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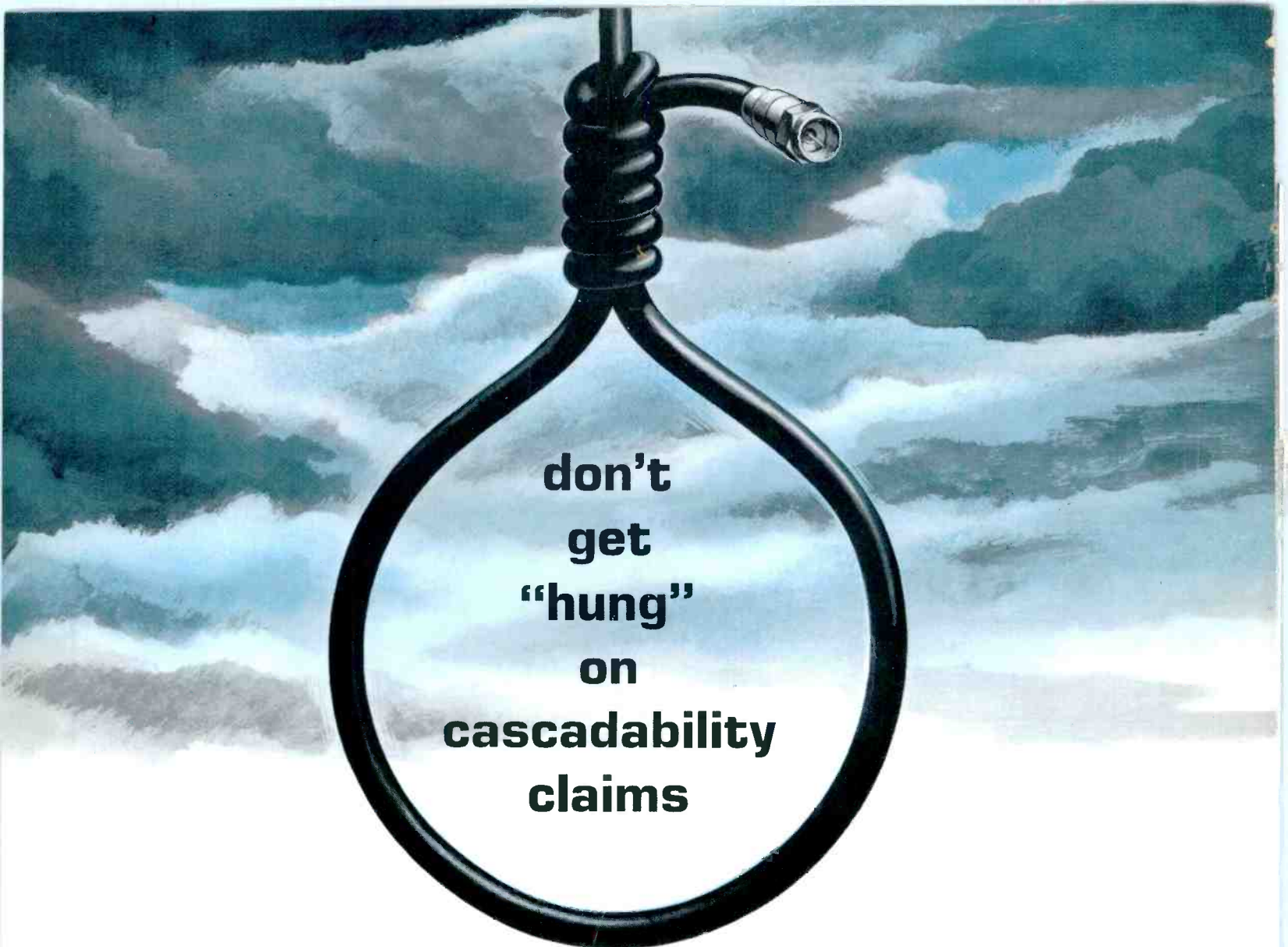
DECEMBER 1965

TV & Communications

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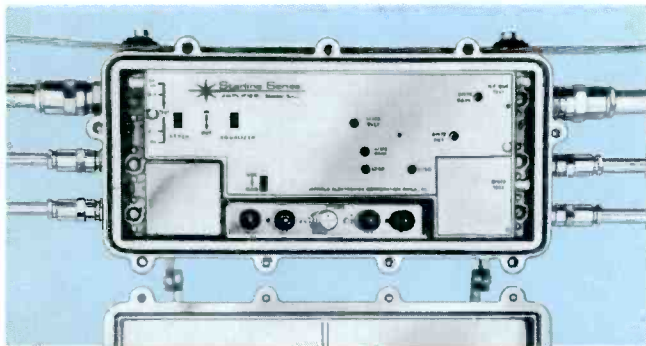
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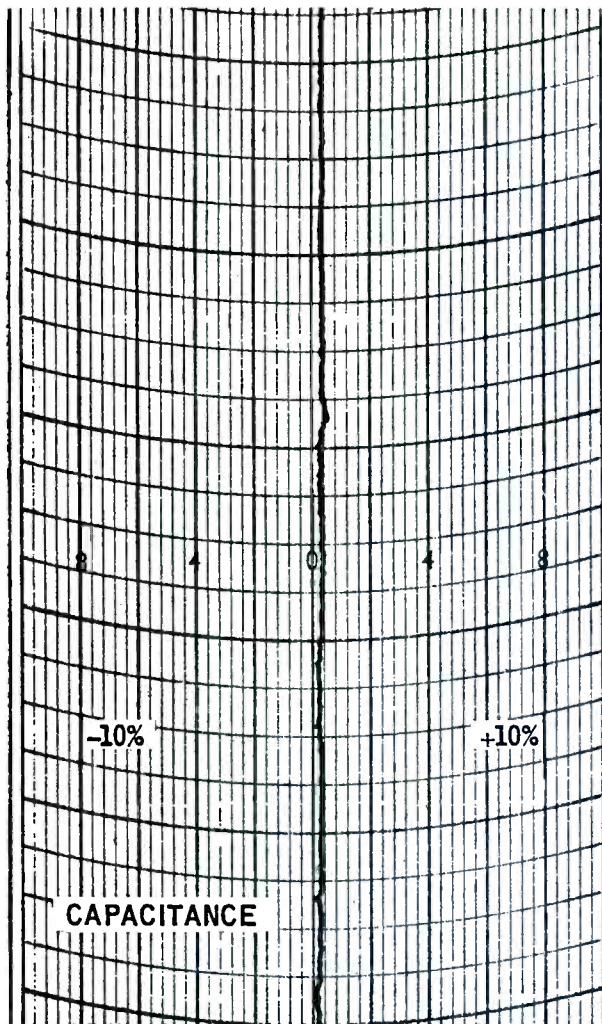
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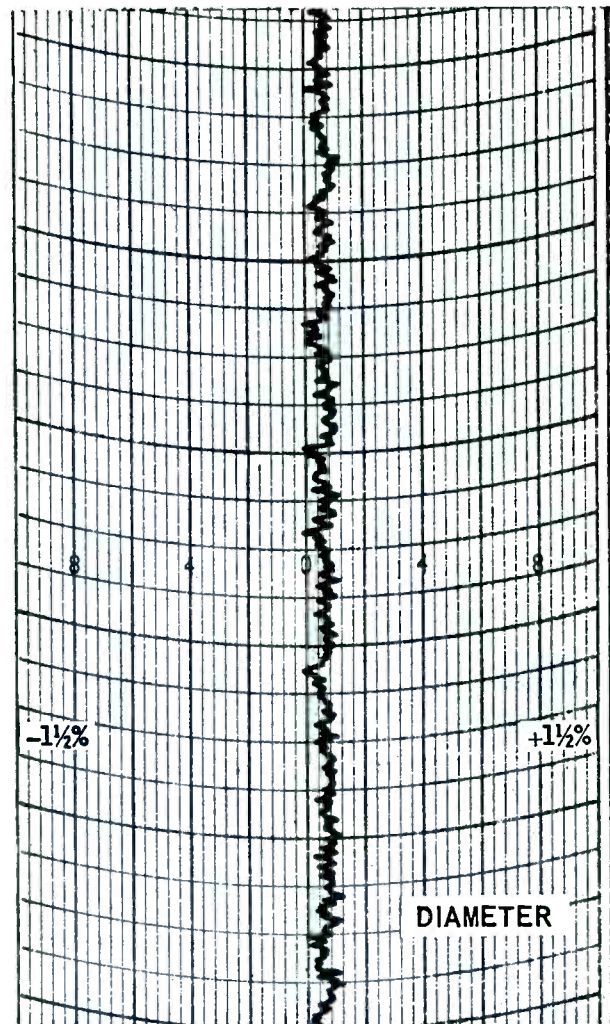
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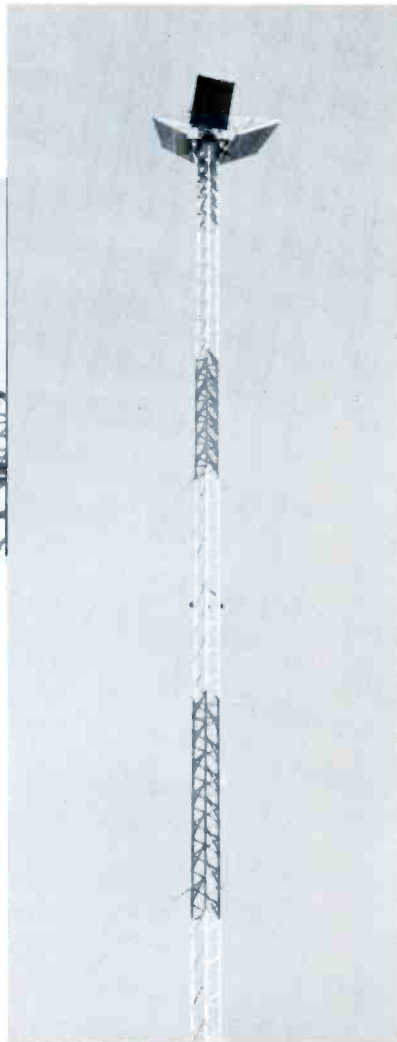
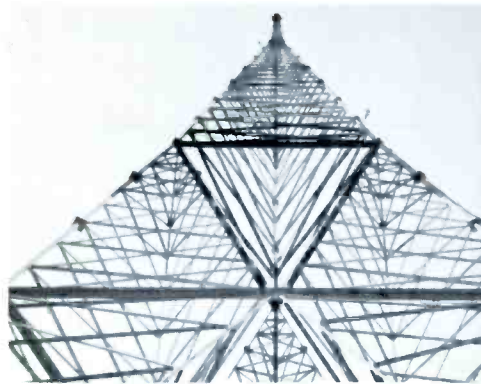
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IN THIS ISSUE . . .

"WE ARE NOT A UTILITY"



National Community Television Association chairman Benjamin J. Conroy, Jr. presents a timely look into the growing problem of public utility regulation of cable television systems. The model legislation for plac-

ing CATV under public utility type regulation drafted by the National Association of Railroad and Utilities Commissioners is Mr. Conroy's prime target, as he states the case for strong organization at all levels among CATV operators.

REFLECTOR COMBINATIONS



With increased use of the Business and CAR microwave services for delivery to CATV systems, the installation and adjustment of "periscope" antennas is increasingly important to CATV technical people. In this

Technician Section feature, Alan Bell of New York Penn Microwave Corporation presents his suggestions, based on field experience, for the adjustment of microwave antenna reflector combinations.

OUR COVER



Set in picturesque Leisure World in Laguna Hills, California, this month's cover features the newly opened buried plant in that development. Shown, in addition to the Channell Splicing pedestal, are (l. to r.)

Lloyd McAfee and William Lasky, now with Spencer-Kennedy Laboratories. The system offers Leisure World residents 10 commercial signals, plus a locally originated video channel, and utilizes Superior cable in addition to the Channell Splicing buried plant accessories.

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TV & COMMUNICATIONS

THE PROFESSIONAL JOURNAL OF THE CABLE TELEVISION INDUSTRY

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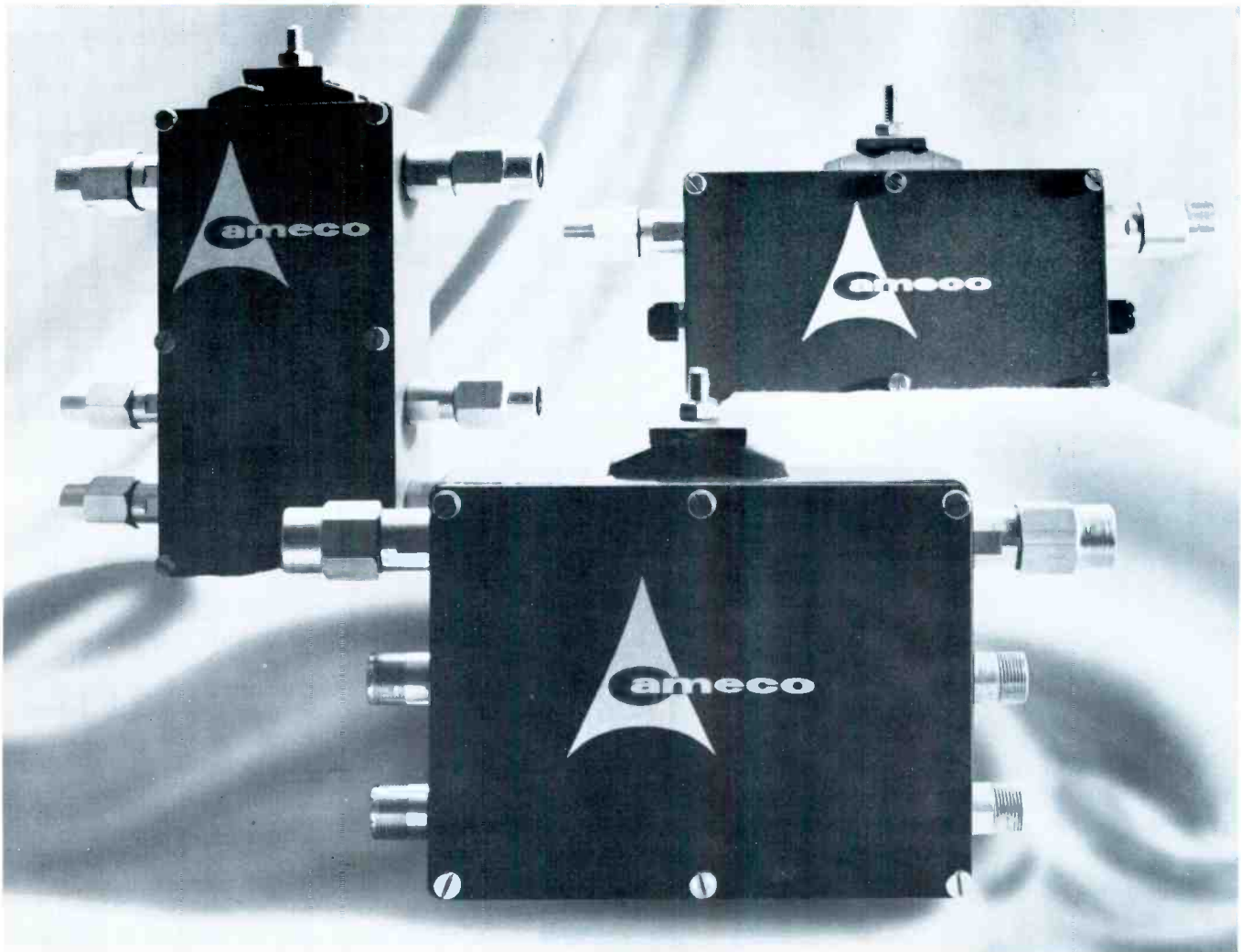


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Who Needs Protection?

Last month our friend Bob L'Heureux of NCTA appeared in court on behalf of two CATV operators, to argue that the FCC's economic impact theory and its non-duplication rules are totally unreasonable. On CATV matters Mr. L'Heureux is probably the best informed legal counselor in the land. So it was no surprise when he laced the Commission quite soundly for "giving the broadcaster a club to harass the CATV operator," referring to non-duplication that is invoked solely at the discretion of the broadcaster.

In addressing the U.S. Court of Appeals in St. Louis, Mo. (Black Hills Video & Mid West Video vs. FCC). He pointed out that the "Commission's emphasis is on protection of the broadcasters rather than on the amount of protection which the public interest requires, if any." L'Heureux cited the "absolute absence of any proof in the Record" of a single case of substantial adverse economic impact by CATV on a broadcast station. This fact is, of course, in peculiar contrast to the basic Commission philosophy of **supposed** economic impact.

As most cable operators (and interested broadcasters) are aware, only three cases of alleged economic impact have been the subject of FCC hearings. In all three cases such economic impact by a cable system upon a station was not found to exist. In the single exception, Mr. L'Heureux noted, the Commission reversed the Hearing Examiner's decision in the Carter Mountain case on the basis of statistics which were never subjected to cross-examination. He further notes that several months ago "Mr. E. William Henry, Chairman of the FCC, admitted he could not cite one example of a CATV which had put a TV station out of business."

Mr. L'Heureux told the Appeals Court "the Commission decided that if it was short on proof, it could be long on speculation," and concluded that CATV would harm television stations **in the future** . . . especially UHF stations in big cities. This pure conjecture has been refuted even by Dr. Seiden, the FCC's own researcher.

However, the Commission proceeded to adopt rules which Bob L'Heureux summarized as follows: "You are guilty unless you prove there will be no adverse impact, but we won't give you a chance to prove it in an individual case in a hearing, and we won't even give you a one-shot evidentiary hearing in the Rule-Making Proceeding on these rules themselves."

In conclusion, L'Heureux asked the Court to consider the inequity of the Commission's rules becoming applicable "upon a mere request by the broadcaster in writing" without any obligation on his part to prove a need for such protection. In fact, the telecaster is not even required to allege the existence of a threat to his financial status! Mr. L'Heureux stated that a broadcaster with a one-quarter million audience and a million dollar a year profit can get "protection" from an 800-subscriber cable system in a small town. Concerning the Commission he asks, "Are they protecting the public interest or the broadcaster?"

The expensive time clocks and towering manpower costs required for non-duplication, delayed or simultaneous, represent a tremendous burden upon cable operators. And, as L'Heureux mentioned in the St. Louis court hearings, the service to cable subscribers may be substantially impaired by the arbitrary non-duplication provision.

It seems that nowadays it is CATV that needs protection! And, for our money, one of the staunchest defenders our industry has is Robert D. L'Heureux, General Counsel of the National Community Television Association. Bob, our hat is off to you!

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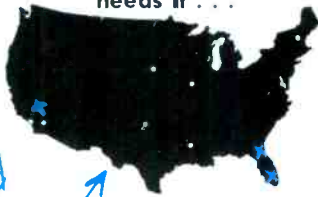
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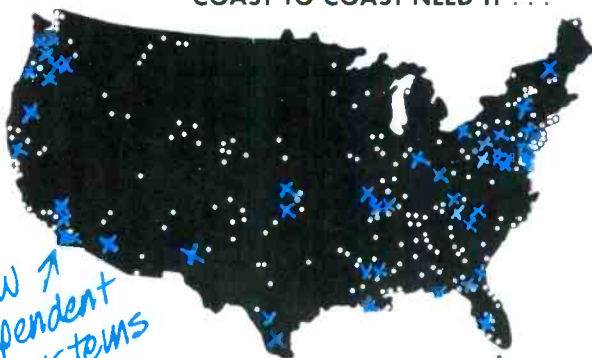
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News SPECTRUM

NCTA, AMST, SMITH & PEPPER FILE REPLIES TO PART II

The Association of Maximum Service Telecasters told the FCC that CATV must be rigidly regulated to preserve free TV, while NCTA and the law firm of Smith & Pepper said such regulation would only protect excessive TV station profits. These were reply filings in Part II of the FCC proceedings on CATV.

AMST termed restrictions on importation of distant stations the key to effective CATV regulation. It said

that Congress wanted it truly competitive, not to have the FCC heed broadcaster pleas against competition for their audience.

The NAB request which he interpreted as meaning to make all CATV systems ineligible for microwave, he interpreted as "a bald request for Commission protection of the television broadcaster against competition for the television viewing audience, contrary to the antitrust laws which the

Commission has made expressly applicable to television stations. . . ." NAB and AMST are not concerned that the networks will be providing non-duplicating programs of independent stations, but "are simply trying to obtain complete insulation against competition. . . . contrary to the expressly applicable antitrust laws," he continued. NCTA urged the FCC to "obtain the pertinent facts" before hobbling CATV as requested by the telecasters, and to do this in an expeditious hearing.

L'Heureux said "perhaps the most objectionable aspect of the NAB's and AMST's comments is their blind endorsement of all the Commission's actions for assumption of authority over CATV systems. The very same actions can be relied upon by the networks, with equal justification, to exercise jurisdiction directly over broadcast networks and to restrict the practices of the latter and even of individual TV stations with respect to programming, program availability, and myriad other aspects of running the daily business of operating a TV station. . . . furnish to the Commission new arguments which are double-edged swords and which will one day be turned against the networks and the broadcasters."

Smith & Pepper, representing many CATV systems, accused those who filed in the proceedings in favor of stern CATV regulations of seeking to preserve the status quo. Their comments, the lawyers argued, "constitute a remarkable exercise in the art of red herring dragging by using CATV as a popular whipping boy to divert the Commission's attention from their obvious drastic adverse impact on the development of UHF broadcasting as

well as medium and small town local broadcasting in general."

As to UHF, Smith & Pepper said, "will the real culprit please stand up?" Although CATV has been blamed, the real problem with UHF is its inability to compete with entrenched network-affiliated VHF stations, the Commission was told. The Commission was also told "it is earnestly submitted that the Commission should deal with the UHF problem at the source of the trouble and should weigh carefully on a case by case basis its control of CATV in relation to UHF since CATV has an inherent ability to extend and promote the coverage of such stations which is far more clear than any inherent adverse capacity."

The Commission has no power to regulate CATV. Smith & Pepper concluded, adding that if the FCC nevertheless assumes such power "no protection should be given to stations which are already reaping fat harvests because of their favored position. . . . the predominant status of network-affiliated stations will remain, and the independent stations will be left with a few scraps until they again starve to death. . . ." with the blame placed on CATV.

FILINGS, ORAL ARGUMENTS IN TAME, FCC CASE

Oral arguments were heard in the TAME vs. FCC case in the Washington, D.C., Appeals Court, after principals had filed written briefs. Answering the TAME, Philadelphia Broadcasting charge that CATV is a common carrier service were the FCC, whose earlier decision is being questioned in the court, and NCTA, who filed as an intervenor in the action.

In its written brief, the Commission hinted that TAME probably wants to regulate cable operators out of business. In the filing, prepared by counsel Lenore Ehrig, the FCC said that the case should be dismissed even without oral arguments. The question, she contended, was not that of whether the Commission should or could have designated CATV as a common carrier, but whether that agency had abused its discretion in the decision that it was not. Referring to the nature of CATV as opposed to those of a common carrier and to the history of four similar decisions by the Commission, the brief concluded that no such abuse was in evidence.

The NTCA written brief, prepared by association counsel Robert H. L'Heureux, E. Stratford Smith and Roger E. Zylstra, requested that the TAME petition be dismissed for failure to show that granting of the petition would provide the petitioners re-

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asked the FCC to impose very high technical standards on CATV systems, and to allow only a brief transition period. It said systems unable to comply would mainly be those already quite old and needing to modernize in any case.

NCTA's Bob L'Heureux started right off with "contrary to the implication contained in the comments (of NAB and AMST), when Moses descended from Mount Sinai, he did not hold in his hands the Table of Allocations." He added that the table has no bearing until it can be proven that CATV has a detrimental effect on local service and this proof is still lacking. . . ." Congress wanted a competitive commercial TV system, not only a system of stations, he argued, and he added

lie from the alleged adverse effects of CATV. The amicus curiae brief cited Supreme Court rulings and portions of the Communications Act in defining a common carrier as it differs from cable service.

In the oral arguments before the court, which took place despite FCC and NCTA contentions for dismissal, each side was allowed 30 minutes. NCTA and Rollins Broadcasting gave their time to the FCC's counsel, relying upon the so-called "expert agency doctrine." Under this Supreme Court doctrine, the courts are not to upset decisions of expert agencies such as the FCC without compelling reasons.

Appearing before a three-judge panel of the Appeals court, FCC counsel Daniel Ohlbaum virtually rested his case on this doctrine. Following closely the arguments of the Commission's written filing, he told the court that the FCC is proposing to regulate CATV as an arm of the broadcast industry, but that rate regulation would better be left to state and local agencies.

Judge Donahue asked Ohlbaum if CATV's would be considered common carriers by the FCC if broadcasters contracted with them to carry their signals. Ohlbaum conceded that this would be the case.

TAME counsel Joseph Fanelli argued that such consent is implicit in the economics of present CATV carriage of telecasters' programs because larger audiences and larger rate bases result for the broadcaster and he therefore wants CATV carriage.

In his direct case, Fanelli said CATV falls squarely within the common carrier section of the Communications Act. Fanelli accused the Commission of receiving an opinion from a collection of its best staff experts that CATV is a common carrier and if the commissioners didn't want to regulate it as such, then they should ask Congress to change the law. The FCC, he said, directed instead that the staff write up a decision holding the opposite.

He termed CATV monopolies, "you don't find two in the same city," and added that "nothing will be taken away from CATV except the privilege of making exorbitant profits." He told the court CATV interests have "observed and without any apparent shame that subscribers bring \$300 to \$500 per head . . . slaughter of cattle brings about the same . . ." Fanelli also accused CATV entrepreneurs of building systems paying for them quickly out of exorbitant fees, selling them for large prices, and having the buyers recoup their investments quickly in the same manner, with the selling process then taking place again and

again. He told the court that to uphold the FCC would be to "ignore and put under the rug" the entire intent of Congress to protect consumers through common carrier regulation.

BLACK HILLS CASE

The FCC's non-duplication rules for micro-wave-fed systems came under fire from Black Hills Video's counsel Max Paglin in oral arguments before the U. S. Court of Appeals in St. Louis. Paglin asserted that the FCC has insufficient authority to regulate cable television, without specific Congressional action on the subject. FCC counsel Geller argued that the Commission's authority had been recognized in court action on the Carter Mountain case, and again in the recent Idaho Microwave case.

Paglin contended that an evidentiary hearing should be held in cases of local stations complaining that cable systems are affecting them adversely. He also cited the FCC's statement in 1959 that it did not have authority over wired television distribution systems. Paglin's contention for evidentiary hearings on a case-by-case basis was supported by NCTA counsel Bob L'Heureux.

L'Heureux hit hard at the FCC's contentions of possible economic impact of cable systems on broadcasters. The rules, he concluded, state that cable operators are guilty unless they can prove there will not be adverse economic impact in the future—but proof must come without benefit of even a one-shot evidentiary hearing.

NORTH CENTRAL ASSOCIATION MEETS; ELECTS OFFICERS

Fifty systems were represented by over 80 CATV'ers at the Minneapolis, Minn., meeting of the North Central CATV Association. New officers elected by the group are Robert L. Loos, TV-FM Cable Co., Dubuque, Iowa, president; and G. S. Grengs of Wisconsin Theater Video Corp., Eau Claire, Wisconsin, vice president. H. Clifton Kroon, Minnesota TV Signal Distributing Company, Mankato, Minnesota, will continue as secretary-treasurer. NCTA President Frederick W. Ford and Frank Thompson of the NCTA Executive Committee were guests of honor at the meeting.

LOS ANGELES HEARINGS ON CATV

The CATV hearings before the Los Angeles Board of Public Utilities and Transportation have come to a halt with a victory indicated for CATV forces. The PUST Department changed its original recommendation that CATV be declared a public utility and recommended it be regulated by ordinance. General manager and department head Robert Russell, who made

made the original recommendation, now said that he "believes CATV is entertainment and not a matter of public welfare." The change in his department's attitude came after meetings with Walter Kaitz, counsel for the California CATV Association and Los Angeles City Attorney. Kaitz pointed out that to date no other local agency had taken action to declare CATV a public utility and that such action would have an adverse effect upon financing and construction of systems, to the detriment of the public interest. He also stated that such action by the city would "open a Pandora's box of legal action" that would delay the city's efforts to regulate by three years. The City Attorney told the department that "there exists serious doubt that CATV can be regulated as a utility."

NCTA TO SPONSOR FINANCIAL SEMINAR

An information and financial seminar is scheduled for January 18, sponsored by the NCTA. The proposed agenda includes presentations by Ben Conroy, Milt Shapp, Archer Taylor, Irving Kahn, Jack Crosby, Frederick Ford, Strat Smith, Bruce Merrill, Bill Daniels and other well known CATV'ers, as well as NAB's John Dille and Commissioners Henry and Loevenger.

CALIFORNIA CTA HOLDS SEMI-ANNUAL MEET

The California CATV Association, hosting more than 200 cable system operators, equipment suppliers and their families, met in San Diego for a two-day semi-annual convention. Speakers on the program agenda included NCTA Chairman Benjamin J. Conroy, Uvalde, Texas; NCTA Director Harry C. Butcher, Santa Barbara, Cal.; James L. Stoltzfus of the R. H. Donnelly Corp.; and Bill Daniels, president of Daniels & Associates. Primary attention was given to regulatory threats on local, state and national levels, as well as to pole attachment agreements and telephone company intentions relative to CATV. Convention host was William L. McPheeters, CCTVA president and Carmel system executive.

A panel discussion on "CATV Today and Tomorrow" included Ben Conroy, Bill Daniels, Wally Briscoe, George Green, Ameco, and Walter Kaitz, CCTVA legal counsel, with Harry Butcher as moderator. Briscoe, referring to FCC policy and actions, declared that "the FCC is a little bit edgy . . . anticipating the day when someone will ask 'why have you authorized over half of the radio spectrum to entertainment?'"

Conroy predicted that within a few years legislation will be introduced into every state to make CATV a public utility. He pointed out that, although "broadcasters are more of a public utility than CATV," they are federally exempted from public utility regulations.

The cable subscribers, according to Daniels, are the "great source of power with Congress." Proposing that NCTA use professional public relations personnel to implement this asset, Daniels stated that "we have not recruited the assistance of our customers in attempting to win the battle before Congress."

PUC ALLOWS MAINE CATV SERVICE

The New England Telephone and Telegraph Company has been given permission to provide service for CATV in Maine. Stating clearly that it had no jurisdiction over CATV, the Public Utilities Commission ordered that the only issue over which it had authority was the schedule of rates to be charged for the leaseback service. Emphasizing that its responsibility was to see that the rates charged would be compensatory and not burdensome to telephone users, the commission ordered the telephone company to file a detailed report in one year, setting out the investment, expenses, and revenue involved in the operation. In addition, the commission charged the company to report when and where it is furnishing such services.

CATV's FIRST CREDIT ASSOCIATION FORMED

The first credit association in the CATV industry emerged from an organizational meeting held last month at the Statler-Hilton in New York City. The Community Television Credit Association elected James F. Nelson, Jerrold Electronics Corp., Philadelphia, Pa., president; Douglas S. Turner, Ameco, Phoenix, recording secretary; and Arthur Gill, Transitube Inc., New York, treasurer. The first order of CTCFA business was discussion of means of interchanging credit information among members of the association through a standard form. The association plans tentatively to meet again in February.

TELCO ORDERED TO SUSPEND LEASEBACK RATES

The Chesapeake and Potomac Telephone Co. has been ordered to suspend until March 1 its proposed rates for leaseback systems. Issuing the order, the West Virginia Public Service Commission said that the telephone company had not furnished enough details on rates, which included \$16.50 a month for each quarter-mile of

feeder cable, \$10-\$15 installation charge, and 45 cents a month for each hookup on the leaseback operator's system.

MISSISSIPPI ASSOCIATION ELECTS OFFICERS

Re-elected president of the Mississippi CATV Association is J. E. Wolfe, president of TV Cables, Inc. of Cleveland. Other officers of the association are Frank Evans, Granada Video, Inc., Grenada, Miss., vice president; and Mrs. Lucille Fennell of the Vumore Co., Clarksdale, Miss., secretary-treasurer. The Jackson, Mississippi, meeting was attended by Carrol Gartin, Lt. Governor of Mississippi, who addressed the group on the subject of franchises. Twenty-five member systems throughout the state are represented by the association.

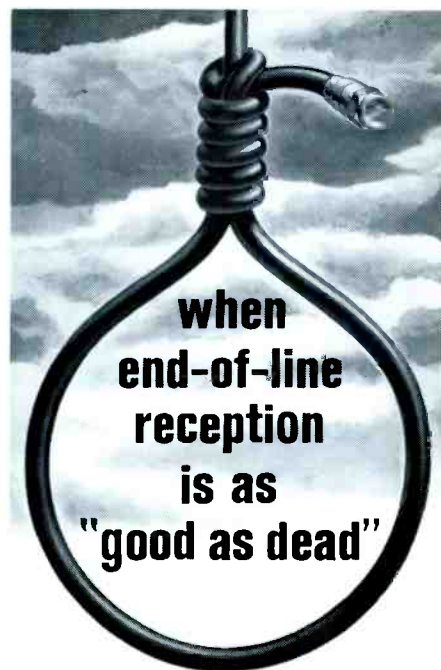
CATV MAY FIND NEW FRIEND

A House Small Business subcommittee is preparing a probe into TV, as affects small business. There is a fair possibility that CATV will enter the picture and that CATV, as a result, may wind up with more Congressional defenders than it has at present. The subcommittee, under the chairmanship of Rep. John Dingell (D., Mich.) has a very broad field of inquiry cut out for it. Since cable systems are, for the most part, small businesses, the subcommittee will probably inquire into handicaps which the systems operate under. Coming under special scrutiny will be those groups which have helped place handicaps on the cable systems.

STATE ASKED TO RULE CATV A PUBLIC UTILITY

The Rhode Island Public Utilities Administrator has been asked by a Providence, R. I., company to rule that community antenna television systems are public utilities. The Outlet Co., operator of WJAR-TV, Providence, R. I., argues that cities and towns have no authority to grant any CATV permits or privileges, and that only the State Public Utilities Division has the right and is qualified to determine who is a proper candidate "capable of leasing CATV service from the telephone company." Their lengthy, documented petition contends that CATV systems are by their nature monopolies and as such should be regulated by the division. The petition contends that the division, not the New England Telephone Company, should decide who is qualified to lease CATV service from the telephone company.

State Public Utilities Administrator Frank L. Nunes approved a CATV rate filing by the New England Telephone Company last summer, but said he would study the petition and might call for a public hearing on it. Accord-



look to JERROLD back-matched pressure taps

If subscribers howl about color smearing and ghosting due to drop line standing waves, the system is as "good as dead". This is why Jerrold recommends the use of back-matched, multi and single-outlet pressure taps —for new and old systems.



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The secret of the all-band match is the toroidal-design transformer isolation insert with silver-plated contact pin. BMT is the finest insert available. Model CMT is a real break-through in no-compromise compact design for use with existing single-outlet pressure tap blocks. These easy-to-install inserts insure consistently sharp color or black-and-white pictures on all channels. For details write:



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ing to Nunes, the Outlet petition would give the state division the say in what CATV applicants qualified for telephone service, as well as regulatory jurisdiction over rates charged to customers by the CATV operator.

TELECABLE SIGNS FOR "NEWS CHANNEL"

Telecable, Inc. of Seattle, a major Pacific northwest CATV organization, announced last month that it has signed agreements with The Associated Press for installation of TeleMation News Channel service in six Washington systems. Richard Evanson, Telecable president, said the first installation would be made at the firm's new system at Longview about December 10. This will be the second machine installation in the country. "As soon as equipment becomes available," Evanson said, "we will add News Channel at our other present systems at Burlington, Anacortes, Bellingham, and Olympia."

Last month, American Cable Television of Phoenix, which operates 32 systems in 11 states, announced that it would also make TeleMation News Channel available to its subscribers.

The News Channel machine is completely automatic. The operator has only to change paper and ribbons every two or three days.

The Associated Press was represented in the negotiations with Telecable, Inc., by Bill McFarland, regional membership executive for Washington, Oregon, and Idaho, and Roy Steinfort, general broadcast executive from New York.

ILLINOIS UTILITY BUCKS TELCO

Central Illinois Electric and Gas Co. has asked permission of the Winnebago County Circuit Court to oppose Illinois Bell Telephone Company's petition for approval of a CATV rate schedule. The appeal was filed after the Illinois Commerce Commission refused to permit the electric-gas utility to intervene in opposition of tariff rates filed by the telephone company for Rockford. CIE&G treasurer Paul O. Ray said that his firm had its petition to provide CATV facilities for Rockford on file with the Illinois Industrial Commission when Bell intervened with its own plan.

FCC UPHELD BY IDAHO COURT

The U.S. Court of Appeals has ruled against Idaho Microwave's request for a reversal of conditions imposed upon its license to serve a CATV system in Burley, Idaho. The court ruled that the Federal Communications Commission did not err in imposing the conditions, which came after KMVT-TV, Twin Falls, Idaho, objected to the already operating microwave extension.

The Burley extension of Idaho Microwave's service began operating on an initial 1963 approval under a program service authority. However, when the company filed for a license, the FCC, while issuing the license, imposed restrictions requiring the Burley CATV system to carry the local station and not to duplicate its programming for 15 days before and after. Idaho Microwave protested, but the Commission refused to reconsider its decision.

FORTY-NINERS WANT BAN OF "PIRACY"

Louis G. Spadia, general manager of the San Francisco 49ers football team, is seeking to prevent what he calls CATV "pirating" of the 49ers' home games for sale within the home area. In letters to the Yolo and Contra Costa County Board of Supervisors, he has asked the passage of an ordinance preventing this from being done in those counties. In Yolo county he asked to be informed of any CATV applications or hearings so that the 49ers could attend and be heard. The "home territory" (blackout zone) of the 49ers extends 75 miles in all directions from San Francisco. "The 49ers are vitally interested in restricting any effort by an operator to pirate the signal of any televising of the home games for the purpose of selling it to viewers within the home territory on the same day," Spadia said.

In an interview with a "TV&C" staff member, Spadia said that San Francisco City and County had an ordinance of this sort and that they had first learned about CATV from advertisements offering the home games as a subscription inducement. He said that professional football had realized the threat of "same day" television coverage from the Los Angeles experiment where the average gate had dropped from 48,000 to 17,000 in one season when local telecasting of home games had been allowed. A check of the San Francisco City Clerk's office revealed no knowledge of such an ordinance, but San Francisco County franchises limit a CATV system to the reception of those stations in whose grade A contour they are located.

TEXAS PUBLISHING COMPANY ENTERS CATV

Carter Publications, Inc., owner of the Fort Worth Star-Telegram and WBAP AM-FM-TV in Fort Worth-Dallas, Texas, is preparing to enter the field of community antenna television systems. According to an announcement by Amon G. Carter, Jr., president and publisher, the newly-formed corporation will be known as Carter Cable Television, Inc., and

"will seek out opportunities for development of new CATV systems in medium-sized markets, as well as to acquire ownership or part-ownership of existing systems." The corporation now has applications pending in 15 such markets. John S. Tyler, who was formerly vice president and general manager of KFDA-TV, Amarillo, will head the new organization.

CLEVELAND OPERATION STARTS

The week of Dec. 5 was to mark the initial thrust of cable television into the greater Cleveland area. Telarama, Inc., which has 6 franchises in Cleveland suburbs and numerous applications pending, will begin operation in Beechwood, Shaker Heights, and Warrensville Heights. Not only is Telarama's operation significant in CATV's advancement into the larger urban centers, but it also represents another chapter in the conflict between pro football's 75-mile blackout rule and the cable operators. However, Telarama president Creighton Miller, who is also counsel for the National Football League players, argues that this conflict is more imagined than real. Miller wonders how reception of the Browns' games by a few thousand homes, out of a total of over 750,000 homes in the greater Cleveland area, can affect the Browns' attendance when they are currently enjoying overflow crowds.

AMECO REPORTS SALES

Sales and earnings of Ameco, Inc., for its first fiscal quarter ending September 30, 1965, reached record levels, Bruce Merrill, president, announced. Sales for the three months ended September 30, 1965, were \$2,954,158 up from \$1,774,505 reported in the comparable period last year.

Earnings for the three months were \$254,257 or 21 cents per share up from 15 cents per share reported in the same period a year ago.

LEASEBACK CONSTRUCTION BEGUN IN ILLINOIS

The first leaseback system in the state of Illinois is now under construction. The Illinois Bell Telephone Company has announced that it will install the headend equipment and 21 miles of cable for the plant, which will be operated by the Iroquois Cable Company. The system is located in Watseka, Illinois.

VIKING REPORTS EARNINGS

Viking Industries of Hoboken, New Jersey, has reported sales of \$8,306,530 for the first nine months of the firm's current fiscal year—as compared with \$6,170,000 for the same period of last year. Net income for the period was up 92 percent from 1964, to \$308,000 or 46 cents per share. □

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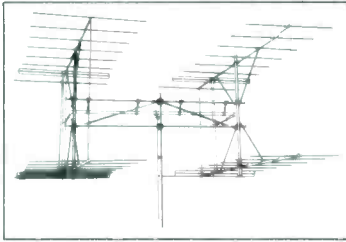
DEPEND ON KAISER-COX FOR CATV LEADERSHIP TODAY AND TOMORROW



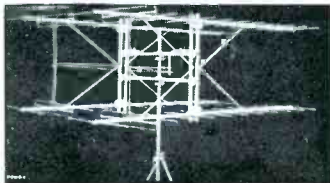
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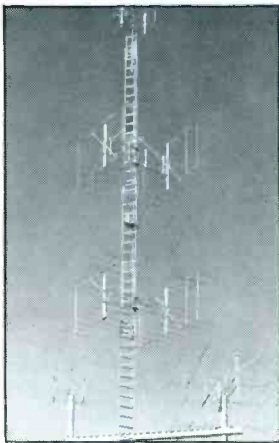
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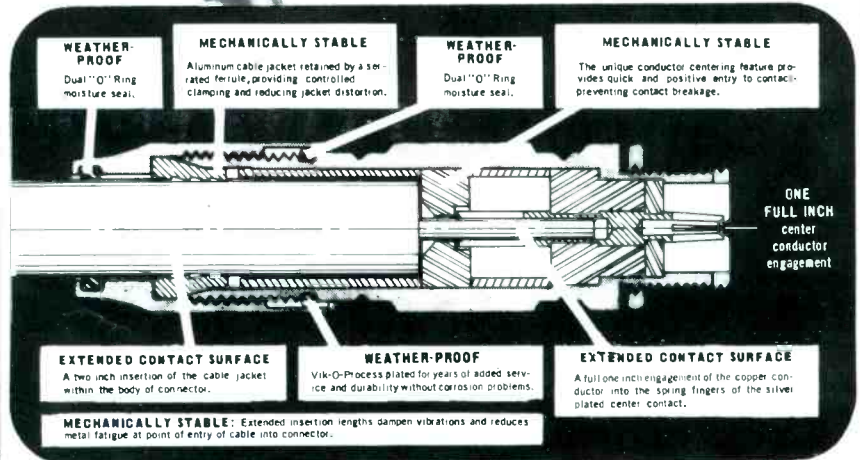
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With so many EXCLUSIVE FEATURES, it is no wonder that more CATV systems demand VIKING "SUPER-MATCH" connectors than any other type for trouble free installations. (Especially in those areas where there is extreme temperature variances.)

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ILLINOIS-INDIANA ASSOCIATION ORGANIZED

Over 170 cable operators, manufacturers and suppliers attended a two-day meeting in Danville for the formation of the Illinois-Indiana CATV Association. Officers elected by the new group are: Phil Hayes, Effingham, Illinois, president; Roy Bliss, Bloomington, Ill. and S. M. Aston, Lafayette, Indiana, vice presidents; and John Gwin, Robinson, Ill., secretary-treasurer.

The Board of Directors for the Association is to have equal representation from each of the two states, with members serving three-year terms, and two members added each year until a total of twelve is reached. First members of the Board are: Marshall Henderson, Wabash, Ind.; William "Rusty" Russell, Evansville, Ind.; John Foster, Attica, Ind.; John Manion, Mt. Vernon, Ill.; Wayne O'Dell, Jacksonville, Ill.; and Carl Nelson Jr., Peru, Ill.

Among the several speakers at the meeting were NCTA Chairman Benjamin J. Conroy Jr., Bill Daniels of Daniels & Associates, and CATV publisher Stan Searle. Also included on the agenda were a technician seminar, a microwave panel, and talks by the Illinois Bell Telephone Company and Ted Shapnia, Benco.

Speaking about leaseback systems, Ben Conroy said this scriber rates. He was also quick to point out the threat such operations pose to the philosophy of the cable operator's service to the public. Pointing out that CATV is not part of the telephone business, just as telephone service is distinctly different from the cable television business, Conroy cited an example of a Canadian leaseback system which on one occasion remained out of service for six hours because the leaseback contract prevented repair of a damaged cable by the operator's service personnel. Concluding that the best situation is that in which the cable operator owns and operates his own facilities, Conroy stated, "We are not broadcasters, we are not pay-TV entrepreneurs, we are not telephone people. We are cable television operators".

Denver brokerage and management executive Bill Daniels predicted CATV opportunities in his speech before the group. If the FCC approves microwaving signals from Los Angeles independent stations into the three-station Albuquerque, New Mexico, market, said Daniels, it could mean a "brand new ball game" for CATV, with multiple station communities opening up all over the country.

Predicting that cable television will be governed by "better legislation than that proposed by the FCC in cooperation with the NAB", Daniels advocated that the FCC commissioners visit a CATV system to learn first hand of the problems and techniques of CATV.

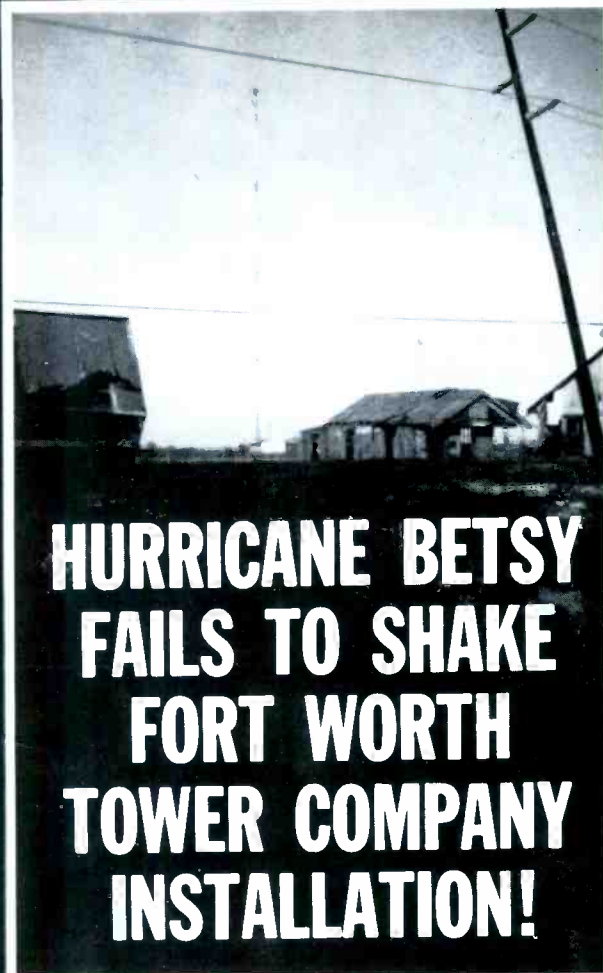
The case for strong state and regional CATV organizations working with the NCTA was presented by Stanley Searle, editor-publisher of TV & Communications magazine and Cable Television Review. Organized defenses are required, he said, in order to meet opposition to CATV "in every arena where CATV is brought under attack". Declaring the need for cohesive local and regional efforts among CATV'ers, he stressed the necessity of programs to educate the public and their representatives about CATV, as well as to advise new system operators of the "hazards of leaseback".

Hayes

Conroy

Daniels

Searle



HURRICANE BETSY FAILS TO SHAKE FORT WORTH TOWER COMPANY INSTALLATION!

"personnel are already on the job salvaging as much of the many miles of plant as possible. The tower, installed by Fort Worth Tower Company remained intact despite 170 mile winds and a tremendous tidal wave which destroyed the chain-link fence at the base, and actually blew the paint off the tower" . . .

An on-site inspection report by Jim Davidson, president of DAVCO Electronics Corporation, the firm who is rebuilding the cable television system at Buras, Louisiana. The system was almost completely destroyed by Hurricane Betsy.

Your Fort Worth Tower installation will probably never have to prove itself in a hurricane but isn't it assuring to know that it could. You can't do better than to specify towers designed, manufactured and erected by FORT WORTH TOWER COMPANY for every communications purpose. For COMPLETE information WRITE — PHONE — WIRE.



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FOCUS

... On Progress

LANGSETH NAMED V-P

Kaiser-Cox Corporation has announced the appointment of *Gary O. Langseth* as vice president of marketing. Before joining Kaiser-Cox, Langseth was a contract salesman for



Mr. Langseth

Ameco, Inc. In his new position he will have responsibility of building, directing and developing the company's sales organization throughout the country.

NCTA NAMES ASSISTANT COUNSEL

NCTA president *Frederick W. Ford* has announced the addition to the association's staff of *Bruce E. Lovett* as assistant general counsel. Prior to accepting this position, Lovett served as an attorney in the office of the general solicitor of Western Electric Company. He is a graduate of Georgetown University Law School, and has served three years as a trial attorney for the Federal Trade Commission.

PETERSON HEADS AMECO ACCEPTANCE

Bruce Merrill, president of Ameco Inc., has announced the appointment of *Richard Peterson* as president of the newly formed Ameco Acceptance Corporation. Prior to this appointment, Mr. Peterson was with the First National Bank of Arizona for ten years as commercial loan officer and assistant vice president, and fifteen years in company finance.

He will have the responsibility of providing the capital requirements to

customers. In addition, he and his staff will act as liaison between Ameco and the financial community. He will report directly to Mr. Merrill.

VINING NAMED MANAGER

Douglas R. Vining has been named as manager of Jerrold's new Government and Industrial Division. He was



Mr. Vining

previously manager of defense and industrial activities of TACO. Management functions of that division were combined with Jerrold's Industrial Products Division to form the new division.

JERROLD TURNKEY MANAGER

Frank E. Martin has been named national turnkey sales manager for the CATV systems division of Jerrold Electronics. In this position, he is responsible for marketing and sales management of all Jerrold turnkey installations for the cable industry. Martin was previously eastern regional sales manager for the same division, having been with the firm since 1952.

ENTRON APPOINTS SAILOR

William P. Sailor has been appointed mid-western regional sales manager for Entron, Inc. His territory will include Ohio, Indiana, Iowa, West Virginia, Missouri, Illinois, and Kentucky.

KAISER-COX APPOINTS KLEYKAMP

Gay C. Kleykamp has been named the assistant to the vice president and general manager at Kaiser-Cox Corporation. Kleykamp has been with Kaiser Aerospace & Electronics, and

in his most recent position as marketing manager he supervised marketing of CATV equipment to major group systems operators. In his new position at Kaiser-Cox, Kleykamp will act as



Mr. Kleykamp

liaison and coordinator between production, marketing and marketing research as well as between management staff and line functions.

DUNN JOINS AMECO

Sherrill Dunn has joined Ameco Inc., according to an announcement by *Sam Street*, director of advertising and public relations for the firm.



Mr. Dunn

Dunn will be sales promotion manager for the firm. Prior to joining Ameco, he was vice president for Communications Publishing Corporation and managing editor of *TV & Communications* magazine. In his present position, Mr. Dunn will provide advertising, publicity and public relations support for the Ameco sales team.

NEW VIKING SALES REPS

Robert Baum, vice president of Viking Industries, has announced the ap-

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Guaranteed accurate to the
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manently printed in white at two-foot intervals on the cable jacket. . . . and one-foot increments are designated by a white horizontal line midway between each numerical marking.

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pointments of two technical sales representatives for that firm. *Hollis Rogers* will represent Viking in the states of Louisiana, Arkansas, and sections of Mississippi. *Robert M. Garner* will cover Alabama, Georgia, Florida and parts of Mississippi.

SYSTEM PERSONNEL CHANGES

Raymond E. Murdough has been appointed general manager in the Greenfield, Mass., complex by Pioneer Valley Cablevision . . . *R. C. (Bob) Rhodes* has been named assistant manager of Cablevision of Parsons (Kansas), according to manager *Robert Pace* . . . *Michael Carlisle* is now manager of Kentucky Cable TV's Bardstown system . . . *Alan E. Smith* has been appointed manager of Gulf Coast Teleception, Port Charlotte, Florida . . . *Charles Millsbaugh* is the new chief technician for the DeKalb-Ogle, Ill., system operated by Allied Video Transmission . . . *Howard Colburn, Jr.*, has been named manager of the South Bay district office of Mission Cable TV—serving the Chula Vista, California, area . . . *Blatt Brothers TV Corp.* has announced that projected system in Greenville, Pennsylvania will be managed by *William H. Blatt*, who is currently with Corry (Pa.) TV Cable Company . . . *Larry Mildren* is now manager of

TV Cable Service of Abilene (Texas), and *Jack Crosby* has succeeded *F. M. Robertson* as president of the firm—as the result of majority control by TeleSystems . . . *Marvin Buck* is manager of recently energized Marshall (Mo.) Cable TV Company.

PRUZAN ADDS SALES REP

Dan L. Johnson has joined the staff of the Jack Pruzan Company as a



Mr. Johnson

sales representative, according to an announcement by that firm. Johnson's background in the communications

industry includes ten years with Automatic Electric Co.

AMECO APPOINTMENTS

John Bryant, recently named manager of component sales, has received another promotion—this time to western regional sales manager for Ameco.

J. Mason Hamilton has been named as eastern regional sales manager for Ameco, having joined the firm in March of this year.

Dick Old has been promoted to contract sales, and will be working in the states of Oregon, Washington, Idaho, Montana, and Wyoming, plus Vancouver, B.C.

Carl Richard, also promoted to contract sales, will cover the states of Pennsylvania, Maryland, Delaware, New Jersey and New York, plus the New England states and the Del MarVa Peninsula.

James Cunningham and *Charles Auer* have been named as technical sales representatives for the firm.

NEW JERSEY GROUP HIRES COUNSEL

The Newark, N. J., law firm of Shanley and Fisher has been hired by the New Jersey CATV Association to block what it has termed an attempt by New Jersey Bell to enter the CATV field.

KAISER-COX APPOINTMENTS

Newly formed Kaiser-Cox Corp. has announced the appointment of *Edith L. Johnson* as director of public relations. Mrs. Johnson previously served as assistant public relations director at Ameco, Inc.

Controller for the firm will be *W. C. Bothe*. Mr. Bothe has been serving in that capacity for Kaiser Aerospace and Electronics, and has 17 years' experience in accounting and financial control.

Jean Welch has been named as director of advertising for the firm. Mrs. Welch has served in advertising management for a number of electronics firms, including Amphenol-Borg.

Eleanor M. Hellrung will serve as marketing department coordinator, according to *Gary Langseth*, vice president-marketing. Mrs. Hellrung was previously with Ameco, Inc., as an administrative secretary. □

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INCORRECT COVER CAPTION

Last month's issue of "TV&C" incorrectly identified the Kaiser-Cox Corporation executives pictured on the front cover. They were (l. to r.) *Gary Langseth*, vice president; *Edgar F. Kaiser*, board chairman; and *Earl Hickman*, vice president. Kaiser-Cox was the subject of an article in last month's issue.

LETTERS

Dear Mr. Searle:

Thank you for carrying my recent letter in your "Letters" department. Let me assure you that I will be pleased to answer any resulting letters. I sincerely hope this letter and your consideration in publishing (of it), will bring better relations.

Frank J. Moch
Executive Director
NATESA

As the "mere commercial publisher" you defined in your last letter, we are more interested in combatting the "established standards" you refer to in opposing cable television than in cultivating "better relations" with NATESA. Such improved relations would have to be based on a more forthright approach to CATV on the part of your organization.

Dear Stan:

Obviously Mr. Moch of NATESA does not know you very well, or he would not have "dared" you to publish his letter *in toto*.

Now as to Mr. Moch's statement . . . "Were you to bother to learn the truth, you would find that NATESA opposes CATV *only* where it is not needed according to established standards." This is his own admission that the organization is a "self-appointed guardian" of the public's welfare.

Why not let John Q. Public establish the standards as to whether CATV is needed? No one is asking Mr. Moch to invest his dollars in CATV, and no one is forcing anyone to subscribe to cable service. For some reason, Mr. Moch and others like him do not want to give John Q. Public this choice of "off the air or off the cable".

Robert H. Huston
Director of Public Relations
Cox Broadcasting Corporation

Dear Stan:

We are grateful for the recognition given TeleMation's "News Channel" during the past few months. We are concerned, however, that the name News Channel is being used by you and others in a generic sense. The Associated Press, with whom we have contracted to supply this equipment, uses the words News Channel, with our permission, to describe the service which they lease to CATV operators. TeleMation, however, retains sole

rights to the name and equipment design features.

We would be most appreciative if you would, in future stories, provide TeleMation with credit for the name, News Channel, as well as for the equipment and the development of the service.

Lyle O. Keys
President
TeleMation Inc.

We have noted our error in the use of the name, News Channel, in previous issues, and will comply with your request in all future mentions. You will note proper reference to TeleMation's News Channel in the story about Telecable's signing with AP for the service in "Spectrum" of this issue.

Dear Mr. Searle:

I would like to point out that in the November issue, in which you ran a C-COR new product release, you used the text from one release and the photograph from another. The photograph is that of the C-COR model 4622, while the write-up concerns the model 2155.

James F. Lastra
Marketing Manager
C-COR Electronics, Inc.

Dear Mr. Searle:

We are confident of the strong future for CATV and certainly appreciate the excellent news and editorial coverage provided by Communications Publishing Corporation. I hope we have many opportunities to work together.

Charles A. Lutz
Texas Capital Corporation
Georgetown, Texas

Gentlemen:

I enjoy your excellent magazine as it is filling a gap in this rapidly expanding field. Another article on the development of parabolic tropo-scatter antennas would be appreciated.

F. Page Ellis
Marketing Manager
Roseville Telephone Co.
Roseville, California

Editor:

Your magazine has been doing an outstanding job and has been growing by leaps and bounds in prestige in the industry. Congratulations and good wishes.

Donald R. Atwell
American Cable
Television, Inc.
Phoenix, Arizona

AMECO Solid-State Institute



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The latest teaching methods are used to assist technicians in learning about advanced techniques of CATV distribution. Ameco's Solid-State Institute uses experienced, qualified instructors, modern teaching procedures and the latest equipment. You or your technician can learn solid-state technology to keep abreast of the fast-growing CATV industry. To enroll now in one of the 1966 sessions fill out the coupon below and return it today.

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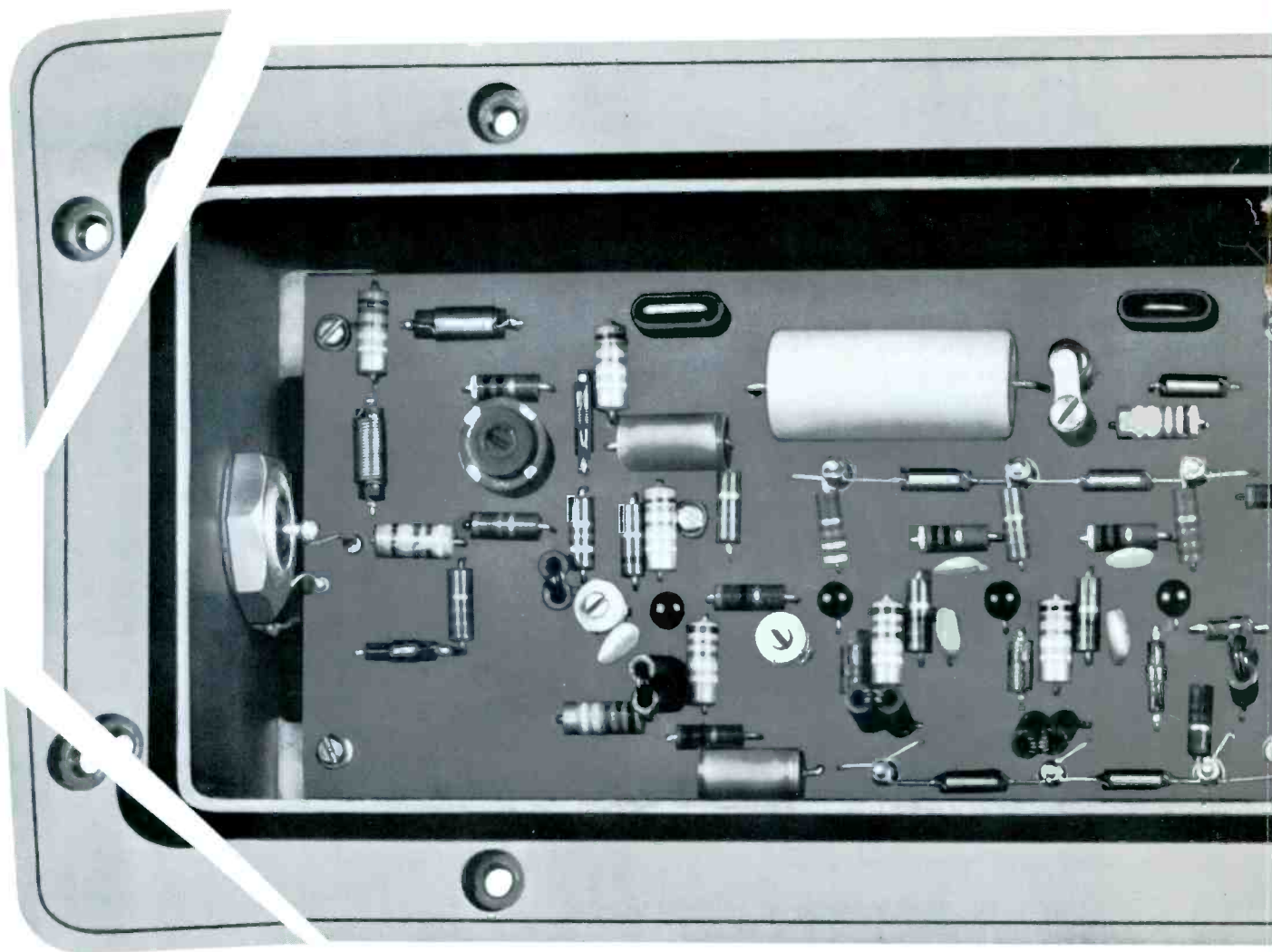
Yes, I want to receive enrollment information on Ameco's Solid-State Institute for 1966 sessions.

Name: _____

Address: _____

State: _____

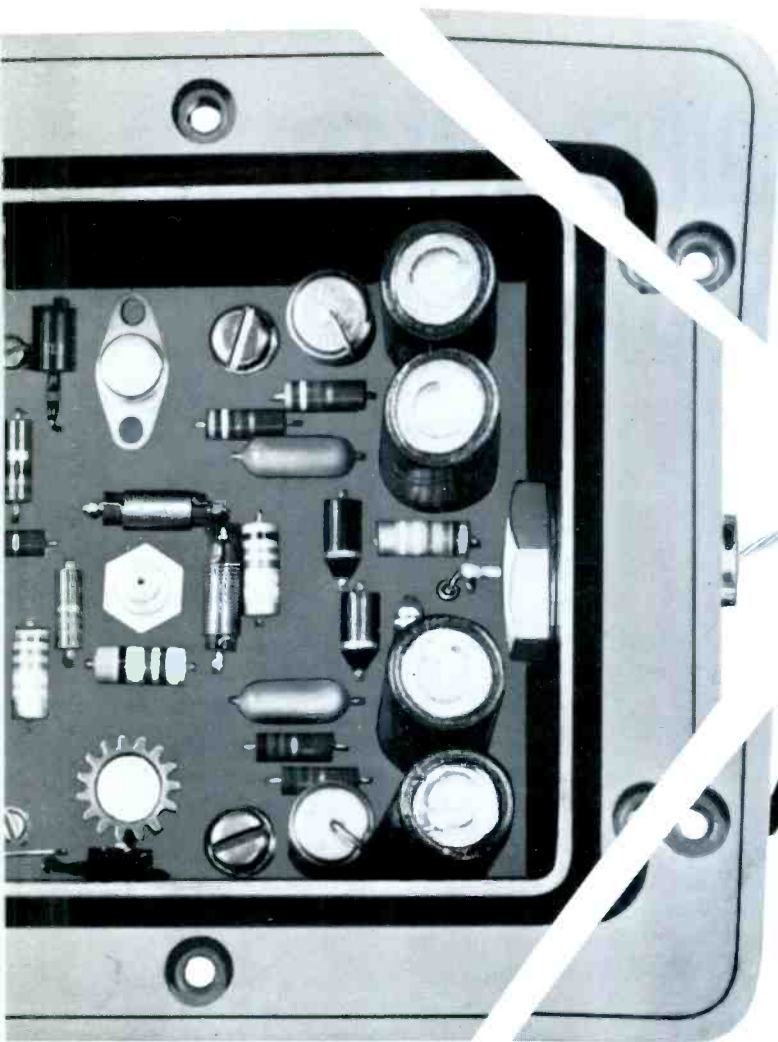
Mail to AMECO, INC., P. O. Box 11326,
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The SKL Model 263 Line Extension Amplifier is a new high output, transistorized amplifier with full 12-channel bandwidth. It is designed for use as a line extension amplifier in any wide-band distribution system. 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 with a captive cover, and may be mounted on the messenger or on a pole.



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- High Return Loss
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ADVANCE SUBSCRIBER SALES FOR CABLE SYSTEMS

By Abe Patlove
Jerrold Electronics Corp.

Successful CATV operators start promoting their system from the moment the franchise is signed. This article outlines the principles of a successful pre-opening campaign.

Within the past twelve to eighteen months, CATV has experienced a stage of unprecedented growth and expansion. Indications are that this acceleration will continue at an accelerated pace. Much of this growth is as a direct result of the activities of "new capital groups" who have been attracted to CATV. It might be better put in the words of one of the nation's famous comedians, Jimmy Durante, who repeatedly shouts, "... Everybody wants to get into the act ...". Actually, this is far from untrue, for CATV, in meeting the public's desire for expanded and diverse television programming, represents an attractive business investment.

However, even though it has been referred to as a "money machine" or a "gold mine," CATV is still — and will become even more of — a business risk. Remember, CATV service on the part of the potential subscriber, is a voluntary service. There are no guarantees that a system will have subscribers, or that subscribers will keep the service. It is important, therefore, that you create a favorable image — an image that will pay off in the maximum number of subscribers at the earliest possible date. This article will discuss the steps necessary to the creation of such an image.

A CATV system, in order to have a fighting chance to succeed, cannot be operated as a television station, radio station, real estate office, water company, etc. A CATV company is a

unique and distinctively independent enterprise and must be operated as such. The sooner the newcomer to CATV recognizes this fact, the easier his job will be in effectively merchandising the service product which he has to offer.

Let's first look back. For this discussion, we must assume that you and your company were sufficiently reliable and experienced to obtain municipal authority for CATV. If you were involved in a competitive situation for a CATV ordinance or franchise, you created your first image — you were judged the best company to render CATV service from among all the other applicants. Look back! What means, if any, did you use to keep that first and foremost image in front of the people?

This is the first question from among the numerous questions which an entrant into the CATV stronghold should ask himself not only after he has been given a franchise, but prior to his entrance into the field.

Let us first, in an attempt to make this material more comprehensive and meaningful, outline the "service area" of this commentary. Since the question of image building for purposes of this discussion will hinge on that time period between your franchise grant and actual operation, no mention shall be made of an advertising, public relations and promotion campaign during the operational stage of your CATV operation. Instead, let's subdivide the pre-operational period into three primary areas:

1. Post Franchise Stage
2. Pre-construction Stage
3. Construction Stage

POST-FRANCHISE STAGE

Actually, this stage may have started during your "fight" for the CATV

ordinance/franchise. However, even if it had, it is now even more important to maintain the momentum of activity created by your successful effort.

This "information stage" provides the basic foundation from which you build story upon story, culminating with the opening of your cable operation.

Let's discuss just several points of information which serve as foundations for your presentations to the public:

1. Who are you . . . why was your company selected . . . why are you best for Yourtown, U.S.A.?

Needless to say, the residents of Yourtown, as in Anytown, want to know with whom they will be doing business. In addition, this gives you the opportunity of developing the proper rapport and air of intimacy with the public before you ask them to subscribe to your service.

2. What is CATV . . . Is it the same as Pay TV?

The answers to these questions are clear in our minds, but not at all clear in the minds of the masses.

3. Will the residents have to subscribe?

The answer to this question is perhaps one of the most important facts to be conveyed to prospective customers. They must be made to understand that the CATV service is there as a convenience and will be available to them at their discretion. No coercion will be involved in seeking subscriptions for service.

4. Service to be offered on the cable

Let your potential subscribers know what will be offered when service becomes available. *Stress* the diversity of

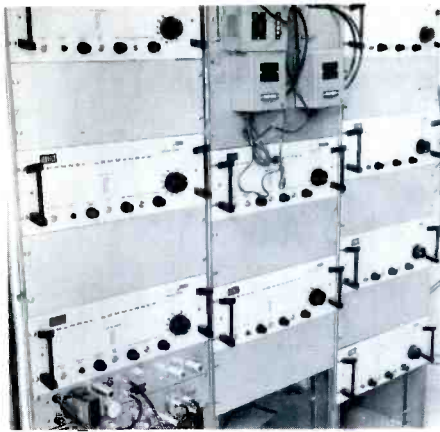


Fig. 1 Your head end can serve as an illustration for a dramatic ad.

PROGRESS REPORT #9 EDUCATIONAL TV

The supporting structure towers have now been erected and the coaxial is now completed which will support the special microwave array. Florida TV Cable, in Ormond Beach, will bring you the first fully programmed educational TV in Volusia County (Channel 5, Gainesville) by December 15th.

FLORIDA TV CABLE, Inc.

159 W. GRANADA AVE., ORMOND BEACH, PHONE OR 7-1232

- The first CATV Company to be given a citation by educational television.
- The first CATV Company to voluntarily support, by scholarship, Daytona Beach Junior College.
- The only CATV Company to participate in your Home Show of '61.
- The only CATV Company outstanding in its completely voluntary public service and community relations.
- The only CATV Company with proven local experience.
- The only CATV Company's longest in experience—having built the first system in 1949.
- The only CATV Company endorsed by the leading TV Dealers.
- The one company who can bring the fastest—unexcelled service—to you—the citizens of Daytona Beach, as is evidenced by the already existing towers, equipment, and service.

ASK YOUR ORMOND BEACH NEIGHBORS
**PROMISES ARE NO SUBSTITUTE
FOR EXPERIENCE**



Fig. 2 The tower always makes a dramatic shot, emphasizing what is necessary to provide really good TV Cable pictures.

CABLE TV NEWS

PROGRESS REPORT #6 TO OUR NEIGHBORS IN . . .

ORMOND BEACH

Another of the many steps required to bring Ormond Beach the finest in television and FM radio entertainment is nearing completion.



Pictured above is a close up view of a lashing machine in operation. As the coaxial cable and the supporting strand pass through this machine, a spinner securely wraps the cable to the supporting strand with stainless steel wire, permanently anchoring it in place. This procedure is being used for installation of the more than 90 miles of cable along the streets and highways of this area.

Cable TV is on the way!
For details regarding Cable TV Service, stop by our office TODAY! Open daily 9 to 5—Saturday until Noon.

FLORIDA TV CABLE, INC.

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477-1232

Fig. 3 Ads like this build the interest of prospective subscribers.

programming, *stress* the added sports features, *stress* the additional top rated movies, *stress* educational television, *stress* the auxiliary services of your CATV package and most emphatically *stress* those features which will be available "only on the cable."

5. What will the costs be for CATV service?

With American viewers spending more and more dollars on television receivers and more and more hours watching TV, they have placed certain values on good TV reception and programming. Your services must be considered in context. After all, if your monthly service charge is to be \$4.95, what else can Mr. TV Viewer obtain for less than 17¢ per day that offers him so much? Don't be afraid to talk about your rates — you've got a valuable product to offer.

6. What about Color TV reception?

We are all aware of the growing public demand for color TV and as a result top quality color reception. Your role, therefore, becomes even more important in this new horizon.

Let your potential subscribers know that "color and cable" are a perfect team.

7. Other fore-sale themes:

- a. Non-interference with existing TV reception
- b. Policy relative to antenna removals
- c. Free trial offer
- d. Plans for system maintenance
- e. Facts about your not selling or servicing TV sets
- f. What's involved in putting CATV into operation in Yourtown, U.S.A.?

PRE-CONSTRUCTION STAGE

You are now into a transitional stage in your CATV system's development, from creating images to developing action.

Look at the final item (7f) in the preceding section, "What's involved in putting CATV into operation in Yourtown, U.S.A.?" Let's examine just several of these phases prior to CATV operation and see how they can be put to "Fore-Sale" use.

1. Pole Attachment Agreements

When these contracts are executed with the local telephone and power companies, your story begins. (i.e. . . . it is only through the cooperation of Telephone Company and Electric Company that the road to better TV viewing will be easier to travel.)

2. Walking-the-Poles

In this particular phase of pre-construction, you have the basis for creating the initial image of action, with such facts as:

- a. strand routing
- b. location of amplifiers and what role they play
- c. determination of clearances relative to safety codes . . . and their meanings to the public.
- d. determination of pole strength
- e. computation of mileage of system
- f. determination of tree trimming requirements

One of the most effective means of fore-sale in this aspect of pre-construction activity is to use the local newspaper with a photo of any of the above activities and at the same time answering the inevitable questions, ". . . what is it? . . . how does it work? . . . what does it mean to me?"

3. The Signal Survey

This is perhaps one of the most versatile activities for your use in the fore-sale of your service. What could mean more to potential subscribers than the extent to which you go to obtain and refine the TV signals which will be available to them? Explain why these tests must be made and what signal strengths mean relative to reliability of picture quality. Perhaps the most meaningful information would be a comparison of average signal strengths of TV signals now received in the home with those to be received via cable. This is the heart of your product. Shout about it.

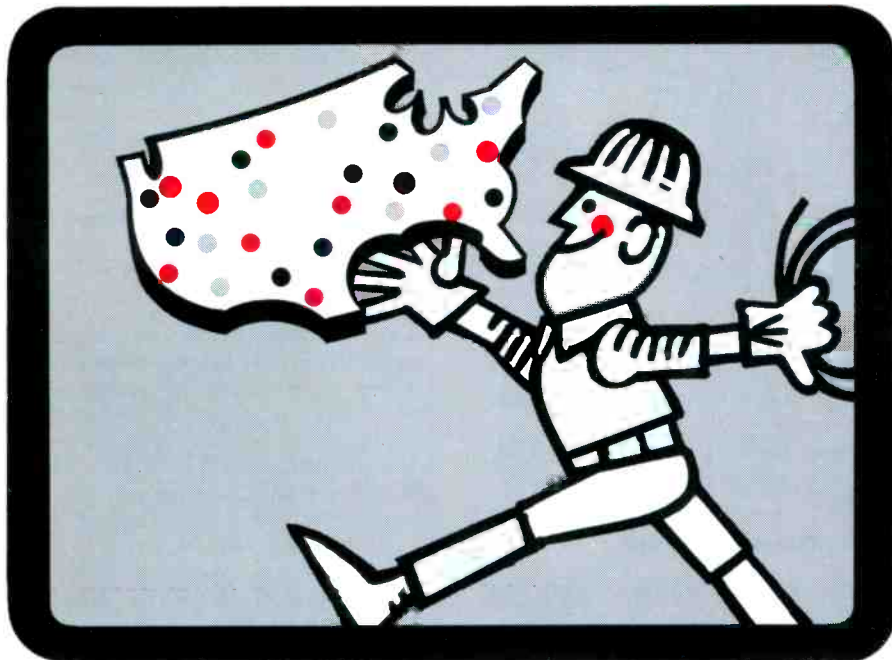
4. The Tower Site

Once your tower site has been selected, you've a perfect follow-up to your promotional efforts on the signal survey. A perfect lead-in would be a photo showing the "raw" site, prior to any work being performed, with adequate information on what is to happen there. Once work has begun, your story begins to materialize for the public and can be followed through via photos of progress (see Figures 1 and 2 and 3).

Countless additional activities take place during this pre-construction period which represent valuable tools in your fore-sale program. Consider the uses of such phases as:

- a. Utility pole rearrangements being performed by the local telephone and power companies.
- b. Tree trimming
- c. Appointment of system manager
- d. Appointment of system chief technician
- e. Selection of cable office

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By _____ Title _____

You've an exciting and appealing story to tell. Tell it dramatically.

SYSTEM CONSTRUCTION STAGE

You are now into the stage epitomized by . . . "men, materials and machinery." The fore-sale tools represented by this stage of activity are countless, and can be carried to the limit of the CATV operator's imagination. Again, consider the "how's and why's" of the following activities, which, although they may not be presented in actual sequence, do provide a basic backbone of action to trigger your thinking:

A. The Tower

1. Receiving of unassembled tower
2. Arrival of assembly crew
3. Painting of tower
4. Installation of safety lighting
5. Tower assembling and erection
6. Final touches of tower construction

B. The Head End Building

1. Its purpose
2. Equipment which will be housed in it
3. Safety features

C. Men

1. Arrival of construction crew
2. Introduction of foreman
3. Location of warehouse
4. Construction vehicles
5. Receiving and checking strand and cable
6. Receiving and checking electronic components
7. Checking construction hardware
8. Reviewing construction layout maps and service area

D. Construction

1. Framing poles
2. Hanging strand
3. Lashing cable
4. Completing splices.
5. Installing amplifiers and splitters
6. Supplying power for grounding of amplifiers
7. Balancing system

The three stages enumerated above represent the tools which will make your operative promotional efforts much easier. You are a new business coming to town. You will be an integral part of the business community, a significant contribution to the city's economy in general. Most important, you are to provide a service which directly affects the entertainment activities of those you will serve.

The more facts you represent beforehand, the more questions you answer in advance, the more interest you create, the easier it will be for you to market your product.

“We’re Not a Public Utility!”

*By Benjamin J. Conroy, Jr.
National Chairman
National Community Television Association*

The National Association of Railroad and Utilities Commissioners (NARUC) at their September 1965 convention in New York City passed a Resolution, calling upon their General Solicitor to draft legislation designed to place CATV systems under a public utility type regulation. The State PUC's would then regulate CATV.

It is still possible for NARUC's Committee on Legislation, which must approve the legislature draft, to have a few afterthoughts about this sad state of affairs, and it can refer the matter back to NARUC.

The panelists at the NARUC convention and the sponsors of the Resolution were well known critics of CATV, such as FCC Commissioner Cox and Ernest Gibson, Chairman of Vermont's Public Service Board. The only exception was Richard Thompson, President of North Dakota PSC, who tried to be objective about whether CATV is of a public utility nature. He concluded it was not such, but is rather a luxury service. However, even he repeated the usual unfounded charges of the foes of CATV.

Those who prepared this panel discussion should have invited another FCC Commissioner who does not share Commissioner Cox's views on CATV. They could have invited Commissioner Bartley, Commissioner Loevinger, or Commissioner Wadsworth. The latter has stated publicly that he would not have voted for the FCC's First Report and Order.

As a result of this one-sided discussion, NARUC members were not in a position to vote intelligently on the passage of this Resolution. CATV was accused of raising subscriber rates unreasonably. Research by NCTA has proven that in the whole of CATV's existence, CATV subscriber rates have risen about 4%, as compared to the rates of intrastate telephone companies (which are regulated by the State PUC's) which rose 45%.

In the same period, consumer prices more than doubled, wage rates increased about 88%, and raw material cost levels increased about 36%.

By comparison, 72.6% of CATV systems had no rate increase in the last five years and only 23.6% had a rate increase. 3.8 % decreased rates. Of 106 systems which had a rate increase, 36 increased the number of channels of service and reduced their installation charge; 17 increased the number of channels of service; 35 reduced the installation charge. 84.9% of CATV systems showing a rate increase improved their service or decreased installation charges or both.

There was little difference in these statistics between CATV systems which had been sold as compared to those which had not changed ownership. If ever a business did not need rate supervision, the CATV industry is obviously the one.

CATV systems have had to pay increased wages and equipment costs, have generally decreased connection charges, and have kept their increases in rates to subscribers at a far lower level than even the level of the telephone companies whose rates are controlled by the PUC's. But NARUC wants to convert these private businesses into “public utilities” whose property is devoted to the public use—and all in the name of “protecting the public from

discriminatory practices, exorbitant charges and poor service”. How wrong can an organization be? If NARUC's reasoning is correct, then there is no business in America which cannot be brought under the control of PUC's under the same “logic”.

NARUC has earned a well deserved reputation for improving the procedures of PUC's throughout the country. If the public and Government Officials ever conclude that NARUC is attempting to change the traditional pattern of free enterprise in this country, NARUC will lose its prestige overnight. Let us hope that NARUC's Committee on Legislation will recommend that this matter be further studied and that all the pertinent facts be presented at the next NARUC convention so that this all-important matter can be given the objective consideration it deserves. The CATV industry is not the only one which has a stake in this matter. Our whole free enterprise system is threatened by NARUC's ill-advised and hasty approval of the Resolution.

CATV operators must, however, be prepared in the event that NARUC's Committee on Legislation does not refer the misguided resolution back to NARUC. To this end, NCTA has prepared an analysis on the whole matter of public utility status of CATV systems. Copies of this extremely well-researched and factual “kit” have been sent to all state and regional CATV associations for their use when their state legislatures are pressed to enact enabling legislation for PUC control over CATV systems.

CATV associations will then have the information at their disposal to present their legislators with facts and arguments to counter the ill-conceived “model” legislation proposed by the NARUC. Fortunately, CATV groups will be able to participate in hearings and not be prejudged—with no benefit of hearings and with only one side of the story heard, as was the case at the NARUC convention.

CATV operators in all the states must be concerned NOW with the urgency of this matter. Those states whose legislatures meet during 1966 will certainly see CATV public utility bills introduced. Appropriate advance spade work by associations should begin immediately.

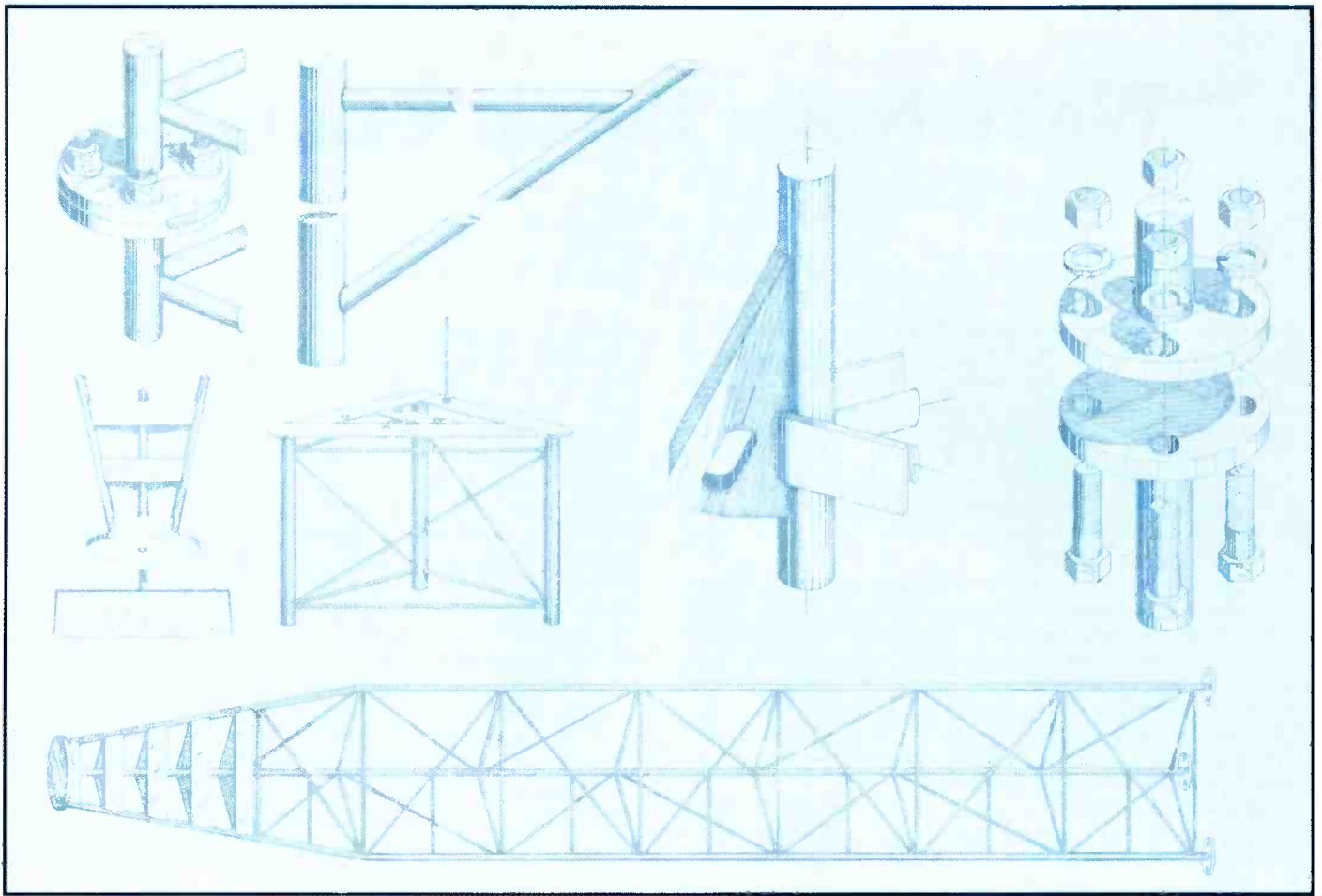
These bills will have strong backing: TAME, theater groups, telephone associations, some broadcasters, and other assorted foes will be pushing for this legislation.

The CATV industry must now gird its loins for the efforts that will be required over the next several years. The industry is fighting not only a wrongful public utility status but also the implications of this status to the telephone industry. CATV must fight now to stay independent.

NCTA is forcefully urging CATV operators in states with no association to take steps now to form one so that in each state the voice of CATV heard will be strong and unified.

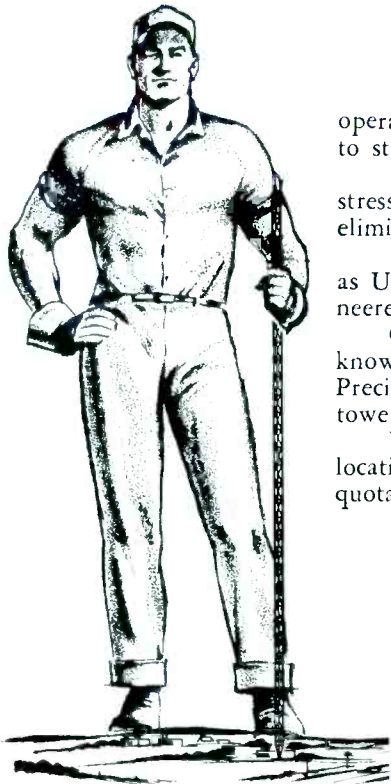
This is not the first challenge the CATV industry has faced nor will it be the last. It is one of the most serious. I urge every CATV operator in the country to join with NCTA and his state association in meeting this challenge. Support them and work with them. NCTA and state associations will exert leadership.

We are clearly in the right, and together we can win. □



SOLID ROUND . . .

- Eliminates internal corrosion
- Reduces external corrosion
- Reduces wind loading by 50%



Now, "solid round" towers by Utility Tower eliminate the problems of CATV operators in areas where salt water, air pollution, and high winds mean certain death to standard pipe towers.

Composed of solid steel round bars, these towers are engineered to stand up to stresses of 50,000 pounds per square inch—cut wind loading in half—and completely eliminate internal corrosion.

And, each one of these "solid round" towers meets the same rigid specifications as Utility Tower's high quality pipe towers. Each one has total dependability engineered and built into every detail.

CATV operators across the nation have recognized this dependability. They know that every Utility tower has Quality Certified engineering and workmanship. Precision fabricated by certified welders, erected by skilled tower crews, Utility towers always meet or exceed EIA specifications.

When you need a high quality tower at a reasonable rate (and especially if your location requires a "solid round" tower) call on Utility Tower for a comprehensive quotation on your CATV tower needs.

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MID-AMERICA ASSOCIATION FORMED

The fall meeting of Oklahoma-Kansas CATV operators in Oklahoma City reflected a growth in membership and coverage in that part of the country. The addition of systems in Missouri, Nebraska and Colorado to the association necessitated several organizational renovations. Changing its name to Mid-America CATV Association, the group expanded its Board of Directors from six to nine. New members of the Board are Kyle Moore, Television Cable Co., Shattuck, Okla.; Galen O. Gilbert, Neosho, Missouri; Lew Preston, TV Cable of Clinton, Clinton, Okla.; John Morrissey, Jr., Durango, Colorado; and Hurschel Tyler of Wellington, Texas.

G. H. "Bunk" Dodson, Sayre TV Cable, Sayre, Okla., was elected president of the organization. Other officers elected were: Robert Lewis, Vumore Co., Ardmore, Okla., first vice president; Weldon Johnson, Salina Cable TV, Salina, Kansas, second vice president; and I. A. "Pat" Patterson, Community Television, Elk City, Okla., secretary-treasurer.

A committee was appointed to set up tentative plans for a Technical Seminar scheduled for later this winter. The spring meeting of the association will be held in Kansas City, Missouri, in April.

The agenda of the meeting included a panel discussion on color TV problems and solutions by Gay Rogness, Ameco, Gordon Hollenbeck of Oklahoma City and Hal Phillips of Blackwell. Association counsel Holland Meachum and outgoing president Bob Weary discussed legislation and litigation in the association's territory. TV&Communications publisher Stanley M. Searle spoke on leaseback proposals of Southwestern Bell Telephone Co.



L to r are John Morrissey, I. A. "Pat" Patterson, John Monroe, Weldon S. Johnson, G. H. "Bunk" Dodson, Robert Lewis, Jack Chaney, C. J. Hammack, Galen Gilbert and Lew Preston.

NCTA Chairman Benjamin J. Conroy addressed the group on the problem of relations with telephone companies. The basic difference between the telephone companies and CATV, Conroy stated, lies in the concept of service. Stressing that "leaseback operators are, in effect, agents for the telephone company—'dollar operators,'" Conroy emphasized that "profits are involved, but the operator's profits are the product of service."

The CATV industry's national problems were outlined by NCTA President Frederick W. Ford, who explained how the national association is currently meeting them. The industry's problems, said Ford, are three: the copyright issue, the utility issue, and the demand for regulation and legislation. He pointed out that the copyright bill currently before Congress will not exempt apartment buildings and multiple dwellings. When the Committee finally realized this, he added, the bill was not reported out of committee, as had been expected. Ford said it is likely that the courts will soon make clear some indication of judicial attitude toward CATV and copyrights.

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THE CATV INDUSTRY

ITS HISTORY, NATURE AND SCOPE

PART VII: ADDENDUM SUMMARY OF RECENT ACTIONS IN CATV RULE MAKING PROCEEDINGS

TV & COMMUNICATIONS has recently carried a series of articles under the above title. Because several events have occurred since the original writing of these articles, a thumb-nail sketch of these developments is given in the following addendum which will be continued next month.

Docket Nos. 14895 and 15233 — First Report and Order.

On April 22, 1965, the Federal Communications Commission issued its "First Report and Order", in Docket Nos. 14895 and 15233⁸³. The new regulations impose certain "conditions" upon authorizations issued by the Commission "to establish or operate fixed [radio] stations used to relay television signals to community antenna television systems". The new rules are substantially those which were proposed from the beginning and they are similar to the Commission's interim rules with certain important modifications.

The Commission has defined a "local" station as one placing a predicted Grade B contour over the CATV system. The Commission has established a system of priorities. Within its channel capacity, a CATV system which is served by microwave must receive, first, those stations placing "principal community" contours over it. Then, it must receive those placing a Grade A contour over it, finally, those that place a Grade B contour over it. The CATV system is not obligated to carry the signal if it substantially duplicates the network programming of a signal of a higher grade, and receiving it would, because of the limited channel capacity of the



By Robert D. L'Heureux
NCTA General Counsel

CATV system, prevent it from carrying a non-network signal which would add to the diversity of its services.

A "substantial duplicating" signal is one which regularly duplicates the network programming of one or more stations in a normal week during the hours 6-11 p.m., local time, for a total of 14 hours or more. Where there are substantial duplicating signals of equal grade over a CATV community and reception of both would prevent the CATV system from receiving the signal of an independent or educational station, the CATV system may select one of the signals for reception.

Where limited channel capacity prevents the carriage of stations with at least a Grade B signal over the community, the CATV system must offer and maintain for each subscriber a switch to allow choice between cable reception and other antenna reception, unless the subscriber indicates in writing that he does not desire such service.

The rules do not give a broadcast station any greater exclusivity with respect to CATV systems than they now enjoy as against each other. In the case of network programming, a CATV operator does not have to protect a station's exclusivity, if one or more stations, which substantially dup-

licate the network programming of the signals received on the CATV system, place an equal or higher grade signal over the CATV system. No protection of a station's exclusivity is required for non-network programming, if a TV station is operating in what is normally considered another market for the purposes of program distribution, places an equal or higher grade signal over the CATV system. If a station can prove that its signal is materially better than another of equal "priority" or that it is in fact the dominant outlet in a CATV community, the CATV system would be required to protect it under "non-duplication rules".

The period of non-duplication is simultaneous and 15 days before and after broadcast. The station must give notice of the specific program (the episode), including the time and date of broadcast against which it wants protection. This notice must be given not later than 48 hours prior to the broadcast to be blacked out. Certain exceptions are made, for instance, if compliance with the rules would deprive CATV subscribers of the opportunity of viewing less than two network programs at any time. Another exception is that a CATV system is not required to black out a network program which is scheduled by the network between 6 and 11 p.m. (Eastern time), and which is broadcast by the station seeking protection outside the hours normally considered to be prime time in the local time zone. Other minor exceptions are provided.

The CATV system must provide "appropriate means for the best reception of a local station's signal that is reasonably possible." The CATV system must carry the local station on its own channel whenever that is practicable. Satellites are protected by the new rules, being treated as a unit with their parent stations. If one of the two is received, the other need not be made

83 30 Fed. Reg. 6038 and at 38 FCC 683, et seq.



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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.

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available on the CATV system. The same is true of the non-duplication protection.

A translator operating within the Grades A or B of the station being rebroadcast is considered an extension of that station's facilities. The translators are to be protected if they bring the station's service to a locality within the station's service area which would not otherwise have it. Any of these rules may be superseded by private agreements with local broadcast stations, if they are fair to the public.

All applications for initial microwave grants, modifications, assignments, transfers and renewal must contain a statement that each CATV system to be served will file with the Commission at least 30 days prior to receiving service that it:

1. has notified the licensee or permittee of any television broadcast stations within whose protected Grade B or higher grade contour it operates or will operate of the filing of the applications; and
2. that the CATV system has indicated willingness to comply with the rules.

Where the application is for a private carrier, the CATV system must submit the above statements as part of its application for the facility.

In the case of private business-industrial or other non-common-carrier microwave, the CATV system which accepts a license and then refuses to abide by the rules shall be subject to a cease and desist order or to revocation

of license. Where the CATV system receives service from a common carrier or refuses to abide by the rules, the common carrier will withdraw its service to the system. If the carrier does not do so, it will be subject to cease and desist order or to revocation of license.

The First Report and Order became effective on June 1, 1965, with respect to all applications for new or changed microwave facilities to serve CATV systems, or for transfers or assignments or authorizations for facilities to serve CATV systems filed on or after that date. The microwave licenses which were issued before the present proceedings were instituted and which were not subject to their outcome, will expire on February 1, 1966. The new rules will not be made applicable to the 1966 renewals until the issuance of a further Order of the Commission. The microwave authorizations which were granted after the institution of the rule making proceeding and which were made subject to the Interim Procedures set forth in the Notices of the Proceedings will continue to be governed by the Interim Procedures until further Order of the Commission. For instance, CATV operators affected by those authorizations will continue to protect only those TV stations within the Grade A contour in which their CATV systems operate. With respect to all pending applications, the Commission will determine whether the new rules should be applied immediately or whether the Commission will wait until the rules are made applicable to all CATV systems which are served by microwave.

FCC Docket No. 15971 — Notice of Inquiry and Notice of Proposed Rule Making

On April 23, 1965, the Commission issued a Notice of Inquiry and Notice of Proposed Rule Making in Docket No. 15971⁸⁴. In the first part of this document, the Commission asserts jurisdiction over all CATV systems and it proposes to apply to all CATV systems the same rules as it did in Docket Nos. 14895 and 15233, discussed above. In the second part, the Commission invites comments on a number of propositions pertaining to the regulation of CATV systems, most of which were advocated by the opponents of the CATV industry, but the Commission does not make specific proposals.

In Part II, the Commission expresses its concern over various aspects of CATV development, including the possible effects of a grant of a CATV permit to do business in larger cities where a UHF television station frequency is available; whether CATV systems should be allowed to receive the signals of distant television stations and whether there should be a distance limitation imposed upon CATV systems; whether such systems should be restricted to simultaneous reception of TV signals without additions or deletions; whether there should be a limitation on program originations by CATV systems; whether CATV systems should be made subject to Section 315 (equal time provisions pertaining to candidates for public office) and Section 317 (identification of sponsors) of the Communications Act of 1934; the reception of FM radio signals and their effect on local radio stations, and other subsidiary matters.

However, the main emphasis is placed upon the alleged danger to UHF television development posed by CATV systems entering heavily populated cities where a UHF channel allocation has been made. Comments have been filed in this proceeding by interested parties and reply comments are due on November 29, 1965. It is expected that this rule making will be finalized early in 1966. Presumably, the implementation of the rule making will be suspended, as in the case of FCC Docket Nos. 14895 and 15233, until the Congress has had an opportunity to complete its hearings on CATV legislation and to make its views known to the Commission.

Unfortunately, the rule making has already been implemented in part, because the Commission has announced that, pending the outcome of this proceeding, microwave applications designed to relay the signal of any tele-

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⁸⁴ 30 Fed. Reg. 6078-6089 and at 38 FCC 746-760.

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vision station to a CATV system in a community with four or more commercial channel assignments and three or more stations in operation, must be accompanied by a "clear and full showing that in the particular circumstances, a grant would not pose a substantial threat to the development of independent UHF service." The same requirement will apply in a community with at least two stations in operation or one or more authorized or applied for. Again, the Commission will impose the same burden upon an applicant for a microwave license which is intended to serve a CATV system in a community where, because of its nearness to another community or communities having three or more existing commercial network stations, any new UHF station would be independent in operation. This could apply, for instance, within the Grade B contour of such stations. If the applicant does not make a showing which is persuasive with the Commission, the latter will simply defer action on the microwave applications until the completion of Docket No. 15971 and the implementation thereof.

For another development affecting CATV systems which are served by either common carrier or private microwave, the reader is advised to fa-

miliarize himself with the First Report and Order and Further Notice of Proposed Rule Making in FCC Docket No. 15586 released on October 18, 1965.

As a brief summary of this Order, I will make the following observations: The Commission has established a new service, i.e. "Community Antenna Relay Service" (CARS) in the 12.700—12,950 mc/s portion of the 12,700—13,200 mc/s band. Existing licensees in the Business Radio Service may remain on their present authorized frequencies and seek modifications in that service until 1971. This frequency spectrum is only an interim allocation until finalization of Part III (proposed non-common carrier frequency reallocations for CATV use) of its Inquiry. Also, the Commission has adopted new rules governing microwave common carrier operations.

The Commission has finalized its rules under Parts I (proposed rules with respect to common carrier applications and showing of public need) and III (explained above).

The Commission has made no final determination under Parts II (proposed frequency allocations for common carriers serving CATV systems) and IV (technical standards).

Under Part I, the Commission has

finalized rules compelling a factual showing on all applications filed after November 22, 1965, including renewal applications, "that at least 50% of the customers of the carrier are unrelated and unaffiliated with the applicant and that the proposed usage by such customers in terms of hours of use and channels delivered, constitutes at least 50% of the usage of the applicant's microwave system. Applications which do not include such a showing will be returned to the applicants. However, they may apply for a license in the non-common carrier microwave service (the 12 Kmc band). Facilities to serve "new, unaffiliated" customers will be authorized on the 6 Kmc band until 1971.

The proposed CARS rules allow, but do not require, CAR licensees to serve other CATV systems or to interconnect their facilities with those of CARS or other licensees.

The non-duplication provisions of FCC Docket Nos. 14895 and 15233 are applicable to the new CARS service.

Next month, the concluding installment: "Court Tests of Commission Jurisdiction" and "CATV Legislation".

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The 1966 CATV Directory will be off the presses soon, with complete listings of all CATV equipment and services, manufacturers, U.S. and Canadian cable systems, group system owners, and CATV associations. This Directory will be the most comprehensive CATV reference book ever printed!

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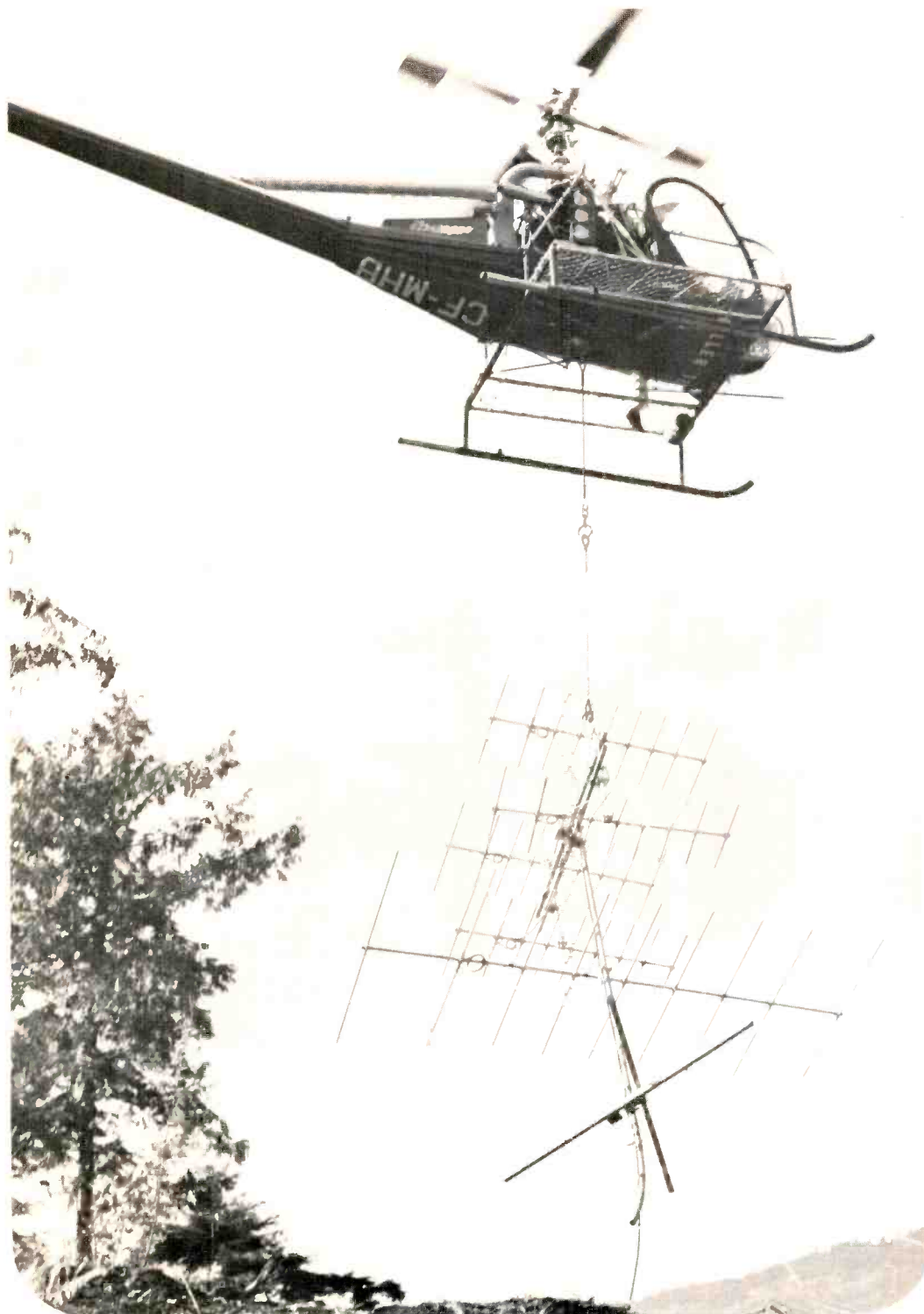
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CATV TECHNICIAN



- Microwave Antenna Reflector Combinations
- CATV Safety Rules
- Newest CATV Equipment



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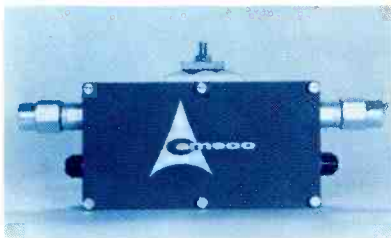


AMECO, INC. was founded 13 years ago in Safford, Arizona by a CATV pioneer, Bruce Merrill. Its products were engineered to provide maintenance-free equipment that would prove reliable in the abrupt temperature changes of the Southwest.

In these early days of CATV, word soon spread of the superior AMECO equipment that performed with equal high reliability in the searing 115 degree desert or below zero mountain country.

Other CATV pioneers hearing about this equipment and seeing the results in various Southwest towns began using this equipment. Soon AMECO CATV equipment spread throughout the country — its reliability and performance setting new standards for the industry.

Solid-State, All-Band Equipment — In 1962, AMECO offered another first to a now booming industry . . . transistorized CATV equipment. This reliable, (virtually maintenance-free) equipment can now be found in over 60% of the CATV systems in the United States and Canada.



Engineering — AMECO has engineering experience in depth. Thoroughly trained in all phases of CATV, AMECO engineers produce reliable, high performance systems. AMECO field engineers conduct signal strength surveys, supervise preparation of system layouts, coordinate construction and installation of equipment.



Financing — AMECO has several custom financing plans for veteran CATV operators as well as newcomers to the business. With AMECO's component financing plan, CATV operators can expand and upgrade their system immediately. AMECO offers direct, low cost financing for equipment purchases or turnkey construction. Credit approvals are made within 24 hours.

Turnkey Construction — AMECO has engineered and built some of the largest CATV systems in the country. In 1962, AMECO built the first all transistorized system in Santa Barbara, California. Cable TV of Santa Barbara offers residents 12 channels and now has over 6,500 subscribers.



In 1965, AMECO turnkeyed an 80 mile system in Rome, New York for Newhouse Broadcasting Company in the record time of 2½ months.

In addition to conducting signal surveys, AMECO prepares strand maps, electronic distribution maps and then completes construction in record time. Years of experience and excellent system performance are AMECO's best recommendation.

AMECO Service — AMECO customers are not forgotten once the equipment is delivered. Another "first" in the industry is the AMECO salesmobile. A CATV warehouse on wheels with a factory trained AMECO Tech-Rep will call on you and offer assistance with any technical problem. Each Salesmobile is outfitted with the proper equipment to sweep cable, test and align amplifiers, "troubleshoot," give instant service and on the spot delivery.



Nationwide Distribution — AMECO offers national distribution and sales. District offices are staffed with experts that can answer all your CATV problems. Salesmobile Tech-Reps call on every CATV system in the country and provide technical assistance and promotional advice.

Research & Development — AMECO has developed many "firsts" in CATV: Solid-state CATV equipment, "Ameco-matched" connectors, 65 & 70 series of amplifiers to name a few. But more important is the work now being done to further the state of the art. All AMECO equipment is designed with the future in mind, and much of tomorrow's CATV equipment is undergoing tests in AMECO laboratories today.



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Installing and Adjusting Microwave Antenna Reflector Combinations

By Allen Bell
New York Penn Microwave Corp.

Discussions with tower crews and riggers indicate many hours spent in adjusting dish-reflector combinations or "periscope antennas" as they are termed by the FCC. Increased use of higher microwave frequency bands, with greater waveguide loss, by business and CAR services will undoubtedly dictate many "periscope" installations. The following suggestions, based upon field experience, should be helpful to engineers and technicians first using periscopes.

First: Things obvious but sometimes overlooked:

- 1) Include with your tower order the desired guy orientation governed by prevailing winds or site problems.
- 2) List the desired height, size, make and azimuth of tower mounted dishes and reflectors.
- 3) Don't forget that all azimuth bearings are relative to *true north*. The compass correction is printed at the bottom of your site topo map.
- 4) After the site is cleared and graded, set up a transit with compass at the base pier location and check the guy anchor azimuth and distance even though your "contractor" has already staked them out.
- 5) While the transit is set up, stake or mark the path-azimuth of the incoming and outgoing signals. Marks should be as far from the tower base as is practical. Identify any prominent landmarks with the paths for reference.

As the tower is being erected, plan to install the antennas and reflectors adjusted as closely as possible for correct tilt and azimuth.

The reflector is usually assembled face down in its shipping crate for protection. Block it so that it is level on the ground. Attach the mounting hardware. Rest a straight edge such as a surveying "stick", or a good 2 x 4 board in the tower attachment brackets or clamps. Adjust the tilt angle (see Fig. 1) to the desired angle using an adjustable bubble or torpedo level. This vernier adjustment can be made more easily on the ground and should be double checked after the reflector is attached to the tower.

If possible during or after tower erection, paths should be confirmed by

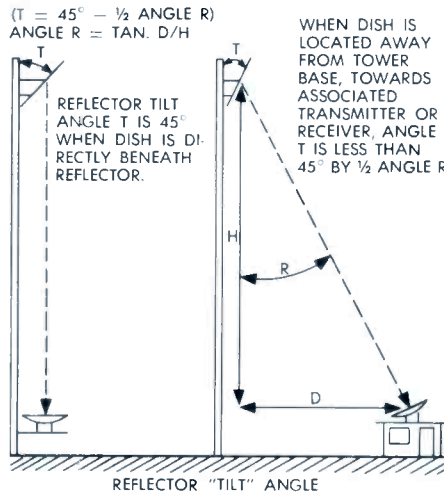


FIGURE 1

flashing with mirrors, smoke, or lights at night. A powerful flashlight works but is critical. If power is available, a bank of 4 reflector spot lights in a multiple socket strip used by photographers works well.

The reflector should be aimed towards the azimuth marks quite accurately. One method is to set up the transit along the azimuth path a few hundred feet from the tower base and sight back at the reflector. Swing the reflector until the top and bottom edges line up with the horizontal cross hair.

The dish should be adjusted level using a long straight edge and the bubble level if it is below the reflector. Otherwise it can be aimed at the reflector by using a large "sighting" or aiming square as shown in photo. The square should be used to sight from four points 90° apart on the dish

and adjustments made so the dish is centered on the reflector.

It is important to remember not to make any final antenna adjustments until the tower has been "accepted" i.e. checked for twist, vertical alignment, guy tension, etc. If the tower installer is required to make some corrective adjustments any final antenna adjustments made previously would have to be "touched up".

Radio or telephone communication is necessary between both points for final system adjustment and is very helpful in path flashing procedure.

I have found that modulating the transmitter with an audio tone allows the recognition of the carrier while it is still much too weak to be noticed on a scope or receiver meters. An audio generator of 400 to 1000 cycles is connected to the transmitter video input and adjusted for some modulation (deviation).

A small PA type amplifier is set up at the receiver location with the receiver video output connected to the PA phono input. A trumpet or outdoor speaker is pointed up the tower so the rigger adjusting the reflector can hear initial changes in signal strength directly while he is making adjustments.

Another small PA amplifier, mike and outdoor type speaker is also very helpful at the transmitter site. Point the speaker up the tower and place the mike near the two-way radio or telephone so that, as readings are called out from the receiving location, the man up the tower can hear them directly as he makes adjustments. The PA is also necessary to talk with the tower man if the tower is over 100' high and there is any breeze blowing.



FIGURE 2 USING THE AIMING SQUARE

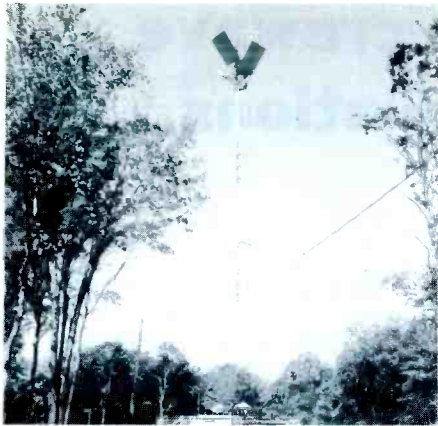


FIGURE 3

TYPICAL "PERISCOPE ANTENNA" INSTALLATION

Now, assuming the transmitter and receiver have been checked out for frequency and performance, we are ready for the aligning. Mark the initial reflector azimuth and tilt adjustments on the hardware with a crayon or china marking pencil. Turn on receiver; a hiss should be heard from the PA. Turn on the tone modulated transmitter. If the initial adjustments are fairly close, the audio tone should be heard. If so, the receiver tower man should slowly swing his reflector completely across the azimuth for the strongest signal by disconnecting the azimuth adjusting rods at the tower end and

manually swinging the reflector. Peak for strongest signal. Center azimuth vernier adjustments and attach rods to tower. Now adjust tilt angle for max signal. Peak all vernier adjustments including the dish below for max signal.

If tone signal indication is not received at initial turn on, sending location should swing reflector very slowly across azimuth. If no results adjust tilt angle in small steps each side of initial setting mark after each swing through azimuth. If a tone signal is still not received (a rare instance) some small step changes in the receiving reflector azimuth adjustment should be made after each swing of the transmitter reflector.

As soon as any tone is received, first peak the receiving end as above, then the transmitting end. Reflector concave adjustments should be made last as per manufacturer's instructions.

When sufficient signal level is received to saturate the limiters, the tone volume will remain constant, and the meter readings will have to be relayed by the two-way radio, and PA systems.

Dish and reflector settings should end up close to the initial marks. There is possibility of "peaking up" on a side lobe or a reflected signal. The final received signal strength should check closely with the predicted value (transmitter power plus antenna gains

minus field, path and waveguide losses). Strength can be determined from receiver calibration curve, a test calibration, or by making a signal to noise measurement over the hop.

Failure to achieve the proper signal level could indicate: peaked on a side lobe or reflected signal; wave guide problems (dirt, water, bad fittings); antenna problems such as bent or misaligned feed, cross polarization, or the wrong feed for the dish size (it happened to me); or last but definitely not least, path obstructions such as trees, buildings, etc.

The only possibly unique technique in the above is the use of the tone-PA means of detecting very weak signals in order to expedite adjustment times. Several others have since also tried this method and are equally happy with the results.

Equipment Required:

- 1) Adjustable "bubble" or "torpedo" level
- 2) Sighting square
- 3) Two small PA systems
- 4) Audio oscillator or tone generator
- 5) Communications radios or phone
- 6) Transit with compass
- 7) Path "flashing" means: mirrors, lights, etc.
- 8) Field glasses
- 9) Good weather

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Safety for the CATV Technician

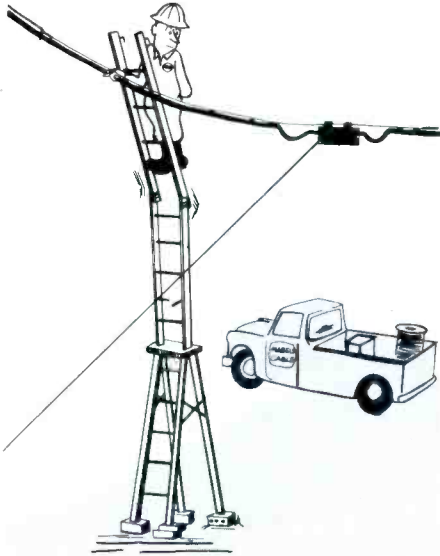
The following safety pointers for cable system technicians have been adapted from a presentation on the subject by Don Turley of Vumore Company. Mr. Turley's comments were made at a recent technical seminar for Vumore employees.

It is recognized that all accidents result from the failure of men, methods, equipment or material. Many of the following rules are based on actual accidents which could well have been avoided—and through strict observance of these rules, much can be done to avoid all types of accidents common to cable system technical work.

GENERAL RULES

Before proceeding with any job, you should satisfy yourself that you can perform the work without injury. If not qualified for the particular assignment, by all means tell your supervisor.

Report all injuries suffered on the job, no matter how slight. Also, avoid "horseplay" completely.



Keep the public away from locations where work is underway. When it is necessary to leave reels, equipment, or other obstructions on a roadway or parking area overnight, install approved warning devices, make sure objects are not adjacent to fire plugs or in front of entrances—private or public, and lock, block, or otherwise secure them so that children or others cannot move them.

Tools with sharp edges are best stored in suitable guards, unless special storage compartments are provided. Files, rasps and other sharp-tanged tools should be equipped with suitable handles. Pole climbers should be stored so that the spurs will not damage other equipment or cause personal injury (special attention is needed when placed in vehicles). Proper storage and handling of sharpened tools is important to prevent damage to sharpened surfaces, as well as to prevent damage or injuries to equipment or personnel.

Electrical equipment and lines should always be considered as energized unless they are positively proven to be de-energized and properly grounded.

Before any hazardous work is begun, establish a thorough and safe procedure. Be certain that everyone involved understands the procedure completely, and under no circumstances sacrifice safety for speed.

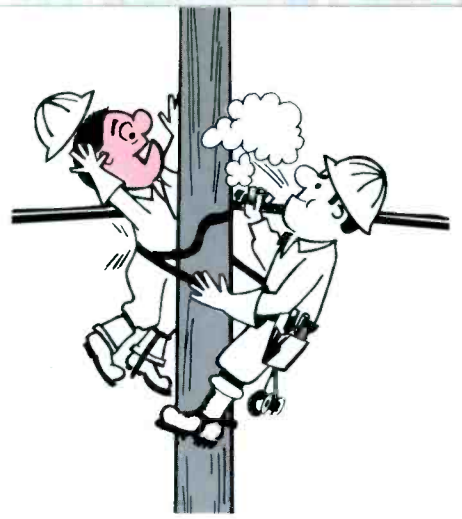
Approved head gear should be worn by all personnel working in areas where falling objects, electrical contact or other hazards may cause head injury. When artificial lighting is necessary, use a flashlight or suitable extension cord, rather than any type of flame.

LADDERS

Straight ladders should be used only with approved safety shoes, and should not be used as scaffolds. Such ladders should be placed on a substantial base, with the distance from the foot of the ladder to the base of the supporting structure equal to one-fourth the ladder's length. Short ladders should not be spliced together, and workers should not stand on either of the top two rungs.

Step ladders should not be used as straight ladders, and should always be placed with legs fully spread. You should not work from the top step of such a ladder, and when working 10 feet or more above the ground or floor, the ladder should be supported by at least one other person.

Climb or descend with both hands free and gripping the side rails or rungs while facing the ladder. Boxes, crates, chairs, etc., should not be used to stand on while working. Only one worker should occupy any ladder at one time. Care should be taken to place ladders where actions of other

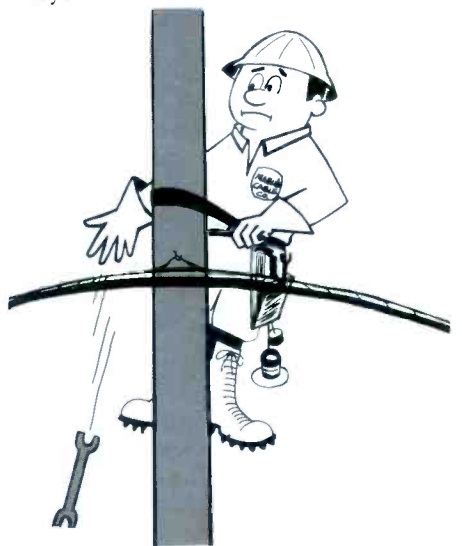


parties will not upset them—such as opening doors, etc.

Ladders need to be inspected frequently, and no ladder with cracked, broken or missing parts should be used. Ladders should not be painted, but rather treated with a transparent, non-conducting material. Metal ladders, including those with metal side rails, should not, of course, be used near any energized equipment or lines. Beware of using borrowed ladders—stick to company equipment, even at the expense of speed.

LIFTING

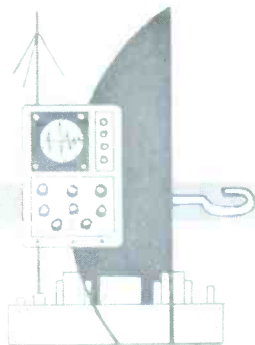
Get the necessary help or power equipment to lift heavy objects. When helping to carry heavy items, have a prearranged signal for lowering or dropping the load. It is safest for all personnel involved in carrying an object to face in the direction it is moving. Always make sure of sound footing before lifting, and lift by bending the knees while keeping the back almost perpendicular—this puts the strain on the stronger muscles of the body.



LINework

Linemen's body belts and safety straps should be of approved design

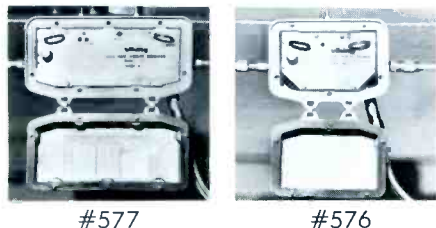
(Continued on page 41)



PRODUCT REVIEW

TWO NEW VIKING AMPLIFIERS

Viking Industries has added two new inline bridging amplifiers to its line. The model #577 high gain solid state amplifier is available with either two or four individually fused outputs, and is designed for bridging applications seven to eighteen db of cable (channel 13) from preceding mainline amplifier. The two outputs model #577/2 is said to have a 27 db minimum gain that supplies 47 dbvm at each of the outputs for a twelve-channel system. The four outputs model #577/4 is said to have 24 db minimum gain that supplies 44 dbvm at each of the outputs on a twelve-channel system, block tilted.



The solid state inline modular bridging amplifier model #576 is also available with either two or four outputs, and is designed for bridging applications at the mainline amplifier where moderately high signal levels are available. The model 576/2 (two outputs) has 18 db minimum gain supplying 43 dbvm at each output, while the model #576/4 (four outputs) provides 15 db minimum gain supplying 40 dbvm at each output for a twelve-channel system, block tilted, according to the manufacturer.

Cast aluminum housings of both models have built in directional couplers, allowing quick disconnect and replacement. For further information on these new bridging amplifiers contact **Viking Industries, 830 Monroe Street, Hoboken, New Jersey.**

NEW MICROWAVE LINE

Jerrold Electronics has introduced a new line of solid state microwave transmitters and receivers designated the 440 series. The series is said to be a major advance in transistorized

microwave equipment, incorporating a new packaging concept which allows a complete transmitter or receiver to occupy just 10½ inches of rack space — including power supply.



The completely solid state receiver uses crystal controlled oscillator, eliminating need for klystron and AFC circuitry. Transmitters are said to provide a full two watts RF output, making possible the use of smaller antennas, or maintaining higher fade margins. For complete details contact **Jerrold Electronics, 15th and Lehigh Avenue, Philadelphia, Pa.**

VARIABLE TAP-OFF

Tele-Signal Electronics Ltd. has announced development of a flexible pre-tap device, which is said to allow setting of distribution amplifiers at time of construction for 75% saturation. The basic unit, model LT4-VTO, is a four drop inline tap device. Connection between the line and the subscriber drop is made through a plug-in tap. Plug-in taps are available in tap-off losses from 12 to 40 db in 4 db steps. For additional details write to **Tele-Signal Electronics Ltd., 1915 Stainsburg Avenue, Vancouver, B.C. Canada.**

CATV LAB ANNOUNCED

A new portable, battery powered instrument for use in calibrating and checking field strength meters has been announced by Videolabs. The model C-1 is said to be the first in a series of instruments designed exclusively for CATV applications. Further details are available from **Videolabs, 60 East 42nd Street, New York, New York.**

MODIFICATION ADDS VIEWFINDER

Gordon Enterprises has announced a modification of the Cohu 3100 television camera, extending its usefulness as a "view finder camera" for general studio applications. The camera, which features a 4-lens turret, has been modified to incorporate a 5-inch Sony television monitor which is mounted on the top surface of the camera



The Sony monitor can be quickly removed or replaced according to the manufacturer, and all power connections are made through the camera. Additional data is available from **Gordon Enterprises, 5362 N. Cahuenga Blvd., North Hollywood, Calif.**

BURIED SYSTEM ACCESSORIES

Channell pedestal housings and accessories for buried plants are featured in a brochure now available from **Channell Splicing Machine Company, Inc., 620 Foothill Blvd., Glendora, California.**



NEW MIRATEL MONITORS

A new series of transistorized television monitors with solid state devices and circuitry has been announced by **Miratel Electronics, Inc.** The units feature plug-in modular construction. Designated the TPB series, the series is available in 8" through 17" sizes with custom chassis, rack mounting or standard cabinet configurations. For further information, write **Miratel Electronics, Inc., 3600 Richardson St., New Brighton, St. Paul, Minnesota.**

STEEL RACK AND CABINET CATALOG

Worley & Company, manufacturers of steel shelving, lockers, and cabinets has completed their new 1966 full line catalog. Free copies are available by writing **Worley & Company, 802 W. Whittier Boulevard, Whittier, California.** Catalog G-100.

(SAFETY continued)

and construction. When safety strap is in use, both snaps should not be attached to the same D-ring. The safety strap should be fastened securely around the supporting structure as soon as the lineman reaches his position aloft, and tested for security by the lineman applying his weight against the strap (while securing himself otherwise). This test should be made each time the safety strap is used in a new position. The safety strap should not be put around the pole above the top cross arm position, except where the pole top or attachment is above the eye level. The strap should not be used on pole steps, cross arm braces, insulators, insulator pins, conductors, rotten or otherwise weakened cross arms, or on attachments that are being removed. When it is necessary to attach the strap to a cross arm, it should never be placed beyond the outside cross arm attachment.

Belt bags should not be attached closer than four inches from D-rings, and tools should not be carried in center back loops of the body belt. It is often preferable to remove these loops. Absence of tools in this location will minimize injuries to the spine in case of a fall.

Climber spurs need to be kept properly sharpened, and should not be less than 1 1/4 inches in length measured from the under side. Pole climbers should not be worn except when needed for work on poles or pole structures—many foot injuries occur while walking on climbers, and the spurs are dulled as well. Climbers should not be used for climbing or working in trees.

When two linemen are to work on the same pole, one should reach his working position before the other starts up the pole, and this procedure reversed for descending. Linemen should avoid trusting their weight to guy wires, pins, braces, conductors, or any structure which might prove unstable.

Suitable lines and tool bags should be used for raising and lowering of tools and materials . . . don't throw anything to the ground, and don't allow anything to be thrown to you while on a pole.

In summary, cultivate an awareness of where you are at all times, and give a little extra thought to safety in every move you make. A thoroughly planned and understood safety program can reduce accidents to a minimum. Following the rules mentioned here not only insures your well-being, but also increases your value to your company. □

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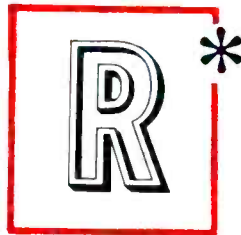
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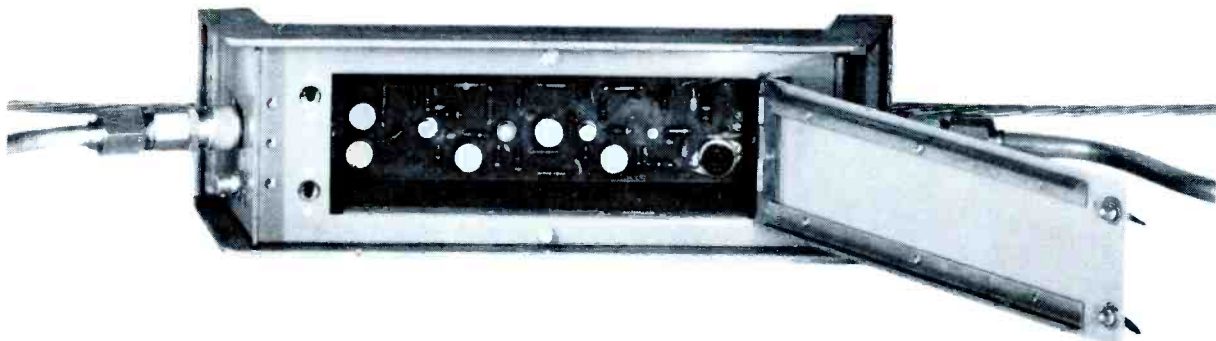
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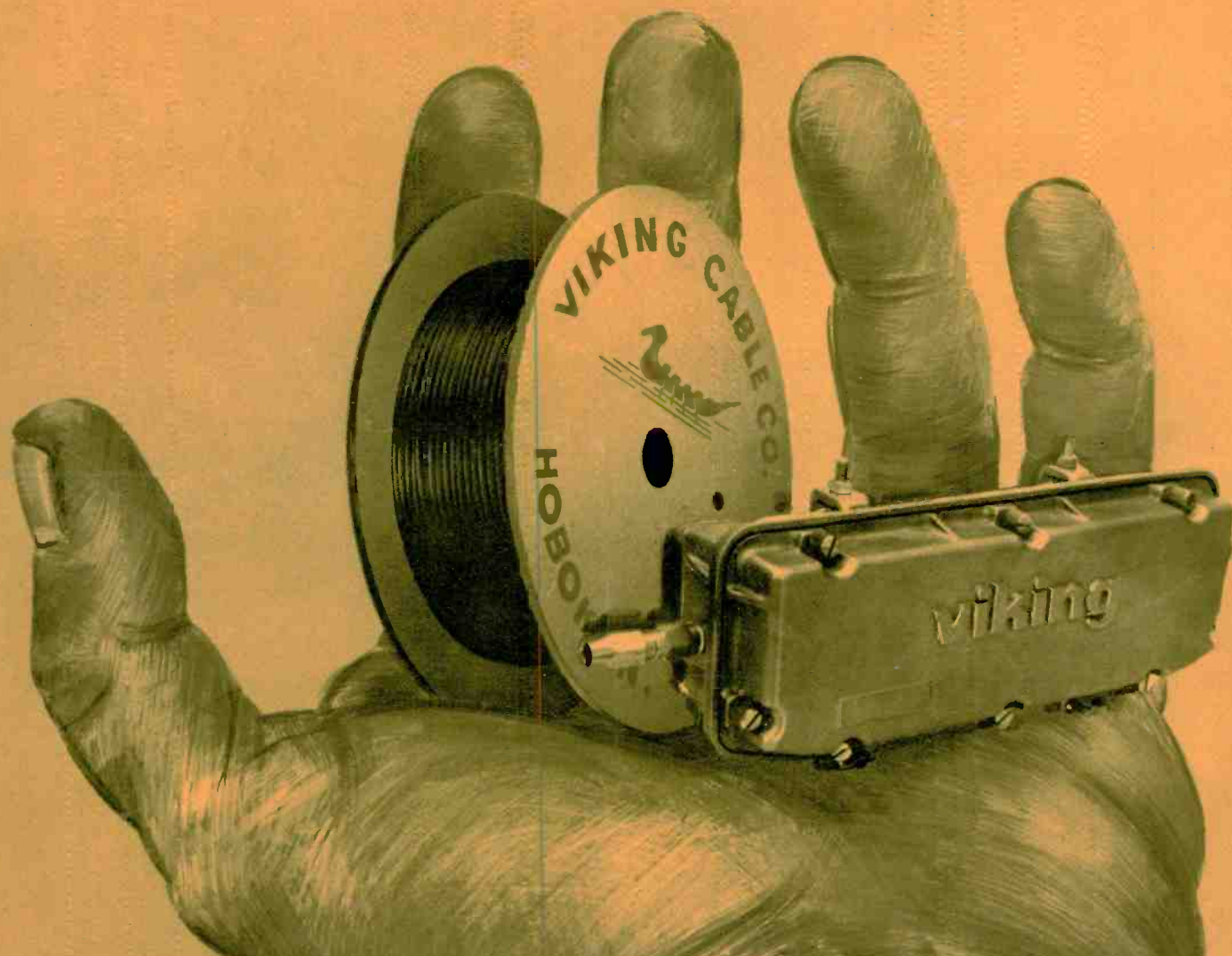
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