in that it expressly recognizes cases where common carrier operations "are subject to regulation by a state commission or by a local government authority." Thus, in Title II, Congress specifically provided for a sharing of the burden of common carrier regulation between the Federal and local governments.

On the other hand, in Title III of the Act, 47 U.S.C. Section 301, *et seq.*, Congress set up an entirely different scheme of regulation for broadcasting. As to this subject matter, far from sharing the burden with the states, Congress began in the very first sentence of Title III to say that the purpose of this Act, among other things, is "to maintain the control of the United States over all the channels of interstate and foreign radio transmission." Thus, where the Congress wanted to share the authority over communications with the states, it specifically so provided in Title II. Similarly, in the field of radio and television covered by Title III of the Act, the Congress made it equally clear that it did not intend to share the authority. As the United States Supreme Court said in *Federal Communications Commission v. Pottsville Broadcasting Company*, 1940, 390 U.S. 134, 138; 60 S. Ct. 437; 84 L. Ed. 656, this part of the Act "Expresses a desire on the part of Congress to maintain through appropriate administrative control a grip on the dynamic aspects of radio transmission."²⁴

In an application of this principle to community antennas, the Wisconsin Public Service Commission has held that it lacks jurisdiction to consider an application for authority to erect a community antenna to receive television signals for the reason that "Congress has so completely occupied the field of television regulation as to preclude any parallel state regulation." *In re Edwin Francis Bennett*, CCH State Utilities Reporter, para. 16, 168, 7 RR 2054. The Wisconsin Commission cited *Allen B. DuMont Laboratories, Inc. v. Carroll*, as authority for its ruling. It is important to emphasize at this point that the fact of Federal occupation of the field of television by Congress through the Communications Act, and the fact that the Federal Communications Commission has formally prescribed radiation standards applicable specifically to CATV, do not mean that

²¹ *Id.* at 1361, 3 RR at 1322G.

²² Part 15 of the Rules and Regulations of the Commission applicable to "Incidental and Restricted Radiation Devices".

²³ The Senate Committee on Interstate and Foreign Commerce in 1960, recommended and reported to the Senate S. 2653, a Bill to give the Commission licensing jurisdiction over CATV, 86th Cong., 1st Sess., S. 923. The Bill was recommitted by the Senate to the Committee for further study.

²⁴ See also *Sanders Bros. v. FCC, Commission v. Sanders Bros.*, 309 U.S. 470, 474-475; and *United States v. Radio Corp.*, 1959, 358 U.S. 334, 79 S. Ct. 45, 3 L. Ed. 2d 354.

the Commission has plenary authority to impose a broad range of Rules and Regulations on the community antenna industry. Only those provisions of the Communications Act which have applicability within the general objectives of the Act and intent of Congress can be utilized to provide a basis for the exercise of authority over CATV. Thus, as indicated above, community antennas cannot be regulated by the Commission as "common carriers" of communications, or as "broadcast stations," since the facts of CATV operation are not consistent with either of these two concepts.²⁵ On the other hand, in the exercise of its overall authority and responsibility to control the field of broadcasting, the Commission is enabled to prescribe standards for CATV systems as incidental radiation devices. As the Commission has said in specific reference to the extent of its jurisdiction over CATV: "... as an administrative agency created by Congress, we are of course limited by the terms of the organic statute under which we were created, and must look to that statute to find the extent of our jurisdiction and authority."²⁶

It is for Congress to decide whether the Communications Act should be amended to broaden the scope of the authority which the Commission can exercise over community antennas, or whether it is to remain as at present.

Community Antenna in Interstate Commerce

That community antennas are in interstate commerce for the purpose of inclusion in the broad field of radio and television may reasonably be argued. As indicated above, the Federal Communications Commission has actually exercised jurisdiction to promulgate rules and regulations affecting community antenna systems. The point was not only ruled upon in the *Bennett* case, *supra*, but elsewhere. In its Report and Order in Docket No. 12443, *supra*, the Federal Communications Commission stated:

"We have no doubt that, as the broadcasters urged, CATV's are related to interstate transmission (regardless of where the station retransmitted is located, the signal often originates, via network in New York or elsewhere). Therefore, it appears to us that there is no question as to the power of Congress to regulate CATV's or give the Commission jurisdiction to do so if it desires. But as an administrative agency created by Congress, we are, of course, limited by the terms of the organic statute under which we were created, and must look to that statute to find the extent of our jurisdiction and authority."²⁷

The question of whether community antennas are in interstate commerce was before the District Court for the First Judicial District of the State of Wyoming in a case decided in October, 1958, on appeal from an order of the Public Service Commission of Wyoming holding that a community antenna system is a "public utility" in intrastate commerce, and that such sys-

tems in the State of Wyoming are subject to that Commission's jurisdiction. The court reversed the Commission stating "that the appellants and each of them by reason of their operations, are (1) not public utilities and (2) are engaged in interstate commerce." (Community Television Systems of Wyoming, 17 Pike & Fischer, Radio Reg. 2135, Wyoming District Court). The Federal constitutional question of whether the states are excluded from regulating community antenna systems by virtue of Federal occupation of the radio and television field was not before this court since the Public Utility Code of Wyoming contains a specific provision that the Public Service Commission has no authority to regulate interstate commerce. This, of course, does not invalidate the ruling as an authority to the effect that community antenna service is in interstate commerce.

Commissioner Frederick W. Ford when a member of the Federal Communications Commission, made crystal clear the fact that the states and municipalities cannot regulate CATV systems without the danger of upsetting

Federal policies with respect to the reception of television signals. In an address at the Bellevue Stratford Hotel, Philadelphia, Pennsylvania, on June 18, 1964, he stated:

"Even if it were possible to add enough additional spectrum to provide one television station to each community in the United States, I do not believe that sound frequency management would permit such an inefficient use of this valuable national resource, to say nothing of the economic unsoundness of making such an attempt. I have reference here to the basic principles followed by the Commission in making the over-all frequency allocation in its major allocations proceedings in 1945, Docket 6651. You will recall that this was the proceeding that established the uses of the radio spectrum by various services that is still in effect today. It must be remembered that because the demand for frequency space far exceeded the space available the primary principle that guided the Commission in making its determination was, 'The dependence of the service on radio rather than wire lines.' In fact the Report stated in Section 4:

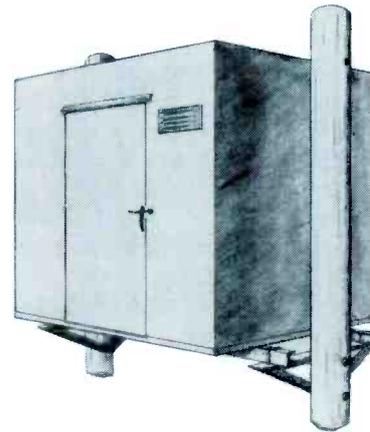
"There were six general principles that guided the Commission in making this determination. In the first place, the Commission examined each request to determine whether the service in question really required the use of radio or whether wire lines were a practicable substitute. Obviously with the severe shortage of frequencies, it would not be in the public interest to assign a portion of the spectrum to a service which could utilize wire lines instead. The Commission's determination was not limited to technical considerations but also took into account economic and social factors and considerations of national policy. For example, while fixed point-to-point service between countries could be carried on by cable as well as by radio, the great disparity in costs between the two types of service and considerations of national policy clearly required the assignment at least at this time of frequencies for such fixed point-to-point service."

(Continued next month)

²⁵ Report and Order in Docket No. 12443, 18 RR 1573, 1598-1600.

²⁶ *Id.*, 1599.

²⁷ In its opinion in the proceeding the Commission clearly noted its jurisdiction over CATV with respect to radiation of energy.



ARMADILLO FIBERGLASS BUILDINGS ARE IDEAL FOR POLE MOUNTED USE

- IMMEDIATE DELIVERY
- SEVERAL STOCK SIZES
- ECONOMICALLY PRICED

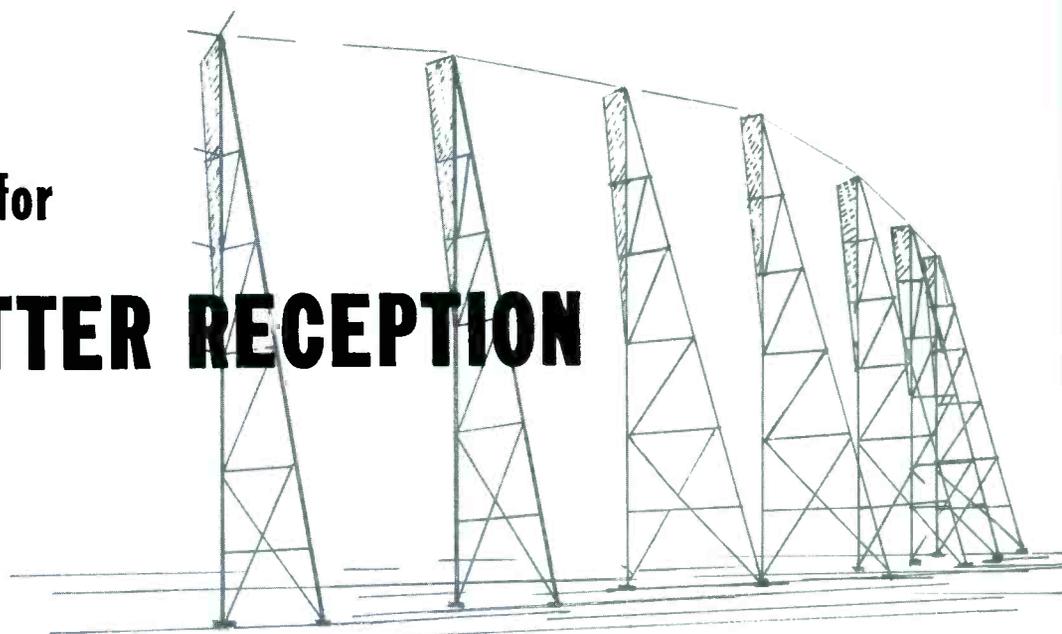
OTHER SERVICES AVAILABLE

- Custom design to any size
- Factory equipment installation

Stationary buildings—Mobile units—Pole mounted units

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

Parabolic Antennas for TROPO-SCATTER RECEPTION



Until well into the 1940's many radio engineers believed that it was impossible to communicate beyond the horizon, with television signals. Under some conditions it was believed that it was possible to receive Television signals slightly further than the optical line of sight up to distances in the order of 40 miles.

These beliefs were contrary to the experience of Marconi, father of practical radio communications, who in 1932 reported sending signals over a distance of 168 miles at a frequency of 500 megacycles — well above standard TV frequencies. Amateurs and other experimenters during the 1930's showed that non-optical communication was often possible at TV frequencies even with very low power transmitters and insensitive receivers, although signal variations were enormous.

Further exploitation of this mode of propagation was cut short by World War II although there seems to be evidence that Edwin A. Armstrong, the inventor of F.M., was quietly collecting information and forming theories to explain these effects. But Armstrong died in 1954 before he could make any formal contribution.

During the war communications and radar people were bothered by unwanted long distance reception of signals, that could not be explained by any existing theories. Postwar publication of earlier data and careful study of the information available around 1950 made it clear that a new theory was necessary. It was at this time that the theory of the troposphere's role in long distance communication was advanced.

This new method of communication was called "trans-horizon tropospheric propagation", "tropospheric forward-scatter", or just "tropo". Its name derives from the region of the atmosphere, between the earth and an altitude of about seven miles called the troposphere. Tropospheric communication systems are used at TV frequencies or higher over distances from about 100 miles to 500 miles, and depend on the ability of the troposphere to diffuse or scatter a small portion of the transmitted signal well beyond the horizon. This effect could be compared to our ability to perceive a distant searchlight beam as it illuminates moisture and dust particles of the air on a dark night.

Until recently this method of communication was used almost exclusively by the military, and had not been used for long distance TV.

Stan Hosken, of Master Antenna Services, designed and built the first such Tropo-scatter antenna for CATV use. The TV signals were caught after they bounced off the troposphere by a large Parabolic reflector 100 x 200 feet, then concentrated at the focal point. This extremely high gain antenna is able to produce excellent pictures from the extremely weak tropo-scatter signals.

This first antenna installed in North Bay, was supported on conventional guyed towers with the focal point approximately 150' above the ground. This installation proved the concept to be sound, but brought to light a number of minor mechanical and electronic problems, that have been overcome in subsequent designs.

DESIGN FEATURE

The latest design in Parabolic an-

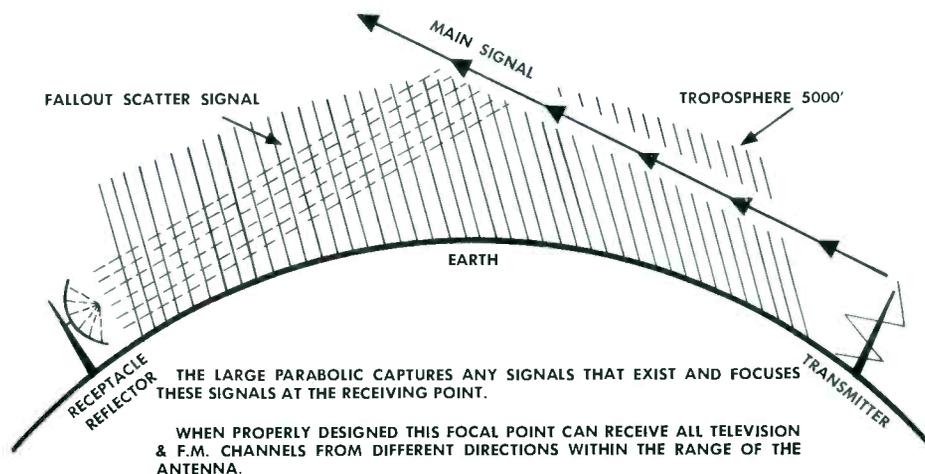


FIGURE 1

tennas for CATV features an extremely rugged structure not unlike that found in many drive-in theatres.

In order to overcome some of the problems encountered in the first two Parabolic antenna installations a number of innovations are to be found in the new design. The structure has no guy wires in the field of the antenna, eliminating undesirable effects found to be present under certain weather conditions, when conventional guying was used. By going to a virtually self supporting rigid structure another of the early problems has been eliminated. The support towers formerly used were found to be too unstable for entirely satisfactory support of the reflective screen. Standard 140 foot towers will shift as much as a foot under some conditions causing the focal point to change with a noticeable drop in antenna efficiency. This problem is solved by using a rigid structure that cannot shift under any conditions. This new structure is somewhat more expensive than conventional towers but it is the only design that can overcome all of the problems, and be guaranteed from a structural standpoint. A stress analysis of the new design has been completed by Mr. Al. Royal, structural engineer with Leblanc Royal Towers Ltd. In essence the stress analysis shows that the structure is sound and will stand up to any weather conditions likely to be encountered, with an ample safety factor.

The support structure itself is constructed of double angle members made of 3" x 2" x 1/4" steel. Side guying is, of course, not necessary.

Fastened to the steel towers are the aluminium U-Rails that hold the reflective screen. The screen wire is made of specially tempered aluminium that will stand up under extreme conditions.

The towers are mounted on specially built foundations designed by experts in this field. Studies were made to determine the stresses placed on the concrete under temperature and wind conditions, to assure adequate strength at all times.

The new design calls for the focal point antennas to be located within the head-end building. This eliminates many problems found where antennas, connectors, and pre-amplifiers are exposed to the weather. It also makes for a much more stable focal point that will not shift the way it will when mounted on the top of a tower.

According to officials at Benco Television Corp., manufacturer of the para-

bolic antenna, this new CATV design has now been well proven in a number of installations and promises to be the dominant cable TV antenna technique of the future.

FEASIBILITY STUDY

Before any sale of a Parabolic Antenna Kit is made Benco requests that a Feasibility Study be taken. The Feasibility Study normally takes 2 or 3 days (depending of course upon weather conditions) and consists of:

1. A complete recording of signal strengths at the proposed antenna site.
2. Recording and examination of any interference prevalent in the area, either electrical or co-channel.
3. A study of the immediate terrain

4. A study of the topographical features intervening between the proposed antenna site and transmitting stations.

There is a limit to the distances over which good useable signals can be received. The purpose of a Feasibility Study is to determine that signals are available in sufficient strength before a large investment in the Parabolic Antenna.

Benco reports that its consultants have had practical experience in the field of Tropo Scatter TV reception and are equipped with specially designed measuring devices to ensure an accurate study, since the standard

NON DUPLICATION SWITCHER

This New Pre-Programmed switcher provides these exclusive features:

- Automatically repeats up to 480 program changes weekly.
- Integral six channel video switcher that allows multiple source substitution.
- Accurate switching on any selected minute throughout the week.

RELIABILITY **VERSATILITY**

The TELEIMATION Model TMP-204 Switcher is primarily designed for use by CATV Systems in non-duplication of local TV stations. It is also useful in other applications requiring complex pre-determined switching schedules. It represents the third generation of switchers from the company that has had more experience than any other in this field.

- The only switcher designed to switch at one-minute intervals throughout a seven-day week.
- The only switcher with adequate capacity and flexibility for CATV use.
- The only switcher with integral video switcher (RF switching optional).
- The *Only* switcher tailored to the CATV industry's requirements.

TELEIMATION, INC. • P. O. BOX 15068 • SALT LAKE CITY, UTAH 84115 • (801) 487-7646

equipment is not reliable at the distances involved.

A full report on all TV and FM channels available is submitted together with comments on proposed site, possible interferences and the practicability in general of the installation.

ANTENNA KIT

Supplied as the Parabolic Antenna Kit (priced at \$14,500.00) are the following:

1. Master Engineering Plans for the tower assembly professionally designed and engineered to meet rigid stress requirements.
2. Structural Steel Sections sufficient for 10 complete 60 ft. towers, (including nuts, bolts, washers and 1/4" steel guy strand).

3. 30 Aluminum channels pre-drilled for screen wire.
4. 6 Aluminum torque resistors.
5. Over 40,000 feet of tempered aluminum screen wire together with necessary springs.
6. Periodic supervision during construction (travelling and living expenses extra).
7. Reception tuning via Consultant (travelling and living expenses extra).

Note: Plans for the concrete tower bases and anchor points will be prepared for individual locations after the report of a soil test and terrain survey have been forwarded to us. Kindly note that the cost of the soil test and survey is not included in the Package Deal.

PRELIMINARY SPECIFICATIONS

The following average figures are based on measurements made on the first two installations. More detailed specs will be issued upon completion of current tests on the two most recent installations. Because of design improvements these tests are expected to show some improvement in most of the categories listed below.

"The antenna", reports H. D. Gray, Benco Sales Manager, "exhibits vastly superior directional properties to any previous yagi or long-wire rhombic array. Its ability to reject co-channel and adjacent channel interference has been dramatically demonstrated in the first installation.

In North Bay consistent CH 9 and CH 11 reception over a 200 mile path is possible with a local CH 10 transmitter approximately 10° from the direction of the desired channels. In Huntsville, because of the high front-to-back ratio, a local Channel 8 transmitter is effectively prevented from interfering with CH 9 reception arriving over a 120 mile path.

The Barrie installation is designed to eliminate interference caused by a local CH 3 transmitter to Channels 2 and 4 approximately 120 miles distant.

	CH 2	CH 4	CH 6	CH 7	CH 9	CH 13
Gain — (assuming 50% efficiency)	26DB	28DB	30DB	37DB	38DB	39DB
Front to Back Ratio	36DB	38DB	40DB	48DB	49DB	50DB
Antenna Response at 5° from centre of main lobe	-12DB	-15DB	-16DB	-20DB	-20DB	-20DB
Beam Width in Deg. to 3DB points	2°	2°	2°	1.5°	1.5°	1.5°
Coverage of Antenna in Degrees utilizing different focal points	Low Band		High Band			
V.S.W.R.	± 15°		± 10°			
Length of Antenna	Better than 1.2 depending on focal point antenna					
Height of Antenna	270'					
Weight of Steel Structure	60'					
	About 14 Tons					

MAY 3, 1965

CABLE TELEVISION REVIEW

The Weekly News Service of TV & Communications Magazine

Published by Communications Publishing Corp. 1830 N.W. 10th, Oklahoma City, Oklahoma

HARRIS INTRODUCES CATV LEGISLATION; CRITICIZES FCC'S "UNFORTUNATE APPROACH"

On April 28 Rep. Oren Harris (D-Ark.) introduced a bill aimed at remedying "with the role of community antenna television systems in relation to television" Congress that the recently announced FCC pro-

QUICK!

On Friday, April 23, the FCC announced its assumption of broad powers over CATV. On the following Monday morning, less than 72 hours later, CABLE TELEVISION REVIEW subscribers were reading about the FCC action. On April 28, Rep. Oren Harris introduced a bill aimed at remedying the FCC's "unfortunate approach" to CATV. Once again, CABLE TELEVISION REVIEW readers had the facts on the following Monday morning.

As a CABLE TELEVISION REVIEW subscriber you will receive all CATV news, up-to-date and complete each week . . . including franchise activity, system construction and personnel changes. Special attention is devoted to broadcaster and telephone involvement in cable television. If you have a financial interest in cable television you cannot afford to be without the industry's accepted weekly news source, CABLE TELEVISION REVIEW. One Year, \$50 - 13 Issues, \$15

Order Your Subscription Today

CABLE TELEVISION REVIEW • Dept. J • P. O. Box 63992 • Oklahoma City, Oklahoma

TSC

is
on
the
move!



Off to the ACTION in CATV

A turnkey project in Texas . . . system conversion in Wisconsin . . . grand opening promotion in Georgia . . . signal survey in Vermont.

Try phoning Fred Lieberman, Jim Stilwell or any other TSC man. You'll probably reach him on the scene of CATV action 1,000 miles from home . . . consulting, designing, supervising construction for clients and TSC systems.

When you call on TSC you deal with an organization of individuals . . . experts in every phase of CATV, who have grown with this dynamic industry since its inception. You profit from independent evaluation, and proven success in contracting and operation.

Whatever CATV service you require, you'll be on top when you deal with men who lead the action . . . the men from TSC.

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



TELESYSTEMS CORPORATION

113 South Easton Road, Glenside, Pennsylvania • 215 TU4-6635



Carl Richard says he is not a salesman. If you mean by "salesman" a man whose only aim is to sell merchandise, then Carl is absolutely right. Rather, he is more like an old fashioned doctor who carries the right remedies along on his rounds. Most of all he brings his own diagnostic mind.

Carbon Cable Company visitor questions Carl about cable TV.



As I spent the day with Carl Richard, touring the central Pennsylvania mountain district in his Ameco salesmobile, the feeling grew on me that systems technicians, managers and owners waited for his arrival as they would the coming of the country doctor.

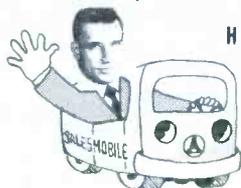
They were expecting his routine monthly visit. A reminder, too, had gone out the previous week. By the time Mr. Richard showed up, it was evident that the problems of the month had been gathered together to await his sage counsel.

When problems are urgent, Carl explained that he is reached easily by phone from his regional office in Harrisburg. He is never more than an hour or two away by phone. His routing plan, with the exception of emergency side trips, is filed with the regional warehouse manager.

He is one of fifteen Salesmobile men who travel the community antenna circuit for Ameco of Phoenix, Arizona. Although he was the man I was accompanying to write this article, I could be writing in a similar vein of the other men driving through 46 states.

Carl Richard has really never been a salesman. His work-

Richard sends post cards to inform system operators of his next visit.



HELLO...FROM AMECO TECH-REP

I will be by to visit on _____
If you will not be there and need any
equipment, please indicate on a purchase
order and leave at your office.

The order will be awaiting you when you return...or...phone the number listed below and the Ameco Salesmobile will deliver next trip.

CARL RICHARD P.O. Box 3343 HARRISBURG, PA.
Phone: AC 717 737-0487 Zip: 17105

CATV'S FIRST AND FASTEST **ameco** FACTORY-TO-YOU SERVICE

ing life has led him into a continued widening of experience and understanding of electronics. He served in the Air Force for four years in radio maintenance. Out of the Air Force in 1954, he spent the next six years as a field engineer in the CATV industry. Several more years were given to being a manufacturing department head for a maker of high quality audio components. Dick Yearick of Ameco asked him to come back to cable television as an Ameco technical representative.

Carl is a family man. Three children. A boy of ten and a half. Two girls: a six year old, and the baby, one year old. Leaving home Monday morning and returning on Friday you would think that he would have all a man could do to take off his shoes and stay rooted in the house over the weekend. However this Ameco man must have learned the secret of adding many hours to the week. How else explain his previous presidency of the Junior Chamber of Commerce in Lewistown, Pa., and then the following year being voted Most Outstanding Junior Chamber State Director in Pennsylvania.

Bob chats with Larry Kern in Slatington, Pa.



The Junior Chamber of Commerce is an arena of leadership training through community service. A leader, because he can work with people, and a technical specialist at the same time. Such men do not have to work at selling. They've got the ability to be good companions while being helpful.

This is the rule for Salesmobile tech reps. They are stable family loving men. Carl Richard can do his work, can be active in civic affairs, and also take time out to go fishing with his son, and be a fond daddy to his daughters. During the week he follows his favorite sport at his evening stop off points. In this case it is golf. He is often joined by one of the systems people among whom he has developed close friendships.

What are some of the unroutine tasks that have become routine? The week before he had climbed a tower at night working in the moonlight. One of the antennas had just been replaced by the system technicians, and it wasn't delivering the expected signal strength into the head end. Carl Richard applied his engineering service on the spot. Is it any wonder that he is a welcome caller?

Miniaturized amplifiers attract attention of Bob Tarlton (r.).



On the day this article was being written, the first call of the afternoon was made in Lansford, Pa., historic home of Panther Valley TV Company, the first commercial community antenna television system. Spotting Bob Tarlton in the street, Richard attracted his attention as he pulled the vehicle to the curb. After greetings were exchanged, Bob Tarlton explained that he had an appointment with an insurance agent. But both became so interested in talk about CATV matters that Bob almost missed his appointment. The discussion was continued later in the Panther Valley office.

Then on to Lehigh, the Carbon Cable Company, to meet Claude Reinard, owner of the telephone company and the cable company. Time to exchange a few words with Ralph Kraemer who was wading deep in an edition of "News and Views" being made up for the coming week. News and Views was a weekly mammoth job: a combination of local events, and feature pictures; a listing of all programs carried

on the cable for the week. This fascinating publication is sent to each subscriber.

Next stop, Slatington, to call on Larry Kern of Kern's Electric & Antenna Company. The cable system was an outgrowth of his radio, television and appliance store. This was a delightful visit; business seemed only incidental. There was much talk about Larry Kern being an enthusiastic ham operator, a musician, whose son was carrying on the musical tradition in the Coast Guard.

Ameco's salesmobile program was innovated by John Buchanan, Vice President in 1963. He felt that the company's pursuit of excellence in its quality of products should be matched by equal superiority in its methods of distribution. His words were, "Get out where the systems are and show them." and this is what was done. First by one salesmobile until nationwide coverage was accomplished by a fleet of these vehicles.

Dick Yearick, Director of Equipment Sales and national head of the salesmobile program says that his first concern in putting a man on one of these vehicles is technical ability. When a man speaks from knowledge there is no need to trim his words with sales techniques.

Ameco customers see the equipment that they plan to put into their systems undergo an on-the-scene test under exacting working conditions. And the equipment is right there inside the truck; not a minute's wait for delivery which can mean a saving of weeks by ordinary methods of ordering. As Dick Yearick expresses it, "We're just hours away from a customer."

A full complement of test equipment is built into a cart which can be wheeled in and out of the salesmobile. This test cart has rescued many a system technician from an ac-

WHERE DB's COUNT —

THE

FST-2

WILL COUNT THEM

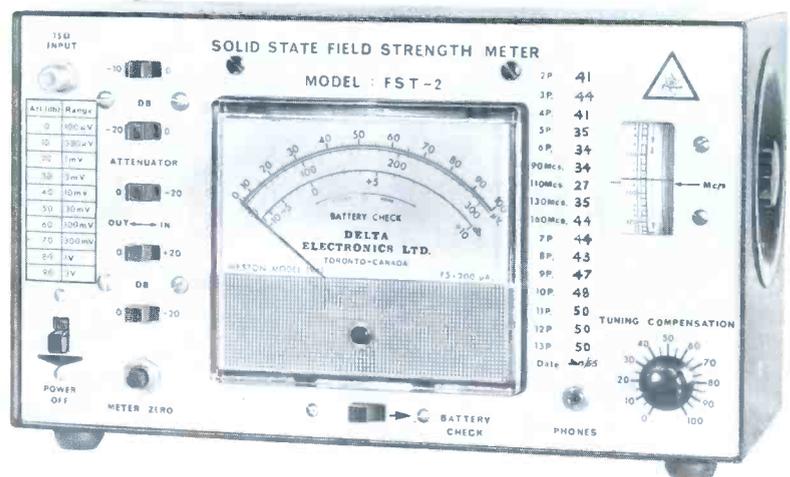
WITH

PRECISION

CHECK THESE FEATURES:

- ACCURACY +0dB - 1dB
 - BATTERY or LINE POWERED
 - ALL TRANSISTOR
 - EXCELLENT V.S.W.R.
 - 54-220 Mc/s CONTINUOUS
 - LIGHT WEIGHT
 - RUGGED
- FOR THE LAB. or LINE

\$350.00



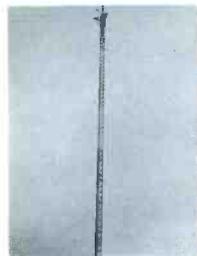
WRITE FOR DETAILS TO:

DELTA

ELECTRONICS LTD.

70 RONSON DRIVE • REXDALE, ONTARIO

THE LEADER IN CATV TOWERS



There is no possible explanation for the remarkable success of Ft. Worth Tower Co., other than our excellent towers and complete construction services! Cable television operators are coming to us in increasing numbers. They know our reputation for delivery, price and reliable towers.

Check prices, compare quotes, evaluate specifications . . . and you, too, will reach the conclusion that Ft. Worth is your best bet for CATV and microwave towers and buildings. The basic reason for Ft. Worth Tower's steady growth is the wealth of experience which we have gained as a pioneer supplier of CATV towers. Our men are thoroughly trained in every step — from drawing board to fabrication, to installing antennas and head-end structure. You will be pleased with our prices, too.

CALL OR WRITE TODAY

Fort Worth Tower

COMPANY, INCORPORATED

P.O. Box 8597 — Fort Worth, Texas — (817) GL 1-1281

— Associated Companies —

Tommy Moore, Inc. — Big State Engineering, Inc.
Tower Construction Finance, Inc.

cumulation of sticky problems. Ameco's reps are generous with their time and equipment in tracking down difficulties even though Ameco products may not be involved. These roving engineers are on a first name basis with their customers and they have earned it.

The salesmobile carries an inventory of approximately 150 items of CATV equipment; everything from amplifiers to connectors. Being transistorized, and therefore smaller in size, a well stocked truck is equivalent to quite a warehouse of old tubed components.

The test sweep cart is able to test, align and demonstrate the equipment being sold. This makes a complete direct factory-to-consumer service with the guarantee that parts will perform because they are checked on the spot. There is no intervention of middleman; there are no distributors or manufacturers' representatives. It is defined as an economical, immediate and "sure to work" service.

Test sweep cart is being rolled out of salesmobile.



Each Monday morning these wheeled warehouses with built in test departments fan out of five strategically located centers, the regional warehouses: Harrisburg, Pa.; Atlanta, Ga.; Dallas, Texas; Portland, Oregon, and Phoenix, Arizona. The week may not be routine. An emergency request will send a man scooting with fire fighting speed to rescue some hapless system operator. For example, a severe storm knocked the Wylusing, Pennsylvania system out of business. The salesmobile rep. rushed to the scene, went to work together with the system men. Out of his mobile came the needed replacement equipment. Cable customers, by the following morning were once again enjoying cable television. Another cable system in West Virginia was back in service within two hours after experiencing wholesale damage from a wild blow.

Dick Yearick, who masterminds the program, has been in CATV since 1952. Having been an owner of a cable system, he knows both sides of the sales transaction, and is in position to understand the requirements of the man who deals with the television viewer at home. He gears his department to serve the needs of the system owner who has an obligation to give uninterrupted, good pictures to his customers. Speed, even to the point of emergency delivery; and in normal conditions, speed of delivery as a routine are his standards. Orders that are sent to the warehouses are shipped on the day the order is received; this is supplemental to salesmobile on-the-spot delivery.

Yearick is concerned, too, with the sense of accomplishment his salesmobile reps. come to feel. To begin with, salesmobile people are chosen for their stability, knowledge, and the fact that they can command respect. Carl Richard carried with him a quiet kind of enthusiasm. This must be the attitude that keeps the salesmobile men going. □

ADDITIONAL SERVICES FOR CATV SYSTEMS

By VIC NICHOLSON
Jerrold Electronics Corporation

This industry is constantly trying to improve reception on existing channels by securing better signals, via microwave, new antenna sites, or better antenna arrays, and by upgrading its head-end and system equipment. Not only is existing reception improved, but ways and means are being constantly sought to provide more and more stations.

There is no need to discuss the past history of systems changing from one or two channels to five channel low-band and now up to 12 channel all-band. In fact, there are now projected systems of 19 and 20 channels for large places like New York City, where seven local VHF channels are available.

At many franchise hearings, CATV has been attacked as an opening wedge for "Pay TV". Granted, the same cables and some of the same equipment can be used for both services, but their goals are diametrically opposite. Pay TV is hopeful that there will be sporting, entertainment, or cultural events not provided via free TV, such that a charge can be made for them. Its desire is surely not to increase the services off-the-air; CATV is just the opposite. It continually tries to expand the coverage of broadcasters, as the more programming, the more saleable the system. Operators go to all kinds of trouble and expense to bring in additional channels for a sporting event such as a basketball game or hockey match.

As an example in the United States CATV operators try hard to pick up CBC and French speaking programs, while in Canada the operators try to secure American stations.

Public Services

However, the theme of this discussion is not what is being done now, but what additional services can be added. An answer must lie in the field of non-commercial, local public welfare. I emphasize non-commercial, since things like industrial communication, meter reading, local advertising, etc. can only be causes of conflict with telephone companies or broadcasters — I emphasize local, because many communities with CATV systems have no local television media to present news of interest to its citizens — and finally, I emphasize public welfare so that your signals will be needed by every TV homeowner, not only for entertainment, but also for his education, safety, and knowledge of local events.

What services fit this category? First of all there is civic emergency or civil defense. Your CATV system can be adapted such that special messages can be shown on all channels simultaneously. If a child is lost, if there is a potential flood, or tornado, if there is a civil defense emergency, or a large fire in one section of the city — whatever the reason, your system should provide the facility for the mayor, the system manager, the chief of police or some authority to immediately pre-empt all channels with the important message.

There are other services, not of the emergency category, which can be offered utilizing only a single channel. One of these is the showing of local civic and sporting events. Closed circuit equipment should be provided to present city council

meetings, committee hearings, special meetings of local civic organizations, high school or other local sporting events.

This channel can be used by the police or fire department, can promote traffic safety, and can even be made available to the local radio station when not otherwise needed.

Another channel, or channels, should be made available to the local board of education. This can be used to report on the progress of the various classes, showing experiments of students in science courses, presenting dramatic skits, and in many ways keeping the public closely informed as to the operations of their schools. This channel or channels can also be used for purely educational purposes — with courses in languages, math or history during class hours. And in the evening the schools could present adult education courses in subjects such as art, cooking or finance, that could be appealing to large segments of the community.

These are only a few illustrations of what can be done.

Switching To Emergency Channel

The first major category — that of emergency services — requires the ability to pre-empt all channels at the head-end simultaneously. This requires that all channels be brought to a common frequency for switching purposes. This could be at video or using a head-end unit at 45-75 mc 1 F. A modulator would insert a sub-channel signal (one that is lower in frequency than channel 2) into the system at a designated place or places — this signal would be amplified via the same cable up to the head-end. Here it would be converted to the common frequency, would automatically switch off the other tuners, and substitute its own signal on all channels. Turning off the modulator would automatically put all stations back on the air.

Likewise, the second major category — that of education or public affairs — also requires the use of a modulator. This would be converted to a different sub-channel — routed back to the head-end — and there converted to a VHF channel for distribution. This may sound difficult, but is already being done in a closed circuit system in many schools.

Spectrum Space

There is spectrum space below channel two for up to seven of these sub-channels between the frequencies of 5 and 47 megacycles. They can be transported along the same cable handling up to twelve VHF channels. Filters are available to by-pass existing trunk line amplifiers as are sub-channel trunk amplifiers and converters. The technical aspects have been applied in some CATV systems for years — as an example in Ellensburg, Washington this method is used for two way transportation of signals between the State Teachers College and the various schools in the city. The only thing new here is not the techniques but the application for civic welfare and adult education.

It will be better for the entire industry if these services were provided without commercials on a purely public welfare basis. Your system will become even more of a public necessity, more subscribers will result, and you will take your place in the forefront of civic leaders serving your city.



TV & COMMUNICATIONS VISITS

ROHN

Tower design is reminiscent of modern sculpture.

MANUFACTURING

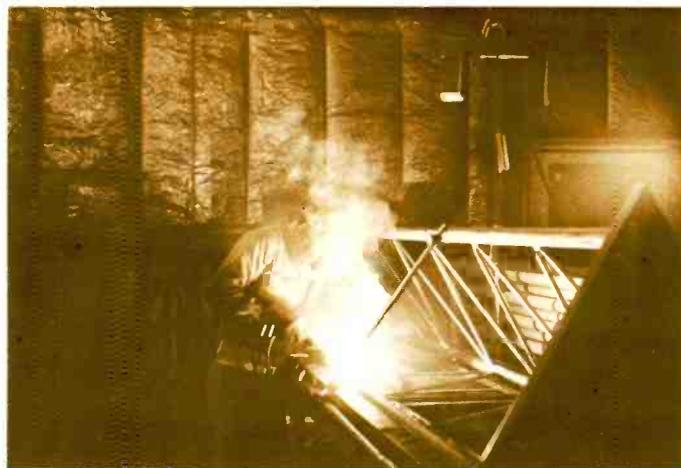
It was Winter. Spelled with a capital "W". Six inches of freshly fallen snow covered the huge industrial plants surrounding Peoria, Illinois. The wind was blowing, the temperature was very low and we were cold!

But, the warm reception Pat Pogue and I (Sherrill Dunn) received when we stepped into the reception office at Rohn Manufacturing more than adequately made up for the inclement weather outside.

The attractive receptionist buzzed Dick Kleine, General Sales Manager, and before we could get our topcoats off, he was there to greet us. Hoping for more photogenic weather conditions, we postponed our plant tour for the next day. However, we took advantage of the opportunity to visit with Dick and to discuss the history of the company.



Dwight Rohn, president and founder of pioneer tower manufacturer.



Rohn tower is under construction in welding shop.

WITH A VISION . . .

Dwight Rohn, President, founded Rohn Manufacturing Company in 1951 with a vision for the future. He planned, and succeeded in becoming "the world's largest exclusive manufacturer of TV-communication towers." From a small plant in Peoria employing a half-dozen persons, in 1947, Rohn grew and grew until it reached its present size with several factories (including one in Birmingham, Alabama and Dallas, Texas) comprising more than 200,000 square feet of floor space and with approximately 200 employees. The Birmingham plant, a new acquisition, employs more than 30 people.

In the early days of operation, Mr. Rohn recognized the need for towers and "specialty orders" in the Illinois area. He not only provided the solution to the need, but provided it so well and with such quality that orders started coming in from other surrounding states.

It wasn't long before Rohn Manufacturing was supplying towers to radio, TV and CATV operations from all parts of



Dick Kleine checks over blueprints with Oscar Haschke.

the United States. And, then came orders from points outside the U.S. A world-wide network of Rohn representatives soon had to be set up to answer the demand. Towers were shipped and installed in such unlikely places as the Antarctica, New Zealand, in Canada and off the coast of Louisiana in the Gulf of Mexico.

AND EXPANSION . . .

With the demand for more quantity of Rohn products, the plant was naturally forced to expand. In 1954 a complete new



Photo shows CATV tower manufactured by Rohn.

factory was built with an emphasis on construction, manufacture, galvanizing, painting and storage of towers and related equipment.

Comprising six major buildings, the new plant incorporates a huge warehouse that continuously stores approximately 20,000 feet of towers. One building houses the comfortably furnished offices, a print shop, shipping, the drafting and engineering departments and some storage. Manufacture of tower lighting equipment including flashers and control boxes is conducted in another building. Tower construction, painting and galvanizing is confined to another

building. In addition, the company's fleet of seven tractors and eight trailers is maintained through a company shop.

A company railroad shuttles from building to building transferring tower assemblies to shipping dock, unloading raw steel, and transporting partially completed equipment to the next segment of assembly. The railroad ties in with a major line serving industrial Peoria.

A NEW PLANT . . .

We ended our discussion of Rohn's history and growth. It was getting late.

Returning to the Rohn plant Wednesday to resume our visit, we learned that Dwight Rohn and his pilot Bob Kennedy had just flown in from Oklahoma City. They would join us shortly. In the meantime, Dick Kleine offered to show us the plant.

First we toured the office building. In addition to general offices, it housed an engineering department with three

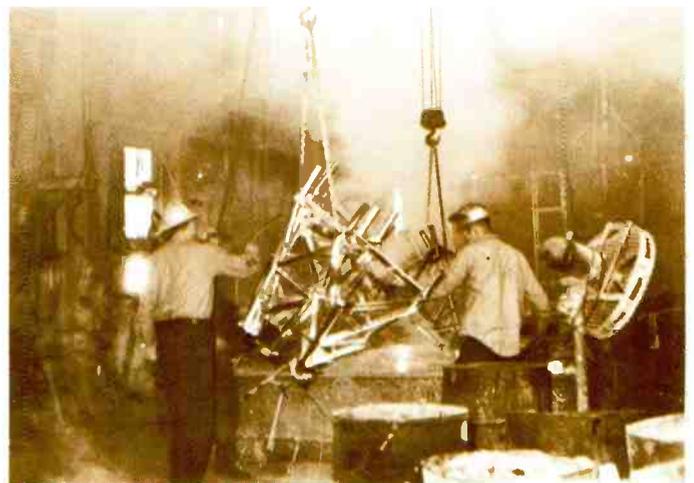


Rohn-designed machine makes short order of small tower construction.

engineers, drafting department with three draftsmen and several other departments.

Mr. Rohn then arrived and continued our tour. He guided us through construction, painting, warehousing and galvanizing phases. We viewed the tower testing area through a frost-covered window pane!

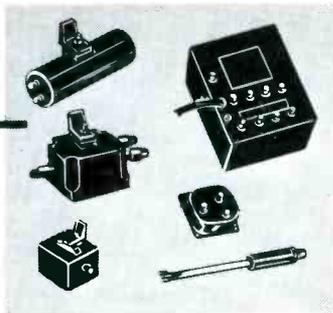
A short journey took us to Rohn's small tower and specialty manufacturing plant. Once again we were quite impressed with the vision of Dwight Rohn. In operation there was an innovation he had designed and patented. The machine was operated by two men and took just a few seconds to assemble a 10' section ready for welding. It normally takes



Fresh coat of zinc galvanizing is inspected by three workers.

CEP

See the
NEW PRODUCTS
by **CRAFTSMAN**



AT THE
DENVER N.C.T.A. SHOW
JULY 18th thru 23rd

WE ARE EAGER
TO MEET YOU
PERSONALLY

STOP at the
CRAFTSMAN
BOOTH Nos. 29 & 30
and SAY HELLO!

CEP

**THE PIONEER
CATV ACCESSORY
MANUFACTURER**



EXECUTIVE OFFICES and MANUFACTURING . . .

**CRAFTSMAN
ELECTRONIC PRODUCTS, INC.**

133 WEST SENECA ST.
Area Code 315

MANLJUS, N.Y. 13104
Phone OVerbrook 2-9105



DANIEL MEZZALINGUA
President



GIRARD (JERRY) CONN
National Sales Manager



VINCENT BORELLI
Sales Engineer



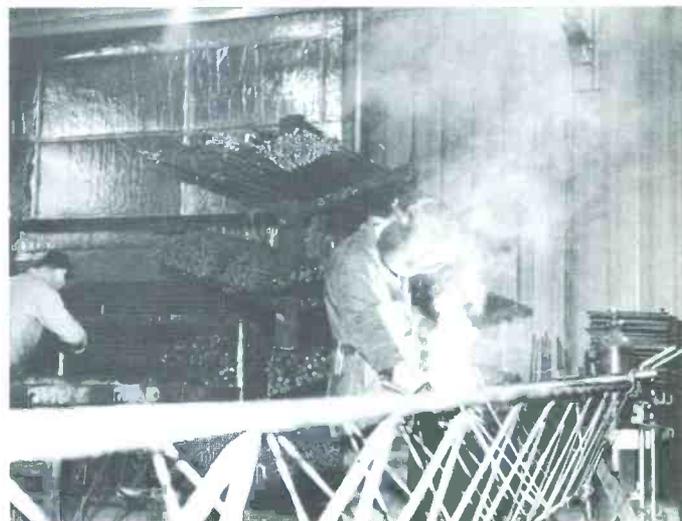
Dwight and Dick with Rohn's Aero Commander.

several minutes for two or more workers to handle standard machinery.

From the "small products" plant, we went to the Peoria airport. Rohn's new Aero Commander and its pilot awaited our inspection. The Commander had just been fitted with the most up-to-date radar equipment and Mr. Rohn was justifiably excited.

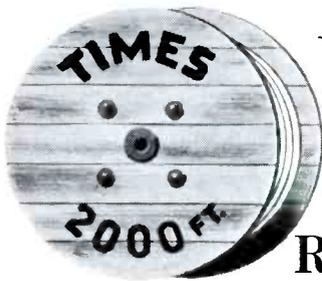
AND PRODUCTS . . .

This concluded our tour — and our visit with Rohn Manufacturing Company. As we prepared to leave, however, Dick gave us several of Rohn's catalogs. One catalog alone was over 1/2 inch thick!



Welder constructs 20' sections for special order.

We were thoroughly pleased and excited with our visit to Rohn. And, when we glanced through the catalogs later, we discovered that Dwight Rohn had lived up to his vision of many years ago. He now manufactures a complete line of communication, microwave, broadcast, TV, etc. towers. That's not all! He also manufactures everything — repeat, everything — relating to towers. That includes tower lighting and beacons, guy wire, guying accessories and tools, flasher units and control boxes, passive reflectors, motorized winches for crank-up towers, remote control units, and even trailers to transport towers. This still isn't all! Rohn's line of towers and accessories not mentioned above is just too extensive to list here. And in addition, Rohn Manufacturing provides numerous services such as construction, engineering consultation and safety guidance . . . they even make clothesline posts! □



Until April 16, 1965,
 you couldn't buy 2,000 ft. continuous
 seamless aluminum sheath CATV cable
 for love or money. Now Times is shipping it.
 Read why this revolutionary new cable
 makes every other CATV cable a compromise.

Everyone in the CATV business knew it: the longer the cable, the fewer the splices, the lower the maintenance, the better the performance ... the higher the profits.

But no one did anything about it until Times, the company the industry expects to be first*, took up the challenge of longer-length cable.

The result: Times made the breakthrough with its 2,000 ft. continuous lengths of seamless aluminum CATV cable. Even more exciting, Times is shipping this cable right now!

Here's what this new 2,000 ft. cable can do for you that no other cable can:

▪ **It easily saves you 10% on installation and shipping costs.** 2,000 ft. lengths mean fewer splices—8% saved. Only 1 reel needed for 2,000 ft. of cable instead of 1 reel for each 1,000 ft.—2% saved.



▪ **It increases profit.** The fewer the splices, the less maintenance needed. Less maintenance means less labor cost and more profit.

▪ **It improves electrical performance.** Times JT-1000 cable guarantees 26 db minimum return loss—a must for minimum ghosting. Moreover, it won't let in moisture vapor that stops your signal short of the target.

And don't forget: long after so-called economy cable has been replaced (it starts deteriorating the day you install it), Times 2,000 ft. JT-1000 cable will still be a top performer, keeping pace with your system's planned potential.

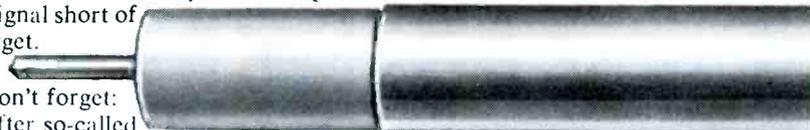
Why compromise when you no longer have to...now that Times 2,000 ft. continuous lengths of seamless aluminum CATV cable

are on the shelf and ready to be shipped to you.

**Times' Family of Firsts*—
 The Standards of the Industry**

First to design a long life cable specifically for CATV

First with foam dielectric cables for CATV



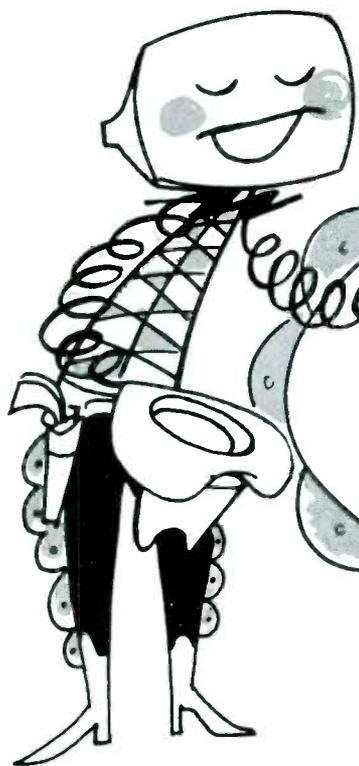
First with cable that made all-band systems economically feasible

First to make aluminum tube sheathed coaxial systems economically feasible

First to offer 26 db minimum return loss guarantee

First again with 2,000 ft. lengths of seamless aluminum sheath CATV cable

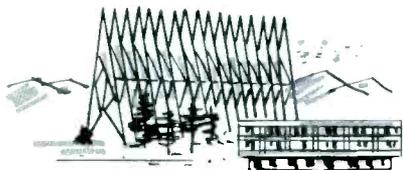

TIMES
WIRE & CABLE
 DIVISION OF THE INTERNATIONAL SILVER CO.
 Wallingford, Conn.



JULY 18-23 DENVER, COLORADO

Ladies Program

THE FOURTEENTH ANNUAL CONVENTION OF
COMMUNITY PUBLIC SERVANTS
NATIONAL COMMUNITY TELEVISION ASSOCIATION



MONDAY
JULY 19

- 10:00 A.M. Depart Denver Hilton via air-conditioned bus.
- 11:00 A.M. Visit the magnificent United States Air Force Academy, nestled near the sweeping grandeur of the front range of the Rockies.
- 12:30 P.M. Luncheon in the lovely Penrose Room of the elegant and historic Broadmoor Hotel resort.
- 2:30 P.M. Depart Colorado Springs.
- 3:45 P.M. Arrive Denver Hilton.

TUESDAY
JULY 20

- 10:30 A.M. Depart Denver Hilton. Travel through the front range of the Rockies; enjoy a breathtaking panoramic view of the plains and the majestic high-mountain country.
- 11:30 A.M. Arrive at the legendary mining town of Central City.
- 12:00 P.M. Luncheon at the famed Teller House; Victorian in its splendor and unexcelled in its cuisine.
- 1:00 to 2:00 P.M. Tour Central City. Visit shops and stores displaying artifacts and souvenirs of a bygone era, as well as modern day Indian jewelry and western wear.
- 2:00 P.M. Depart Central City. Ladies who attend opera will depart on a later bus.
- 2:30 P.M. Attend matinee performance of "LAKME" at Central City Opera House. Opera is in English.
- 3:30 P.M. Arrive Denver Hilton.



CENTRAL CITY OPERA

Admission to the opera is not included in your NCTA Registration. Tickets to the matinee performance of "LAKME" may be had by returning the adjacent coupon with your check or money order to Tom Johnson, NCTA Convention, 2930 East 3rd Avenue, Denver, Colorado 80206.

MAKE RESERVATIONS RIGHT NOW!

Please send me _____ tickets to the July 20 matinee performance "LAKME" at the Central City Opera House.

Name _____

Address _____

City & State _____

ALL TICKETS ARE LOWER FLOOR, \$6.25 EACH

YOUR ORDER MUST BE IN DENVER BY JUNE 30!



WEDNESDAY
JULY 21

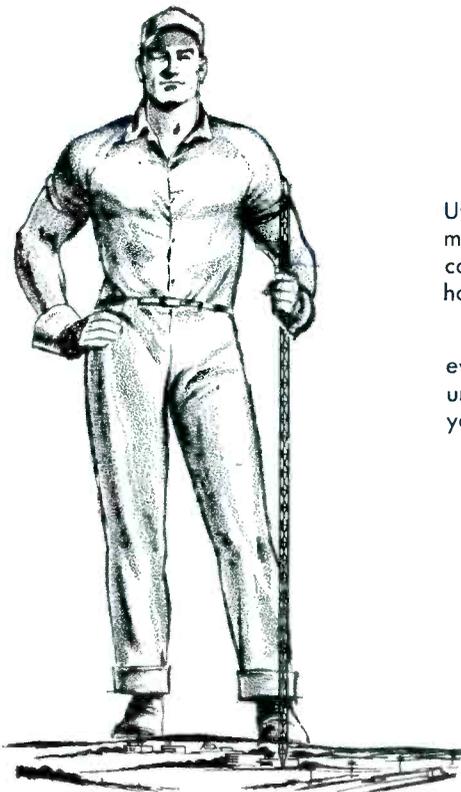
DEBBIE DRAKE

12:00 P.M. Luncheon at the beautiful Brown Palace Hotel, followed by a fashion showing by one of Denver's leading department stores.

DEBBIE DRAKE, TV personality and figure development expert will entertain you with helpful hints and pointers on achieving the body beautiful. Miss Drake, in addition to her own television series, has appeared on such network programs as the Johnny Carson, Today, Steve Allen and Mike Douglas Shows. The New York Herald Tribune unabashedly has billed Debbie as "the most gorgeous calisthenics teacher in the country."



FROM THE GROUND UP . . . GET HIGH QUALITY AT LOW COST!

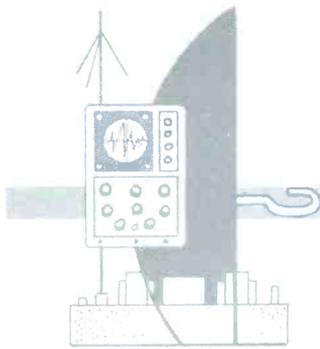


For unsurpassed durability and dependability, insist on Utility! From the ground up, Utility Towers are Quality Certified, to give you maximum value for your tower investment. Your CATV system subscribers deserve the best possible reception available. You can provide it with a rock solid tower structure and properly mounted antennas and hardware. (We provide complete tower fabrication and antenna installation service.)

Microwave relay towers and reflectors are a specialty of Utility. And, of course, every microwave installation is Quality Certified to give you ultra-reliable performance under a wide range of conditions. Whatever your tower requirements, you owe it to yourself to call us for a complete quotation.

Utility Tower
COMPANY

3140 N. W. 38 • Oklahoma City, Oklahoma • (405) WI 6-5551
EASTERN DIVISION: P.O. Box 163 • Mayfield, Kentucky • (502) CH 7-3642



PRODUCT REVIEW

EXTENDER AMPLIFIER FROM KAISER

Kaiser Aerospace & Electronics (Phoenix Plant) announces a new, advanced design in low-band line extender amplifiers - Model KLL-20.

This high-output, all-silicon transistorized line extender is designed for use in CATV systems with up to 5 low-band



TV channels and full FM band coverage. Model KLL-20 provides 20 db gain at Channel 6 (88 mc) and 16 db at Channel 2 (54 mc).

It features compact design of 1 1/2" x 1 1/2" x 6"; weighs 1/2 pound, and accepts UHF, FM, F connectors. Other types are available on request. Price is \$80.00 f.o.b.

To obtain complete specs contact **Kaiser Aerospace & Electronics, 2222 W. Peoria Ave., Phoenix, Arizona.**

SKL REFLECTOMETER

Cable faults, which cause ghosts and reflection noise can now be detected before cable installation by the Model 701 Reflectometer according to Spencer-Kennedy Laboratories. Model 701 is a



bridge device which may be used in testing to distinguish between critical and relatively unimportant reflections caused by minor variations in impedance uniformity in the cable. Reflections caused by structural return losses, often

disguised by less critical reflections in common tests of impedance uniformity are shown instantaneously by the 701 in a detailed picture of cable return loss for all frequencies.

The SKL reflectometer may be used under certain conditions to locate opens or shorts in coaxial cables and is also useful in the impedance alignment of components and instrumentation. Bandwidth is .5 mc - 220 mc; balance is greater than 35 db. Impedance is 75 ohms; a 50 ohm model is also available.

For further information contact Robert G. MacLaughlin, **Spencer-Kennedy Laboratories, Inc., 1320 Soldiers Field Road, Boston, Massachusetts 02135.**

CATV NON-DUPLICATION SWITCHER

TeleMation, Inc., 2275 South West Temple, Salt Lake City, Utah has announced the availability of a Programmed Switcher, Model TMP-204. According to Ben Preece, TeleMation Sales Manager, the new switcher is designed specifically to fill the needs of CATV systems for non-duplication of local TV stations.



The TMP-204 automatically repeats up to 480 programmed switches per week, contains integral six-channel video switcher that allows multiple-source substitution, has manual over-ride of one-time program changes, features accurate switching of any select minute throughout the week and has simplified programming and coding via secondary memory unit. A video switcher is included in the unit and RF and audio switching is optional.

Contact Mr. Preece at TeleMation for pricing and specific details.

NEW VIKING SPLITTER

Viking has announced the addition of a new miniature 2-way hybrid splitter, No. 556. It is 1 5/8 inches square and comes with "F" fittings. The No. 556 is



adjustable to fit in "all cracks and crevices," according to the manufacturer.

For further information on Splitter No. 556, write **Viking, 830 Monroe Street, Hoboken, New Jersey.**

JERROLD INTRODUCES NEW UHF ANTENNAS

Jerrold Electronics has announced a new line of five UHF antennas. Featuring cylindrical parabolic reflectors, these antennas are called Paracyls.

According to Sandy Berlin, Jerrold Distributor Sales Division Sales Manager, Paracyl antennas are designed to provide maximum possible vertical reception areas.

Another feature of the antenna is an extended resonance dipole driver, said to be effective across the entire UHF band.

The Paracyl antenna construction is very rugged mechanically. Cycloc, the plastic used for log-splitting, is used for insulating mounts. Aluminum alloy tubing is used to provide a rigid structure and a protective conducting coating prevents corrosion.



The five Paracyl models are: JUP-1, List \$6.95; JUP-2, List \$10.95; JUP-3, List \$29.95; JUP-4, List \$39.95; JUP-5, List \$54.50. For additional details contact Lon Cantor at **Jerrold Electronics Corporation, 15th and Lehigh Avenue, Philadelphia, Pennsylvania.**

CLASSIFIED SECTION

Rate for classifieds is \$1.00 per line or fraction thereof for advertising which, in our opinion, is obviously of a non-commercial nature. A charge of \$30.00 per column inch (2 1/4" col.) is made to all commercial advertisers. Deadline for receipt of copy, 1st of preceding month.

FOR SALE: THIS SPACE AT LOW COST

A display ad of this size (one inch) costs just \$30.00 in TV & COMMUNICATIONS. With more than 6,000 readers each month, you pay LESS THAN 1/24 each to present your message. We'll gladly help you write copy, make layouts, etc. **Contact: Advertising Dept., P.O. Box 63992, Okla. City, Okla.**



RICHARD D. OBARISKI & ASSOCIATES

CATV consulting, management, engineering and construction. TV Cameras, closed circuit television installation. Twelve years in CATV.

2441 Hillsboro Ave., Dallas, Texas
Phone 214 328-2126

CATV Sales and Promotion

By the agency that has set national records for CATV Sales

SPECIALIZING IN SOUTH AND SOUTHEASTERN CATV SYSTEMS

P. O. BOX 2122
DECATUR, ALA.
AREA 205-355-3115



BECAUSE OF INCREASING TURN-KEY ACTIVITY AND DEMAND FOR ITS HIGH QUALITY CATV PRODUCTS

entron

HAS OPENINGS FOR QUALIFIED SALESMEN

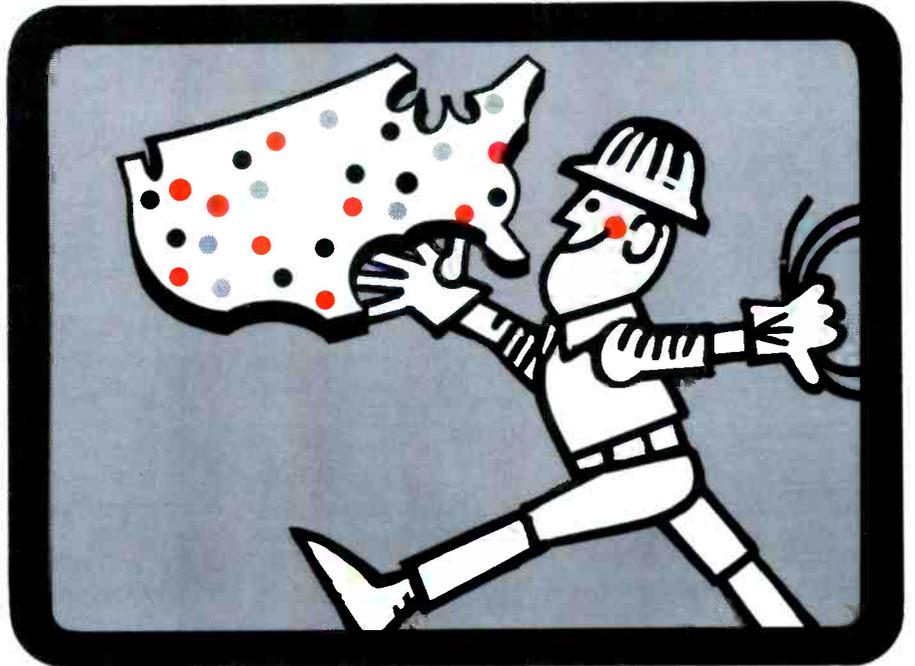
TURN-KEY CONSTRUCTION SUPERVISORS

FIELD ENGINEERS

FIELD TECHNICIANS

SALARIES COMMENSURATE WITH EXPERIENCE. SEND RESUME TO EDWARD P. WHITNEY, VICE PRESIDENT, ENTRON, INC., 2141 INDUSTRIAL PARKWAY, SILVER SPRING, MARYLAND. ALL REPLIES HELD IN STRICT CONFIDENCE.

NATIONAL DISTRIBUTION WITH "HOME TOWN" SERVICE!



The service that made Jack Pruzan Company grow ten times over in just ten years is now available nationwide. This is the service that puts customer needs first in terms of range of products handled, warehouse locations, inventories carried, and same day filling of orders. We call it "Home Town" service.

If you'd like to enjoy "Home Town" Service on all of your needs, write today for the new, complete Catalog-Stock List.

JACK PRUZAN COMPANY

1963 FIRST AVENUE SO. • SEATTLE, WASHINGTON 98134
PHONE 206 MAIN 4-6505

CABLES and WIRES
POLE LINE HARDWARE
TOOLS
SAFETY EQUIPMENT
STRAND
TERMINALS and SPLICING MATERIALS
SPECIALTIES

JACK PRUZAN CO., 1963 First Ave. So., Seattle, Wash. 98134

Yes, we'd like to enjoy "Home Town" service on our material needs. Please send us your new, complete Catalog-Stock List.

Firm Name _____

Address _____

City & State _____

By _____ Title _____

LETTERS

Dear Mr. Searle:

I would like to compliment you on your editorial in your April issue on the CATV regulation situation. You have covered this subject so much more thoroughly than anyone else, and I believe I read almost every trade paper that is published on this subject.

Every one of the organizations which you mention is definitely thinking about their own interests first and the public last.

A few months ago, when CBS first instituted their suit against Tele-Prompter, the editor of BROADCASTING had a few remarks to make on this subject. I thought it called for a letter from me. He did not see fit to publish these comments but I thought you might be interested in reading them.

John W. Servies
Tarry Town, N.Y.

• We thank you for your compliment, John. And, for the information of our other readers, we are reprinting your letter to Broadcasting below.

"I would like to comment on your editorial of December 21st on the subject of CATV systems being forced to pay for the privilege of increasing the coverage of broadcast programs.

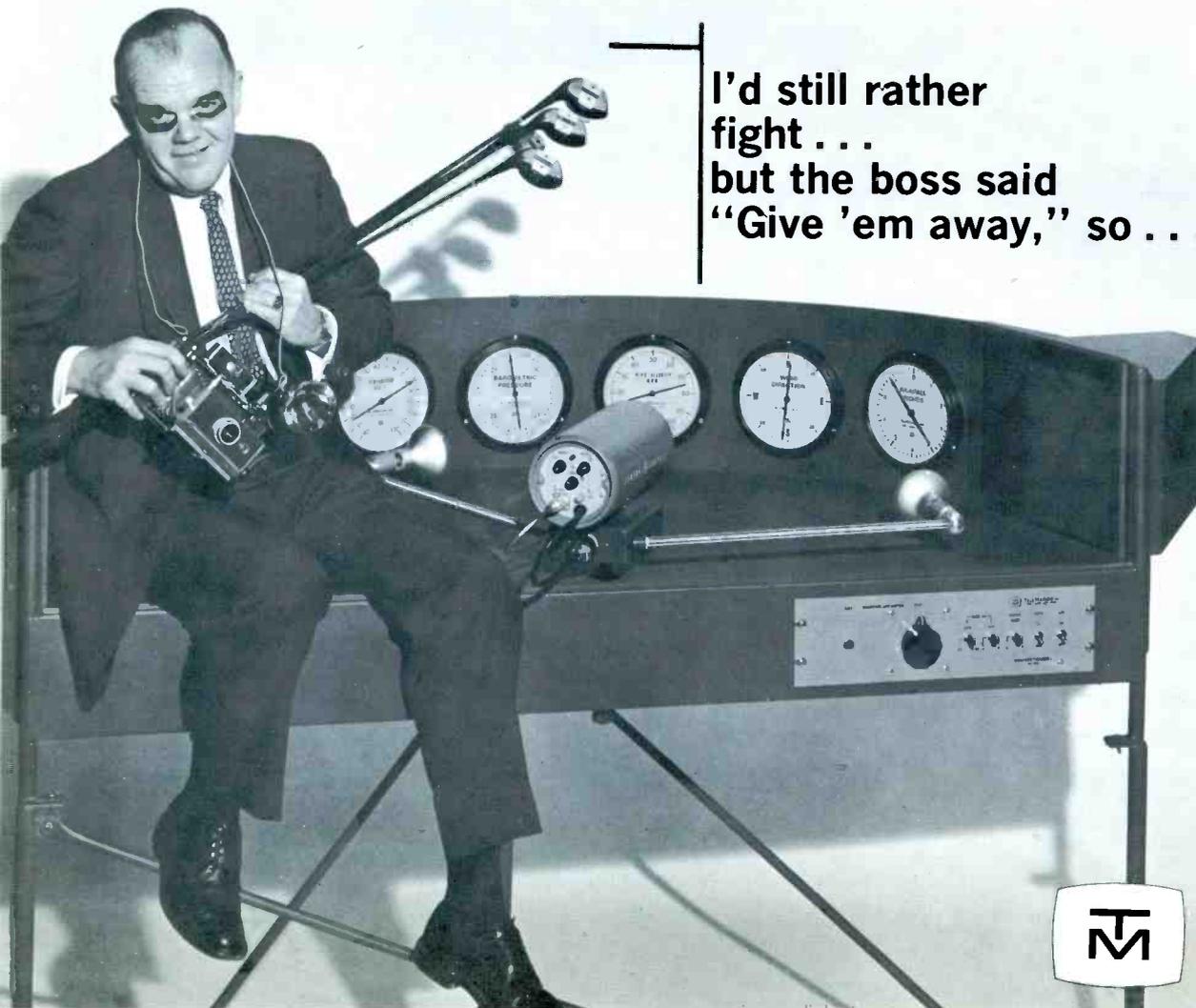
"TV stations habitually put their antennas on as high a tower as possible to increase their coverage under the principal that the more people it reaches, the better they like it. If a CATV system stretches the signal to cover several thousand more homes, they should be thanked, not sued.

"Now I can understand how CBS or another network can claim economic injury by this practice. To make it very clear, let's take a typical situation and show what could happen. In a city 80 miles from a major 3 network city, there is one VHF TV station. At present, this city of 125,000 people cannot receive the signals from the major city except occasionally, and, therefore, CBS can sometimes sell, for later broadcasting by the local station, one of their 'spectaculars' and thus derive added revenue. If a CATV

system were to be installed and 70% of the homes converted to it, the local TV station would probably not be willing to buy the program for later broadcast because they would feel that too many of their viewers had already watched it on the cable. So we have established monetary loss to the network and the copyright holder.

"Now please bear in mind that all the CATV system did was to run a line from the viewer's set to a high tower where the signals could be received more clearly. Technically and actually it is an extension of the customer's lead in wire. The fact that the signals along the cable had to be amplified occasionally would not seem to materially affect the nature of the service being performed.

"To make the situation even more clear, I would like to resort to another hypothetical case. Let us assume that one of the larger antenna manufacturers decided to hire a group of the most capable propagation engineers, assign them to work with the best computer available and come up with the design of a roof top antenna that would bring in clear pictures every day from 80 miles. Let us further



I'd still rather
fight . . .
but the boss said
"Give 'em away," so . . .

any WEATHER CHANNEL
ordered for release
between now and June 30
will include a choice of
these WEATHER CHANNEL
specials:

A matched set of four
Haig-Ultra Woods

or

A Polaroid Color
camera and film pack

If you'd like further details,
call me collect :
(801) 487-7646.

Ask for Ben.



TELEMATION, INC.
2275 SOUTH WEST TEMPLE
P. O. Box 15551
SALT LAKE CITY, UTAH 84115

assume that they did come up with a design and test models were made and results were exactly as predicted by the computer. Because of its radical design it was readily patentable and the manufacturer decided 'this is too good to sell—I will rent it to home owners for \$5 per month'.

"Now, in this city of 125,000 people 80 miles from the major city with 3 networks, 70% of the people are renting this marvelous new antenna on their roof tops and receiving the CBS programs as broadcast from the major city.

"Please sir, would CBS be able to sue the manufacturer for providing this wonderful antenna to set owners in a city where CBS expected to subsequently sell a 'spectacular'? Would they be able to sue the home owner for using it?

"It would certainly be nice for broadcasters and network if they could control broadcast signals so that they faded away to nothing once they had covered with complete full strength some arbitrarily drawn lines on a map. But since this is not the case, at least up to the present time, maybe they will find in the court case to come up that helping someone pull in these signals in the air at any particular moment is not a cause for action."

John W. Servies

Dear Stan:

Congratulations on your editorial in the April, 1965 TV & Communications!

Davco Electronics Corp.
Batesville, Arkansas
Jim Davidson, President

Dear Sir:

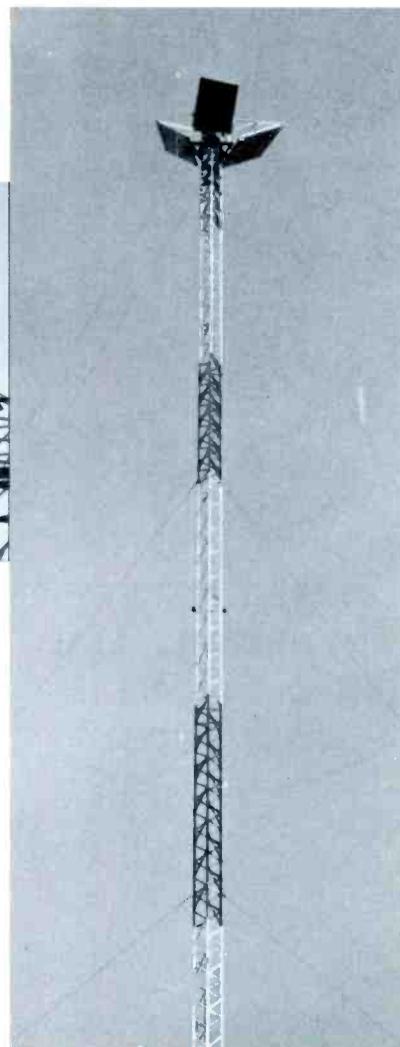
I would like to know if you ever heard of a repairman (T.V.) that became allergic to his work. We have a man with us who has been in the business 16 years. The doctors can't find anything to cause his trouble. They have the theory that he has absorbed radiation. He has tried many doctors and many kinds of medicine. Nothing seems to help him.

Million Electric Co., Inc.
Espanola, New Mexico

• We have not heard of any such problem. If any of our readers have had (or heard of) such an experience, we urge you to let us know.

TV & COMMUNICATIONS

CHECK ROHN FOR YOUR TOWER NEEDS FIRST!



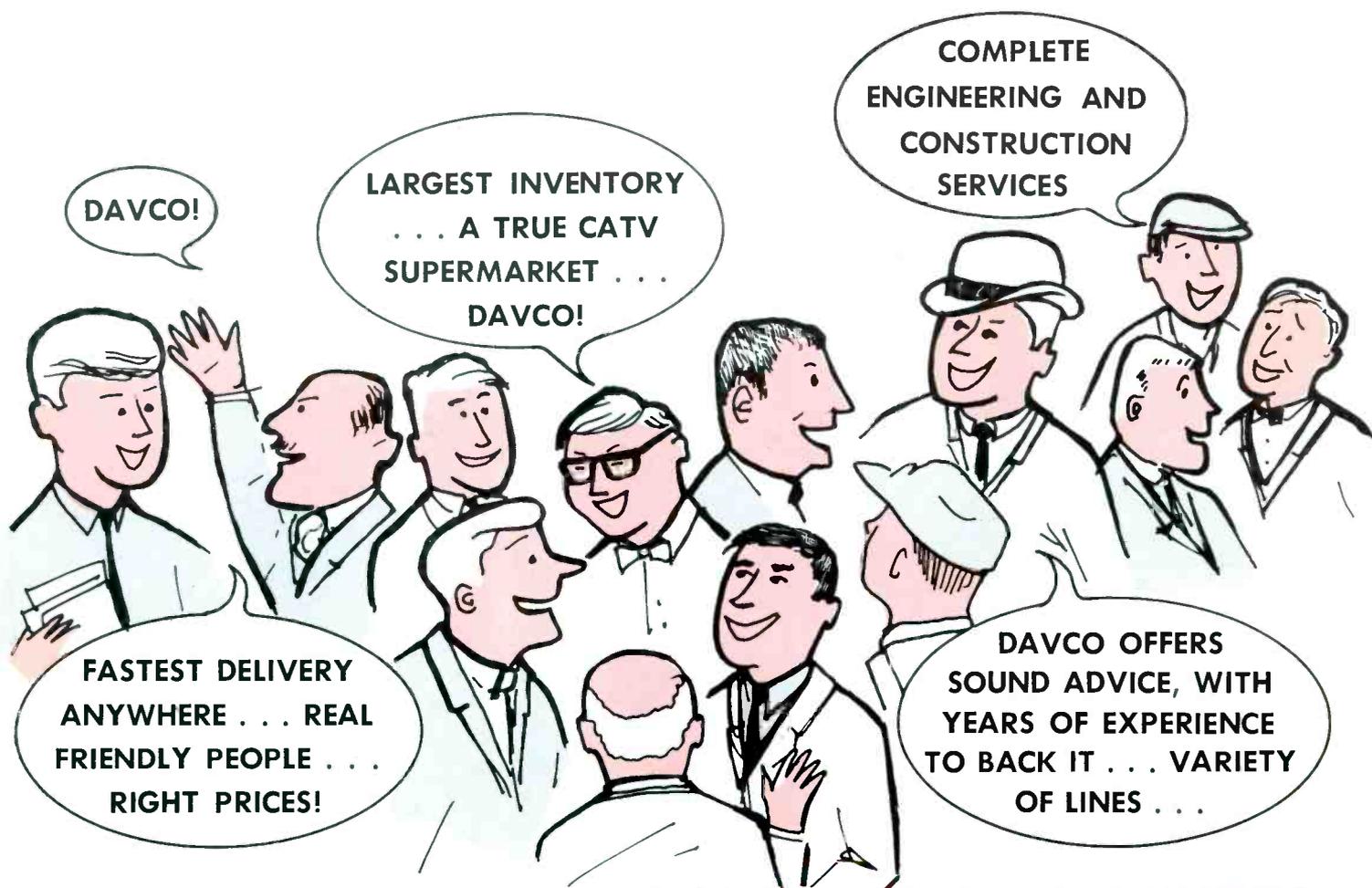
- ✓ Full line of proved communication towers to fit every need . . . includes heavy duty broadcast, CATV, and microwave.
- ✓ Tower design and engineering is tested by thousands of ROHN tower installations.
- ✓ Complete installation service available to take care of the entire job—professionally and to save you money.
- ✓ Complete line of microwave reflectors and tower lighting equipment available.
- ✓ Deal with one of the oldest and largest tower manufacturers in the U. S.—representatives world-wide.

Write—Call—Wire for Immediate Service

ROHN Manufacturing Co.

P. O. Box 2000, Peoria, Illinois

Phone AC 309-637-8416



... PEOPLE ARE TALKING!

About a place CATV operators like to patronize . . . DAVCO! Why? They have learned that Davco **does** have the largest inventory of CATV equipment with the best variety of lines and equally attractive prices. People are talking about Davco's fast, personalized delivery of each order, regardless of size. They have come to rely on Davco's sound advice backed by years of experience. And CATV businessmen everywhere enjoy the satisfaction of dealing with the friendly Davco personnel. Davco's loyalty to customers is known far and wide. You, too, will be talking about Davco's personalized service and swift attention to your order whether it is for a single tube or a complete head-end.

Send for your giant Davco catalog today!

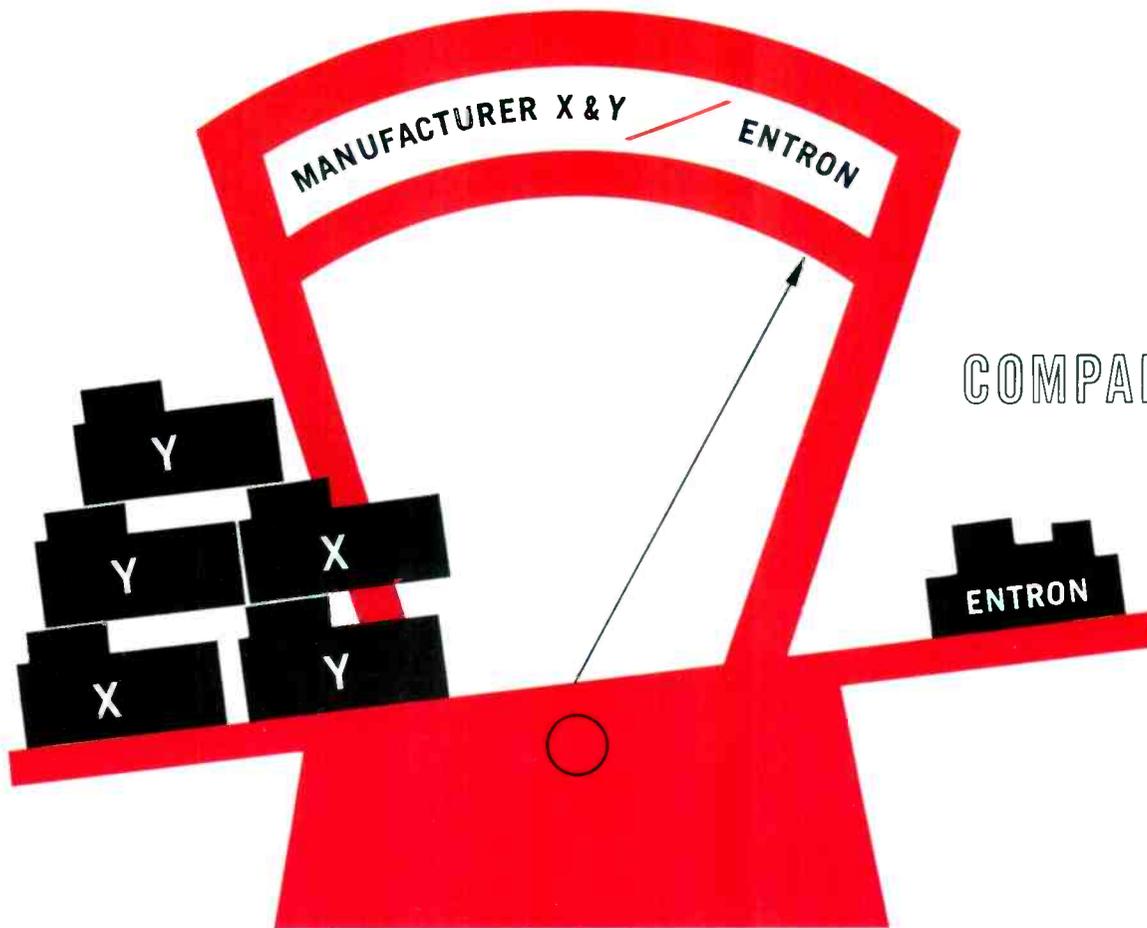


YOUR CATV SUPERMARKET!

DAVCO ELECTRONICS CORPORATION

IN CATV SINCE 1949

P.O. BOX 861 • TELEPHONE (501) RI 3-3816 • BATESVILLE, ARKANSAS



COMPARE!*

MORE SYSTEM WITH FEWER AMPLIFIERS

TRIM initial cost--CUT maintenance costs with Entron's combination high level tube and solid state CATV systems

**(from our files of competitive bids)*

CASE 1 —A 25 STRAND MILE SYSTEM (1/2 & 412 ALUMINUM CABLE):

MANUFACTURER X

32 Trunkline/BRIDGING AMPLIFIERS
 14 Bridging Amplifiers
 82 Line Extenders
 2 LEVEL CONTROL Amplifiers

130 total cost \$22,000

ENTRON

9 Trunkline Amplifiers
 24 Bridging Amplifiers
 17 Solid State Extenders
 0 (none required)

50 total cost \$14,000

CASE 2 —A 30 STRAND MILE SYSTEM (1/2 & 412 ALUMINUM CABLE):

MANUFACTURER Y

153 units

\$23,500

ENTRON

47 units

\$13,500

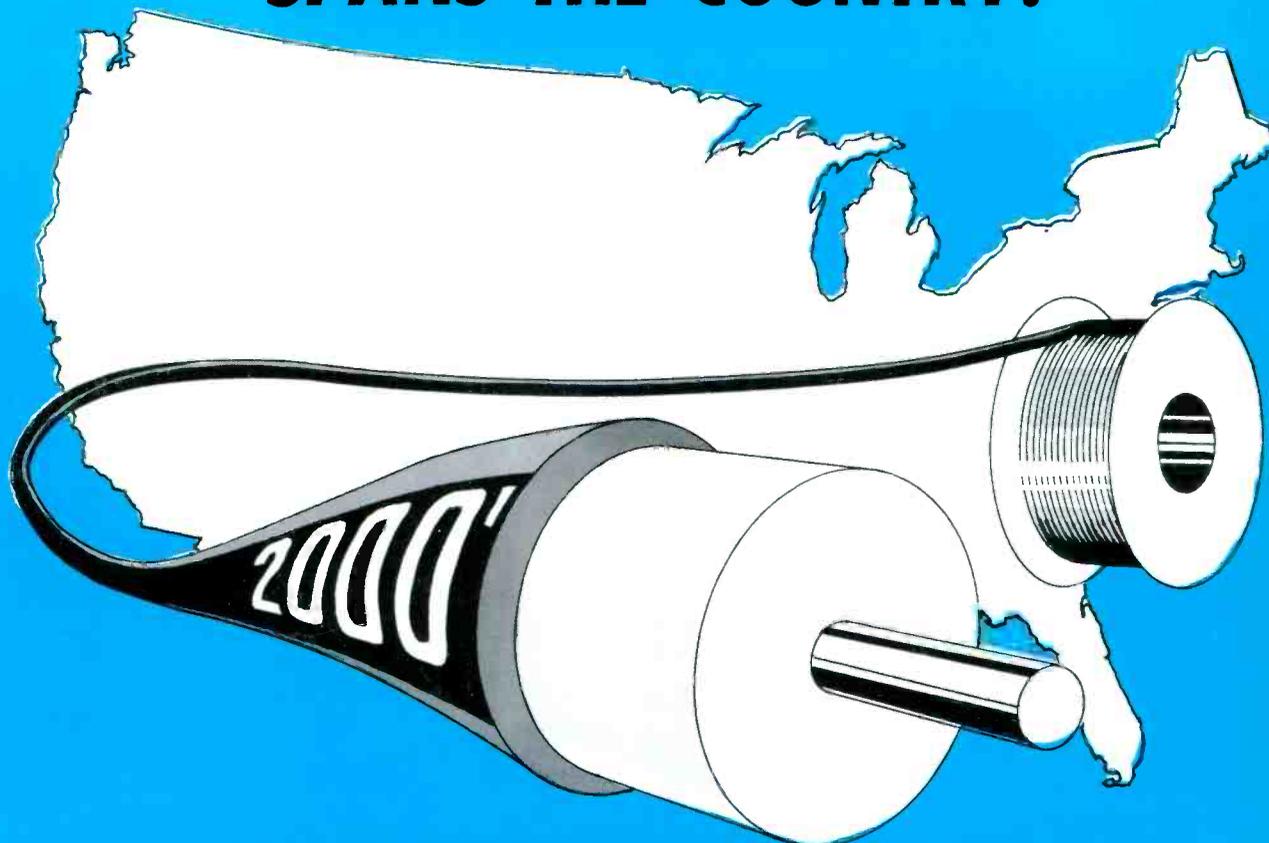
IN EVERY CASE the system owner **SAVED MONEY** on original equipment. **SAVED MONEY**—less equipment positions to install. **SAVED MONEY**—fewer fittings and accessories. **SAVED MONEY**—fewer units to maintain.

IT MAKES SENSE TO USE THE BEST


 INCORPORATED

2141 INDUSTRIAL PARKWAY Silver Spring, Maryland 20904 Area Code 301 622-2000

VIKING SOLID SHEATH ALUMINUM SPANS THE COUNTRY!



**Now in 2000 ft. Reels...One Continuous
Length of Solid Seamless Aluminum Perfection.
Every Inch Quality Controlled!**

This extra length is available on all our
solid seamless aluminum cable:
Regular or with polyethylene jacket

- In Stock
- Available in All Sizes

Think ONCE! Think RIGHT! Think VIKING!

WHY THIS EXTRA LENGTH?

- To save you at least 10% in installation.
- To save you in labor costs.
- To minimize connectors and splices and maintenance problems.
- To increase your profits by upgrading your system and your planned potential.
- For the finest electrical performance.

viking



Manufacturers of Quality Coaxial Cables and Television System Products

830 Monroe Street, Hoboken, New Jersey ■ Call Collect: New York: (212) WH 3-5793, Hoboken: (201) OL 6-2020