



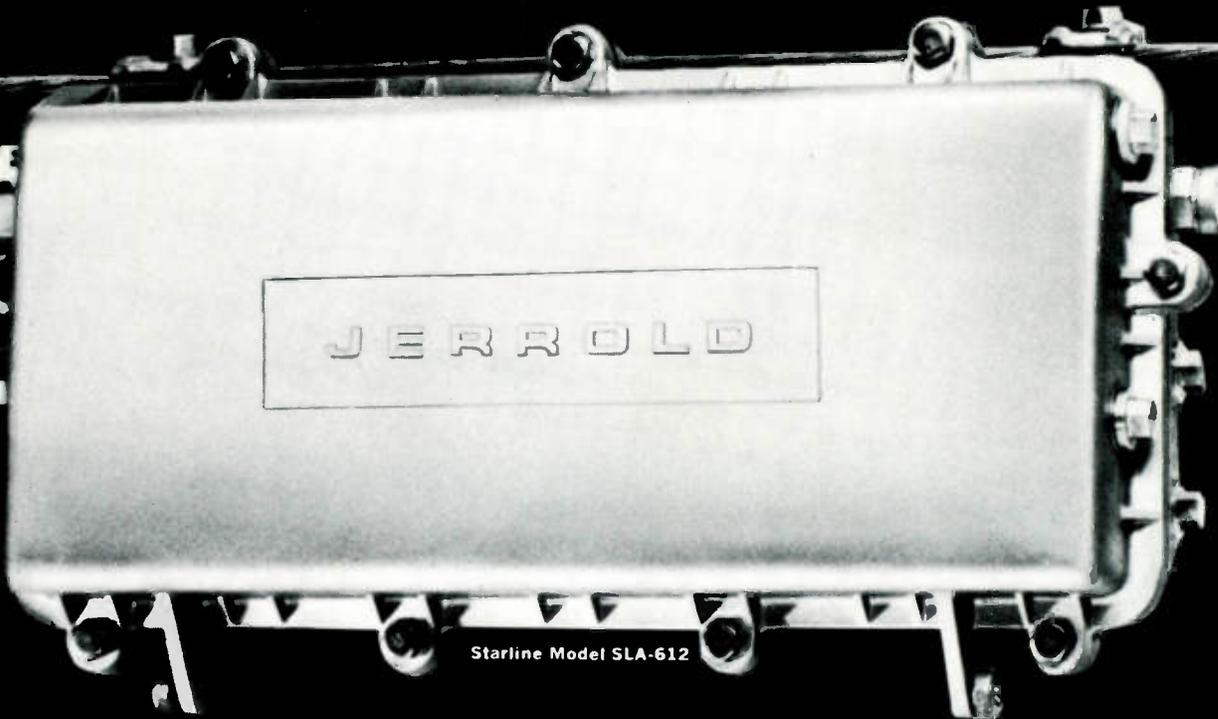
NOVEMBER, 1966

# TV & Communications

The Professional Journal of the Cable Television Industry

- MICROWAVE FOR CATV
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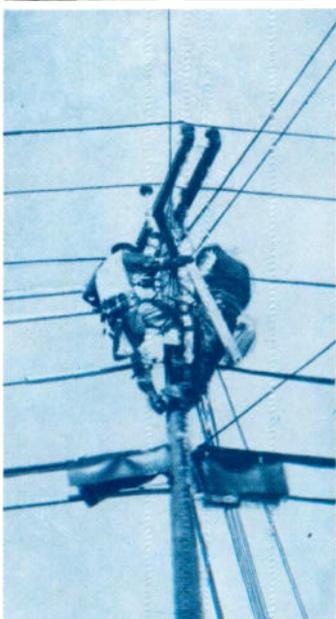
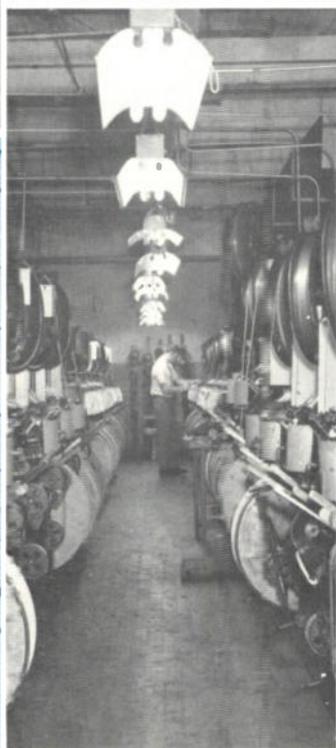
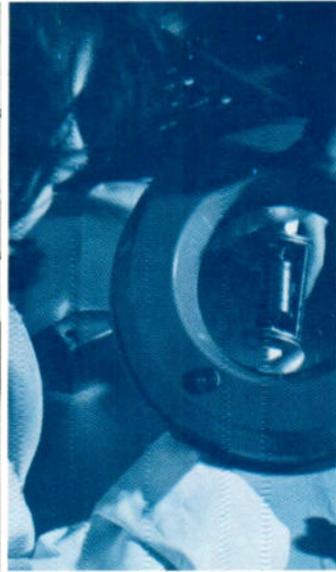
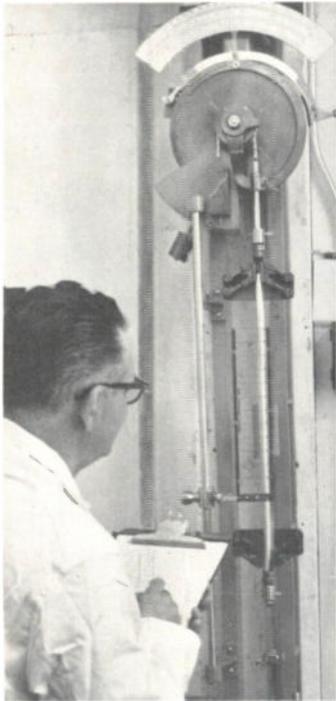
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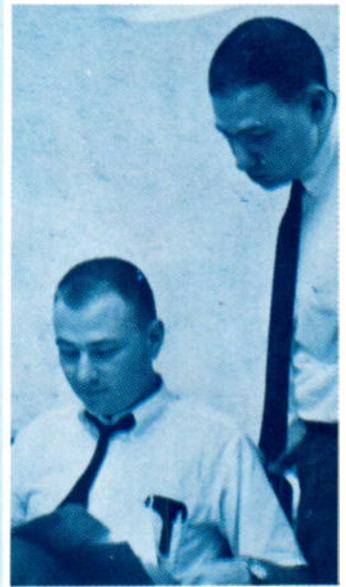
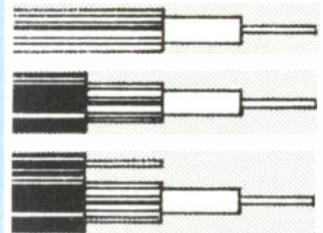
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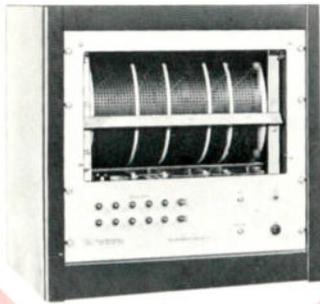
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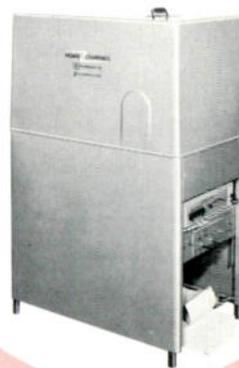
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## IN THIS ISSUE

### CATV For The Tourist Trade

Resort communities along the lower New Jersey shore have had access to the benefits of cable television for as long as ten years. But marginal picture quality and a limited number of available channels have for as many years hampered reception in that area. So, local system operators have turned to a better means of satisfying subscribers' demands. The answer: microwave relay. Read about the creation of Garden State Micro-Relay's complex and ambitious system starting on page 42.

### A Link With The Future

Although TelePrompter's short range multi-channel microwave project currently under study in New York City is now in physical operation, the actual future of the technique is still an open question. TelePrompter's Hubert Schlafly adds his own insight to the facts behind the "AML" experiment starting on page 48.

### Opening With a Bang

The opening of any new business in a community can usually generate its share of enthusiasm from the citizenry. But the coming of cablevision to Prescott, Arkansas, caused so much excitement that the town's mayor proclaimed a two-day holiday! Read how Prescott Video turned on their system and turned out the town, starting on page 52.

### Something To Gain

Since the earliest days of CATV, there has been little available information concerning the performance of tower-mounted antennas and antenna arrays. J. B. Weston, Jr., offers the CATV technician a better understanding of antenna characteristics and points out the differences in seemingly identical arrays in his analysis of CATV antenna array characteristics, beginning on page 79.

**OUR COVER:** This month's cover features a twin Fort Worth Tower arrangement, receiving microwave plus off-the-air signals. Photo courtesy of Jerrold Electronics Corp.

Stanley M. Searle, Patrick T. Pogue PUBLISHERS

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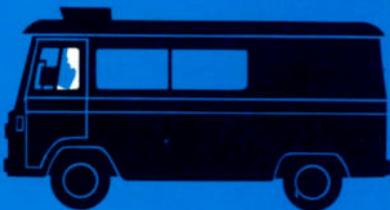
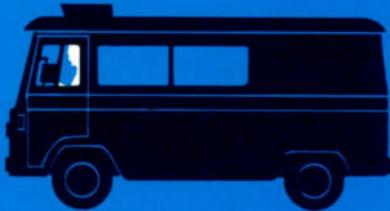
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# TV & COMMUNICATIONS

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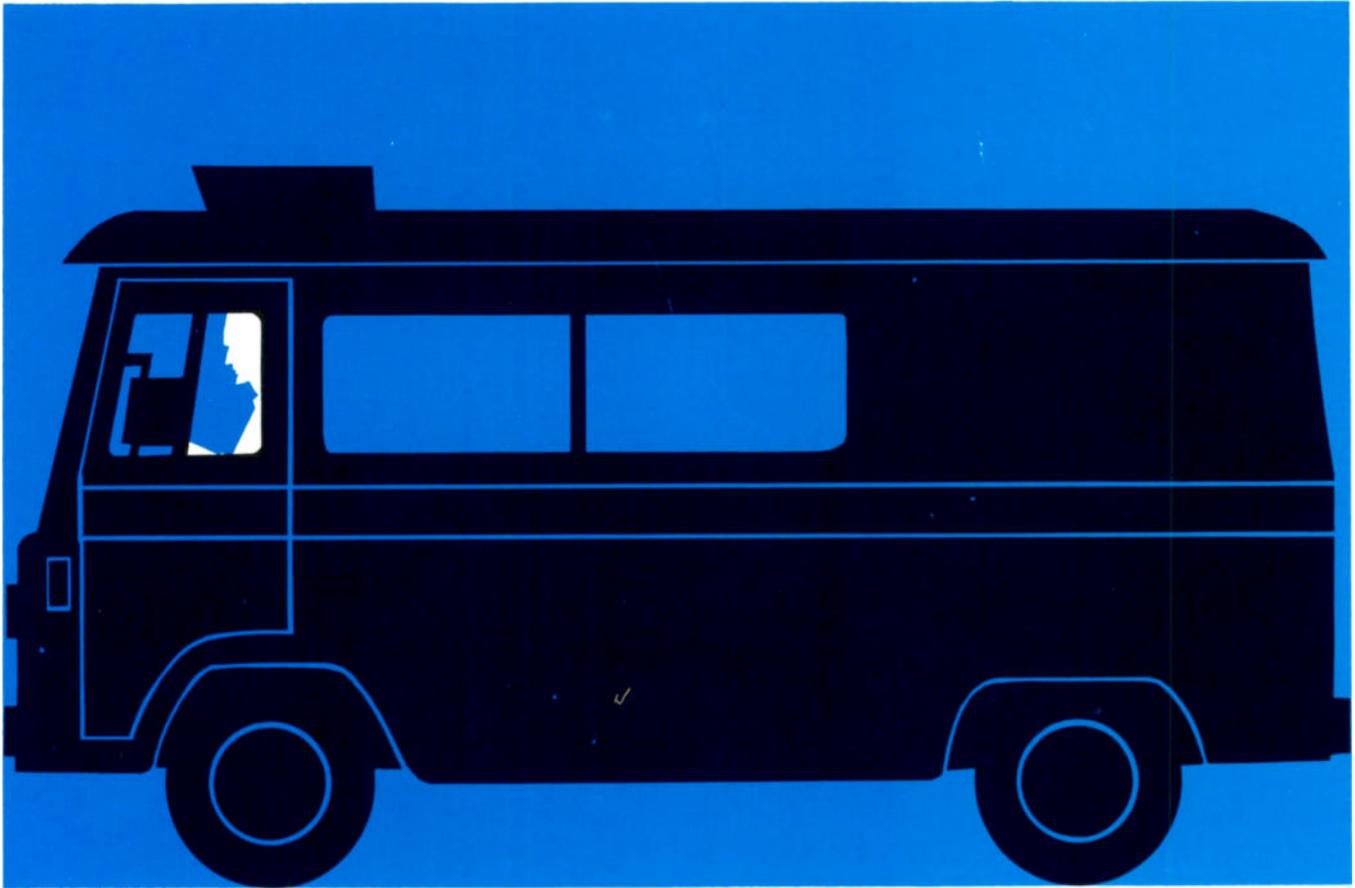
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## EDITORIAL

By Stanley M. Searle

### Copyright Outlook

Some form of copyright liability is going to become a reality for CATV systems unless Congress or the courts turn a complete about-face. And right now it's even money that the legislators will adopt a CATV copyright law before the United Artists or CBS cases are acted upon by the Supreme Court. Although the many powerful interest groups concerned with copyrights may detain the Copyright Revision Bill, the CATV section may be broken out and enacted separately during the next session.

In any event, cable operators owe it to themselves, and to their subscribers, to wage war on the absurdly complex and burdensome provisions of Section 111 of HR4347. Unless amended or deleted, these provisions will subject both the copyright owner and the cable system operator to manipulation and multiple jeopardy from television broadcasters.

A gigantic and costly bureau would be necessitated just to arbitrate the endless questions rising out of inconsistencies between predicted and actual station coverage patterns. The record keeping and accounting requirements would be an impossibility for many small operators, regardless of the amount of fees involved.

If Congress is bent on writing CATV copyright guide lines (and it's our guess that they are) someone needs to convince the Senate Subcommittee on

Patents, Trademarks and Copyrights that only a simple formula which doesn't hamstring either cable or copyright owner will serve the public. A basic purpose of copyright law should be to facilitate maximum public exposure of an artist's talent, without giving anyone in the "entertainment pipeline" a restrictive valve.

Any fee charged to a cable owner should be equitable in relation to the size of audience served and the exclusivity of the material, such as first-run productions. In most cases the CATV audience is small and the material has no real exclusivity in that the advertiser has already paid the copyright owners for identification with, and the primary benefits from, the audience exposure. Fees proportionate to those paid by television and radio broadcasters would be appropriate only when the copyright owners agree to deletion of advertising messages.

Further, the provision of this bill (HR 4347) which would penalize cable operators who originate programming is, in our opinion, a rank outrage against freedom of speech and fair play. Under the proposed law a system operator would have no copyright liability for carrying signals of stations within whose Grade B contour the system is located. However, this exemption would be cancelled if the operator originated any programming aside from basic time/weather, background music, news coverage of local government and religious meetings and agricultural reports. The law would, in effect, seek to give broadcasters a monopoly on local program origination.

This provision must be stricken from any copyright law. But in the harsh light of experience, cable system owners cannot rely on logic or the fundamental right of free speech to prevail. They must make their position known to their senators and congressmen — especially Senators McClellan, Burdick, Fong, Scott and Hart, who serve on the subcommittee involved, under the Senate Committee on the Judiciary, where the Copyright Revision Bill will first be considered if passed by the House.

A schedule of CATV copyright fees that is proportionate to audience and exclusivity would undoubtedly involve a relatively small amount of income for copyright owners. It would, therefore, be irresponsible and punitive for government to impose complicated and costly copyright rules upon CATV systems. No one would benefit—and the public would be deprived of many educational, cultural and entertainment programs.

Attorney Strat Smith calls the proposed copyright law "a broadcasters' bill." It would, indeed, give television broadcasters broad discretionary powers over CATV systems.

### Pick up the Tab

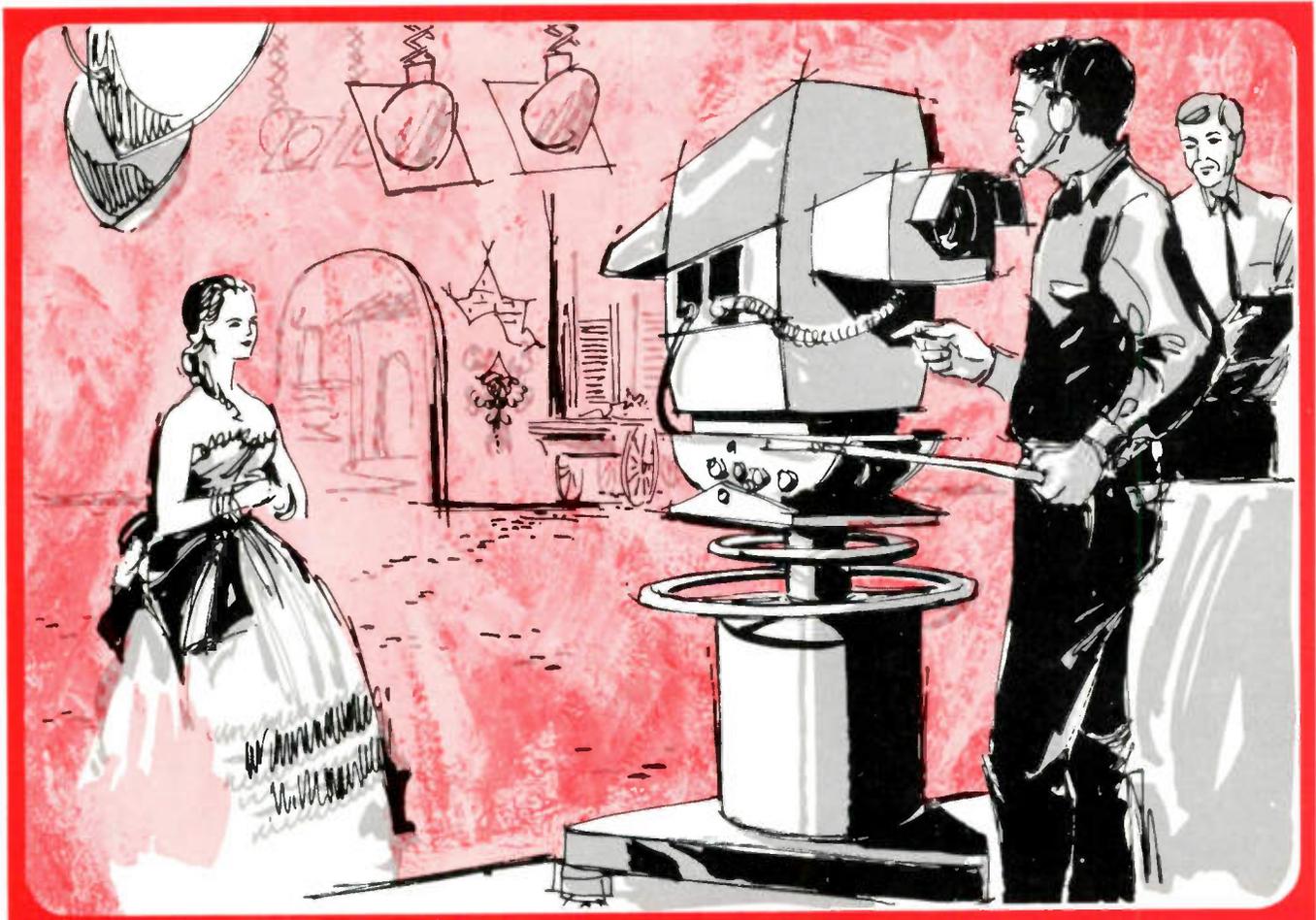
Time, taxes and the telephone company wait for no man. Neither do broadcasters nor copyright owners. How can you, as a CATV operator, do your part to assure some kind of future for your industry? Some absolute essentials are: (1) serve your subscribers well; (2) know and communicate with your legislators, and (3) lend your support to organized industry efforts.

The only one of these three requirements that can be accomplished "over night" is the latter. You can join the National Community Television Association today. If you're a cable system owner NCTA is effectively representing your interests right now—regardless of whether you're helping to pick up the tab.

In our opinion, with or without additional members, NCTA will continue to wage good campaign against telephone monopoly, the Second Report and Order, and a broadcast/copyright logjam.

NCTA offers a number of valuable member services (ad mats, PR aids, legal advisories, etc.). But the main reason for non-member systems joining NCTA at this time should be to shoulder a part of the load of defending the cable television industry. Those who wish to join the National Community Television Association should contact Wally Briscoe or Sam Street at NCTA, 535 Transportation Bldg., Washington, D.C. 20006.

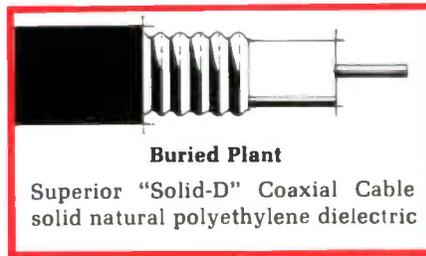
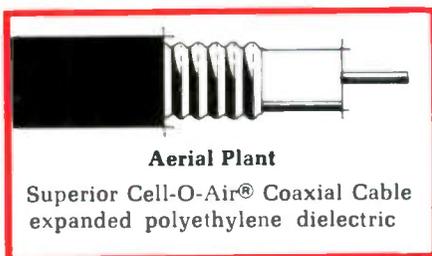
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## CATV Industry **PERSPECTIVE**

Legal, legislative and regulatory arenas are focal points of cable television operator interest. Expensive litigation to avoid copyright liability (United Artists and CBS cases) has been absorbing a major share of NCTA legal efforts. Meanwhile, there is great concern over the complex, costly and verbose provisions of the Copyright Revision Bill. The proposed bill (H.R. 4347) gives CATV operators and copyright owners plenty to worry about. If passed by both legislative bodies in its present form, which is highly unlikely, the bill would place CATV operators at the mercy of broadcasters. In all likelihood the law would put quite a number of CATV operators out of business if local broadcasters insisted on detailed compliance. NCTA President Ford's compromise proposals before the Senate subcommittee studying the bill will undoubtedly inspire some substantial moderation of its provisions. At the same time, however, some copyright liability is now a virtual certainty, based on the NCTA position. Decision to compromise was, of course, due to apparent inevitability of copyright liability. Association executive committee apparently felt that better legislation could be obtained in an atmosphere of cooperation with compromise on some points.

Possible anti-trust action against broadcasters is pending in at least two markets. CATV franchise applicants claim that there is collusion among local television broadcasters to keep CATV out of their market--unless they can control the CATV system themselves. In at least two major markets the television broadcasters have entered into a joint venture with a CATV company to secure a franchise. Then, after preliminary studies were made, the broadcasters entered into a joint venture excluding the CATV company. The anti-trust division of the Department of Justice has shown some interest; is "taking a look at it...trying to find out what's going on" in this area. A number of cable operators who feel that they are being frozen out have said that they may file anti-trust suits on their own.

Healthy response to regional meetings being held around the country by the National Community Television Association seems to reflect determination of cable operators to meet their problems head on. Each meeting has featured a broadcaster and a telephone industry representative. Give and take sessions with Bell representatives have reflected possible moderating of Telco posture on CATV, or at least a growing wariness on the part of Bell towards CATV issues. Some of the questions directed at Telco representatives have failed to illicit clear cut answers. There's evidence that Bell may be reappraising some of its attitudes and policies towards cable television. AT&T remains firm, however, on prohibiting leaseback or pole rental customers from providing certain types of service.

FCC hearings on AT&T tariffs have encouraged many CATV operators who claim that leaseback offerings are in violation of 1956 Consent Decree. However, outcome of FCC inquiry cannot be predicted; is undoubtedly at least a few months away. In meantime, leaseback in Altadena, California has been stalemated and other leaseback systems could conceivably be delayed, giving pole contact applicants equal opportunity to compete in markets where leaseback CATV service is proposed.

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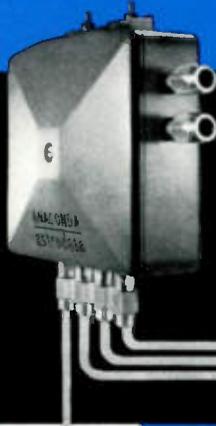
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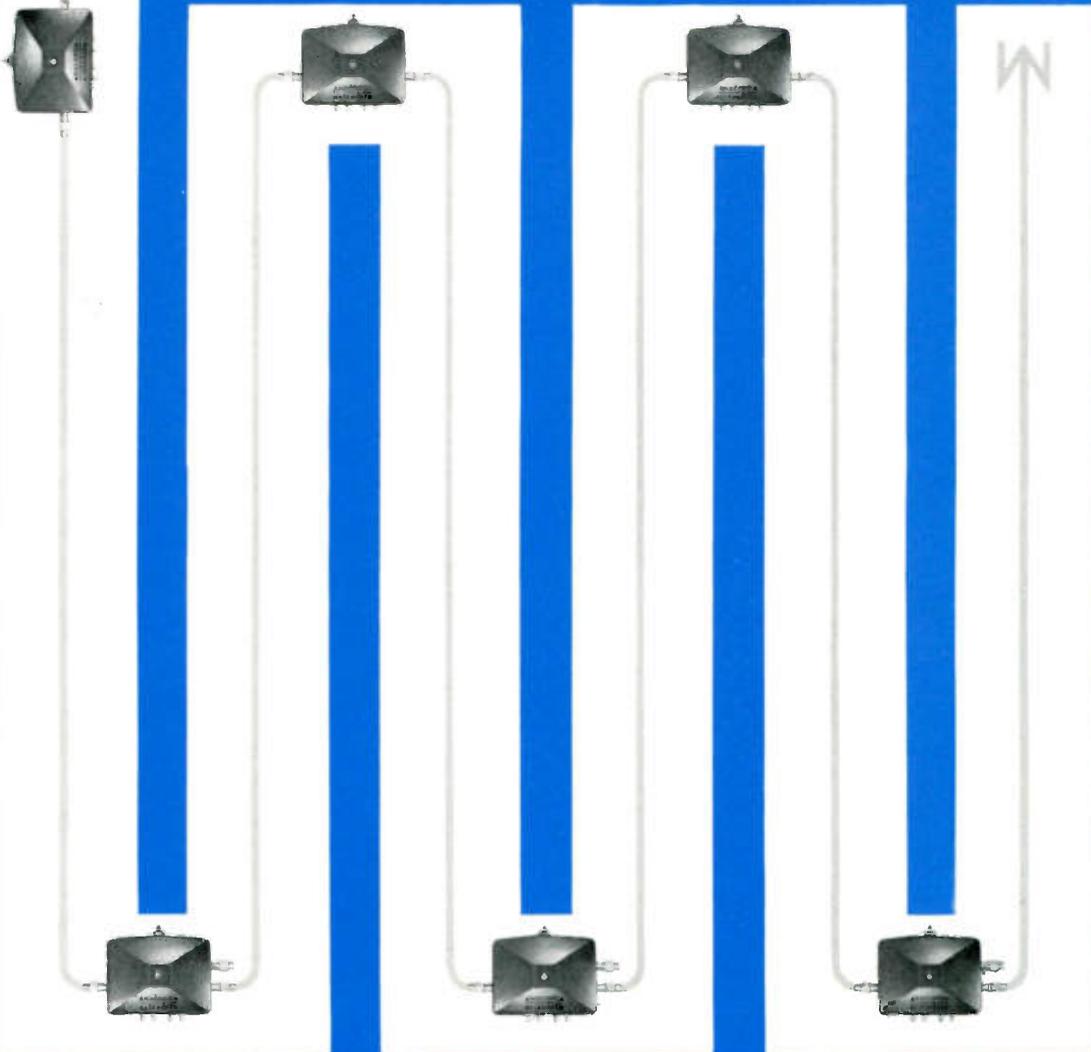


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# CATV Legal VIEW

BY JOHN P. COLE, Jr.

## CATV And Copyright Legislation

On September 28, 1966, the House Judiciary Committee reported out its final version of H.R. 4347, a Copyright Law Revision Bill. If this bill is enacted into law, it would constitute the first major revision in copyright legislation since 1909. And if enacted in essentially the same form as approved by the House Committee, this revision to the Copyright Code will dramatically affect the conduct and future course of the CATV business.

H.R. 4347 is *not* a CATV copyright bill; it is a broad, general legislative effort to bring the Copyright Code up to date in light of modern technology and standards. Community antenna television systems are not directly mentioned by name in the 56 separate sections of this proposed bill. Yet, as a practical matter, proposed section 111 of H.R. 4347 covering the subject matter, "Secondary Transmissions," is directed almost exclusively to the subject of copyright responsibility in CATV operation. The language of the Bill is complex and highly technical; but the end result, in our judgment, represents a very considerable victory, at least at this stage, for the broadcasting industry *vis a vis* CATV. In fact, this "copyright" legislation appears substantially more oriented to issues of Broadcaster-CATV relationships than it does to the question of rights of copyright holders. Section 111 of H.R. 4347 is more a CATV regulatory measure than it is an effort to ascertain or define the rights of copyright holders.

While the proposed legislation is extremely "fuzzy," and even vague, the Committee has recommended, in general, that CATV

systems will be subjected to degrees of copyright liability extending from full to none depending upon the particular circumstances of each case. In each case, however, the precise degree of copyright liability depends upon the CATV system operator's relationship, in terms of competitive effects, to the television broadcasters in the area.

First, in order to be classified as a CATV system and be entitled to any degree of exemption from full copyright liability under this bill, a CATV system must *not* originate any programming other than "weather, time and news reports, free from editorial comment; agricultural reports; religious services; and local proceedings of governmental bodies;" there must be *no* "commercial or political" advertising or sponsorship of closed-circuit presentations; and there must be no charges made for any particular program or programs, i.e. Pay-TV. Moreover, not more than two channels may be devoted to origination. In other words, any effort by a CATV to carry non-broadcast programming, other than that strictly defined above, would result in subjecting the CATV system to full liability for *all* copyrighted broadcast programs received via the cable. It is further provided that if the CATV operator engages in the deletion of any commercials or station identification, or in any way alters program content, full copyright liability shall attach for all programs carried.

Provided that a CATV system retains eligibility for exemption under the bill, no such system will be liable for payment of copyright royalties for any programs received within the "limits of the area normally encompassed" by the broadcasting station whose signal is received. While not defined, "normal service area" probably means that area within the predicted Grade B contour of the broadcasting station.

Where a CATV receives the pro-

grams of a television station which does not "normally" serve the area in which the CATV operates, this bill provides for copyright liability. In circumstances of this type, and where the area is not "adequately" served by other television stations, a system of compulsory licensing of the copyright with provision for judicial supervision is proposed. The Bill defines an area as being "adequately" served where the programs of the three major television networks are normally received.

Where programs from distant stations are received via CATV into an area covered by a "local" station, and where there would be duplication of the programming provided by the local station, the bill proposes full CATV copyright liability. However, there is a proposal for compulsory licensing with "reasonable" fees to CATV's in those areas which are underserved [less than three network signals], but only with regard to those particular programs which are not exclusively licensed for showing in the area to another station. In areas where there are no television services, compulsory copyright licensing is proposed.

It seems clear, therefore, to any informed observer that, with regard to CATV copyright matters, the deliberations of the Committee were preoccupied with factors of CATV competition upon commercial broadcasting as they traditionally have been alleged to the FCC by television licensees. Rather than touch upon any seemingly legitimate copyright objectives, the purpose of section 111 of this bill is clearly to impose very substantial operating restraints upon CATV businesses in order to maintain an artificial competitive environment in which the CATV operator's interests are always subordinated to the commercial interest of those engaged in the pursuit of television broadcasting. H.R. 4347, in its present form, certainly represents a substantial victory for the three major networks and, most particularly, broadcasting licensees in general. For clearly, if this Bill is enacted into law, the full potential of CATV is inhibited substantially by governmental action; and any utilization of CATV for purposes other than a limited-use passive reception device for broadcast programs is virtually precluded. The primary effect of such legislation would be to deprive the public of a potential for more useful, and a wider vari-

John P. Cole, Jr. is a member of the Federal Communications Bar Association and a member of the Bar of the District of Columbia and the States of Maryland and Georgia.

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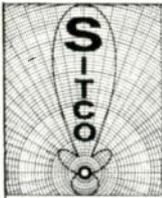
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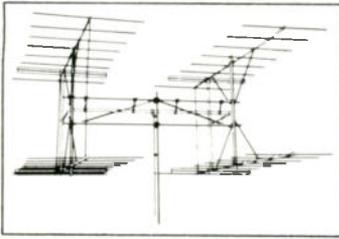
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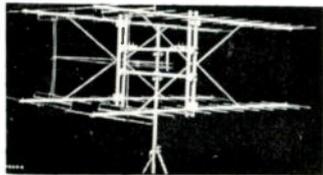
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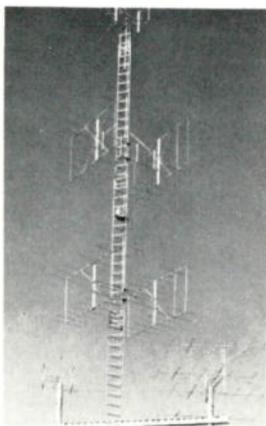
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## CATV LEGAL VIEW

(Continued from page 14)

ety of choice of, mass-media communications services which otherwise could be made available by CATV facilities. The public interest is thereby subordinated in H.R. 4347 to the private interests of those privileged to operate commercial television stations in the land.

Perhaps the most pertinent observation to be made regarding H.R. 4347 is the obviously intended results of this legislation:

(1) So long as the function of the CATV will *benefit* the commercial broadcaster by improving or otherwise facilitating the reception of programs within the station's "normal" service area, i.e. increasing audience access or size, there is full copyright exemption.

(2) So long as a CATV affords no direct or indirect competition to a broadcaster there is either full exemption or compulsory licensing with reasonable fees.

(3) Whenever a CATV system makes any effort to obtain advertising revenue or to use the cable to distribute commercially attractive, non-broadcast programs, it loses all right to copyright exemption and must then bargain for rights to each copyrighted broadcast program carried.

Thus, the patent intention of H.R. 4347 is to guard the commercial activities of broadcasters from any possible inroads by CATV operators. It seems to us that rather than intended to accomplish any legitimate "copyright" purpose, as traditionally construed and understood, the principal intention of this Bill is to furnish artificial economic protections to commercial broadcasters against competition. It is our judgment that the Bill in this respect raises serious questions concerning the promotion of anti-competitive policies. For it is a foregone conclusion that under the Bill, as presently written, the networks, the stations and the copyright holders are placed literally in a position to dictate acceptable terms of copyright clearance to CATV operators on a program-by-program basis. CATV, under the Bill, has but two choices—it can accept a vastly inferior status to commercial broadcasting interests or it can seek to compete at least to some degree but only upon terms dictated to it by its competitor. The Department of Justice has already voiced its grave concern with any legislative revision of the Copyright Code which would impart such a marked competitive imbalance to the relationships now prevailing between broadcasting and CATV interests.

We must, however, recognize and acknowledge the ingenuity of the broadcasting establishment in this latest approach; and we must certainly admire its demonstrated skills in impressing its views upon the Committee. A committee report is not a law; but CATVs face

an up-hill struggle on this important issue.

As a practical matter, many of the FCC's CATV regulatory policies, as adopted in the *Second Report and Order*, are followed in H.R. 4347; and, in our judgment, this is not an example of simple coincidence. Rather, it is another vivid example of the vast power and influence of the broadcasting establishment in promoting its own economic welfare.

The unique ingenuity in this approach to the Broadcaster-CATV regulatory problem is that the grave constitutional doubts inherent in any regulatory legislation, such as proposed by the House Commerce Committee in H.R. 13286, which purports to prohibit directly the use of closed-circuit communications facilities for certain types of communications are probably obviated by the copyright approach. For under a system of copyright legislation, as is now proposed, there is no *direct* governmental prohibition or restraint upon the free flow of constitutionally protected communications. The restraint is far more subtle; rather than *prohibit* the flow of communications by any direct governmental prohibition, the proposed copyright revision merely *inhibits*, by economic necessity, the CATV operator's incentive or capacity to explore the full potential of his closed-circuit communications system for additional service in the public's interest. Credit must be given where credit is due; and the demonstrated ability of the broadcasting establishment to persuade the House Judiciary Committee of the need for such novel copyright legislation is a remarkable achievement. The talents and capacity of the broadcasting establishment to secure measures of economic protection in the "free-enterprise" business of commercial television is certainly a representative example of the exercise of lobbying at its best.

Fortunately, however, for the CATV industry, there is little likelihood that H.R. 4347 will be enacted into law at this session of Congress which now timely draws to a close. Based upon our personal exploration, we feel that the great majority of the Committee members voting for this Bill have little or almost no real concept of the true meaning and effects of section 111. In complex, lengthy legislation of this type, such a lack of knowledge is not unusual. It is now up to the CATV industry to bring to light the lack of justification for enactment of the Bill as presently composed. While the opposition interests are extraordinarily competent in the area of legislative maneuvering, and while the task ahead is certainly substantial, it is believed that by the process of amendment, H.R. 4347 might yet very well culminate in a copyright bill which takes into consideration, and is fair to, the interests of broadcasters, CATV operators and the public alike. Only by a vigorous grass-roots campaign can the CATV industry even hope to achieve a fair and reasonable compromise in this sensitive area. □

**BUCKEYE GRANTED PERMANENT WAIVER**

The FCC last week honored the request by a Toledo, Ohio CATV system and granted a permanent waiver of part of the Commission's CATV rules so the system can supply subscribers with an educational television channel when the local educational outlet is off the air. Buckeye Cablevision, Inc. will be allowed to carry the signals of WTVS (TV) in Detroit, which is a distant signal, during those periods when WGTE-TV in Toledo is not operating.

Buckeye Cablevision's request for a permanent waiver has been pending while the Commission studies the situation. During that interim the FCC granted the firm a temporary waiver from July 1 through September 6. Buckeye Cablevision has been embroiled with the FCC since the Commission's CATV rules first became effective. It was the first system to be ordered by the FCC to quit carrying distant signals, and consequently was the first system to initiate a legal test of the Second Report and Order.

**ANOTHER BROADCASTER-CATV HEARING**

A petition at the FCC last week possibly could halt the initiation of new CATV service in Gainesville, Georgia. WIBC Inc., licensee of television station WAIH-TV in Atlanta, Georgia, asked the Commission to issue an order demanding that Gainesville Cablevision Corp. show cause why it should not be enjoined from starting operation.

The television firm in its petition said that Gainesville Cablevision plans to start service to subscribers this month, but claimed that the Grade A contour of WAIH-TV touches Gainesville. Since Atlanta is the country's 19th market and Commission CATV rules pending judicial or congressional reversal, forbid the importation of distant signals into the top 100 markets without special FCC approval, WIBC Inc. said Gainesville Cablevision should not be allowed to import the signals of stations whose Grade B contours do not touch Gainesville. But, the television company claimed, the Gainesville system plans to import three such signals.

WIBC Inc. said Gainesville Cablevision has announced that it will carry the signals of WAIH-TV, WSB-TV, WAGA-TV and WJRJ-TV, all Atlanta; WRCB-TV and WTVC(TV), both Chatta-

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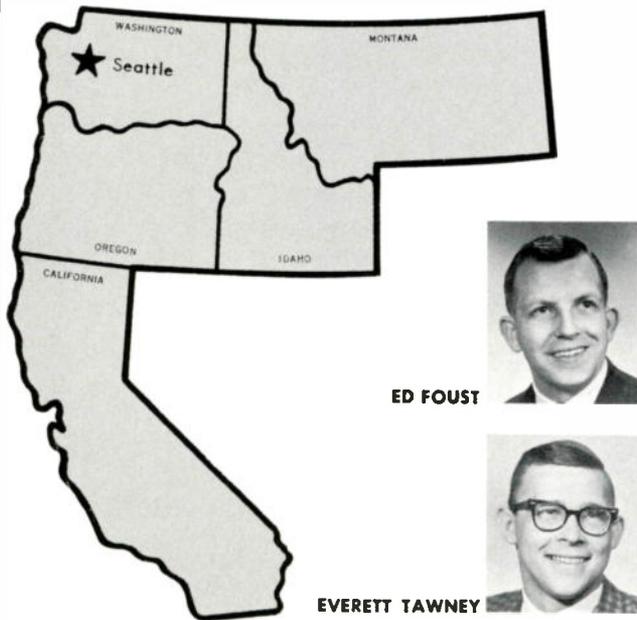
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### Dealing With Tensions

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Everyone is confronted by threats, therefore everyone experiences tensions. Yet, there are times when people become tense and anxious, when no adequate threat exists. This may happen when they have been through a siege of trouble or exhausting work, are worn out and on edge, and therefore, cannot reason things out or control their feelings. The average person has the capacity to live through emotionally upsetting situations, even crises, and to bounce back when they are over. It is important to recognize, therefore, that an occasional bout of anxiety and tension is quite normal; and while it may be unpleasant or even painful, it need not cause additional concern.

There are, however, some people for whom life is a series of crises. In such instances we may expect more than an occasional passing emotional upset. We may expect to see signs of prolonged and intense anxiety and tension. The time to become watchful, therefore, is the time that emotional upsets come frequently, shake up severely, and fail to wear off after a while.

Do minor problems and disappointments throw you into a dither? Do you find it difficult to get along with people, and are people having trouble getting along with you? Do the small pleasures of life fail to satisfy you? Are you unable to stop thinking of your anxieties? Do you fear people or situations that never used to trouble you? Are you suspicious of people, mistrustful of your friends? Do you have the feeling of being trapped? Do you feel inadequate, suffer the tortures of self-doubt?

If your answer to most of these questions is "yes" there are several things you might do. There are, to begin with, certain simple, practical constructive things you can do for yourself. Here are a few suggestions which may help you.

When something worries you, talk it out. Don't bottle it up. Confide your worry to some level headed person you can trust, your wife, father or mother, a good friend, your clergyman, your family doctor. Talking things out helps to relieve strain, helps you to see your worry in a clearer light, and often helps you to see what you can do about it.

Sometimes, when things go wrong, it helps to escape from the painful problem for a while; to lose yourself in a movie or a book or a game, or a brief trip for a change of scene. Making yourself "stand there and suffer" is a form of self-punishment, not a way to solve a problem. It is perfectly realistic and healthful to escape punishment long enough to recover breath and balance. But be prepared to come back and deal with your difficulty when you are more composed.

What are other factors in dealing with our tensions? For one thing, anger. If you feel yourself using anger as a general way of behavior, remember that while anger may give you a temporary sense of righteousness, or even of power, it will generally leave you feeling foolish and sorry in the end. If you feel like lashing out at someone who has provoked you, try holding off that impulse for a while.

Underlying these suggestions, is a basic philosophy fundamental to good emotional health. That is the philosophy of faith; faith in ourselves, faith in others, faith in the ability of each person to improve and grow; faith in people's desire and capacity to work out their problems cooperatively; faith in the essential decency of mankind. □



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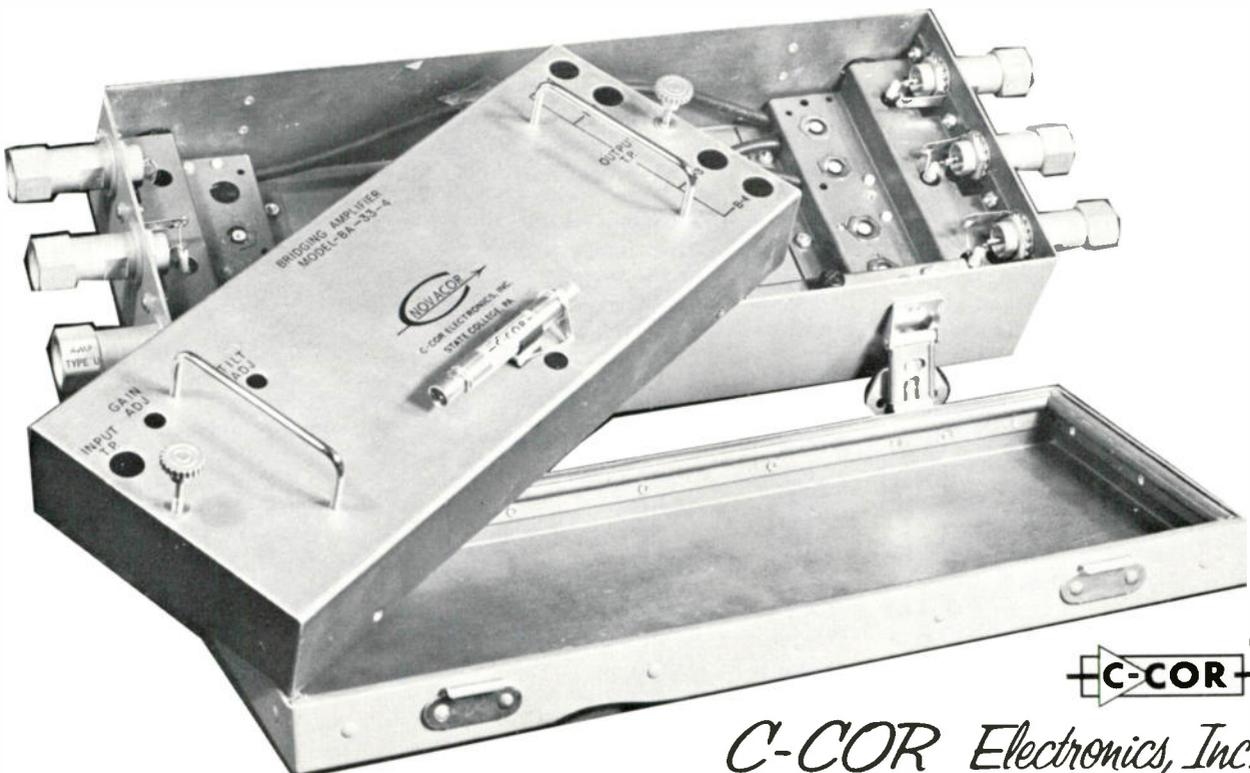
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# News SPECTRUM

## CATV Associations Charge Telcos

Complaints by the California Community Television Association about the leaseback tariffs filed at the FCC by the General Tel subsidiary, California Water and Telephone Company, bore fruit at the Federal Communications Commission. The FCC suspended the effective date of the new tariff until January 15, 1967 and ordered a hearing on the lawfulness of the California tariffs.

One further sign about the FCC decision on the General Tel California tariffs is that the Commission acted "on its own motion." That is, the Commission dismissed the complaints of the California CATV Association because they were not filed on time. But it still acted in accordance with the basic arguments of the complaint. (When the FCC thinks untimely filed petitions have real merit, it can in effect dismiss the petitions while at the same time adopting their recommendations "on its own motion" — that is, the Commission's own initiative.)

Following fast on the heels of its successful filing, the California Association filed another leaseback tariff protest with the FCC. This time the object of the association's discontent was Pacific Telephone and Telegraph Co.—an AT&T affiliate. The protest asked the Commission to suspend and investigate the proposed leaseback tariff filed recently by Pacific Tel.

The protest wording was generally the same as that of the filing against California Water and Telephone Company, but it did contain some modifications. The association expressed the fear that the Pacific tariff, if allowed to come into existence, would allow the telco to force operators off the poles. It also stated that the leaseback arrangement would result in greater cost to the public.

The protest had hard words for Pacific Tel's arguments that CATV is a common carrier service: "The argument that CATV is a common carrier type service or an extension of common carrier service is comparable to the contention made by AT&T in the mid-20's, to the effect that the business of broadcasting was an inherent part

of telephone communications. It is no more appropriate for the Pacific Company to be allowed to own and lease channel facilities than it would be to allow the company to own and lease radio and television stations."

### NCTA Files

Backing the efforts by the California association to reform leaseback tariff policies, The National Community Television Association filed a 17-page request with the FCC, asking the Commission to cancel or, alternatively, alter and investigate all tariffs of American Telephone and Telegraph Co. subsidiaries and affiliates.

The petition said that "the provision of facilities and services for community antenna television systems by the several Bell companies . . . is unlawful, unjust, unreasonable and against public policy." The NCTA complaint centered on new tariffs, submitted to become effective November 1, which were virtual repetitions of the older tariffs, but reworked to conform with Part 61 of FCC rules. The NCTA challenged both the old and new tariffs. Pointing out that the Bell System ten years ago entered into a Justice Department consent decree forbidding the company's activity without special permission in any business other than common carrier work, the NCTA said "that a conclusion with respect to whether the consent decree prohibits the Bell System from leasing CATV facilities deserves searching inquiry in view of the national economic impact which is being and will increasingly be felt as a result of Bell System entry into the CATV field." The NCTA asked both the FCC and the Justice Department to examine the questions.

"What AT&T and other telephone companies propose with respect to CATV," the NCTA filing said, "is virtual control over the business of the would-be customer, leaving to the CATV operator only the ownership of the equipment at the antenna site and permitting him to act as the collecting agent for the telephone companies vis-a-vis the subscribers. If AT&T is successful in its approach to CATV, there

will no longer be an independent and direct CATV industry." NCTA said that "in essence, the tariff offering is a means of offering market control for the entire business of CATV in any single community . . . NCTA submits that the offering of CATV distributional facilities under Bell System FCC tariffs does not constitute a common carrier communications service and is therefore prohibited by the consent decree."

Continuing its hard-hitting language, the NCTA said: "the furnishing of CATV facilities under tariffs constitutes a part of a plan or scheme to benefit the Bell System in two essential ways: Namely, it provides a method whereby CATV underwrites the construction of coaxial cable capacity which can be converted to Bell System use, while at the same time producing profit to the Bell System; and it provides a method by which the Bell System can limit uses of coaxial cable to prevent present or future competition for services which the Bell System presently offers or may offer in the future . . . Generally, the minimum period of life of a tariff undertaking is ten years. The termination charges are designed so that if, at any time prior to the expiration of the ten-year period, the CATV operator should have to, or want to, terminate, he will have to pay the telephone company the entire cost of construction of the system, less amortization. The termination charges are reduced regularly over the 120 months of the ten-year period. There are no termination charges after ten years."

"While the CATV operator is forbidden to use the cable for other than CATV services and minor, or incidental, ancillary services, the telephone company is free to use the same cable, simultaneously, for other purposes, the report noted: Thus the CATV leaseback operator guarantees the telephone company the risk-free construction of a cable network which the telephone company can then exploit for other than CATV purposes through its own use. CATV operators under leaseback tariffs are restricted to one-day transmission of both video and audio. The principal use of the CATV system is to be CATV distribution of off-the-air signals. The only incidental services permitted are fill-in-music, weather, occasional local events, and occasional closed circuit. There is a specific ban on use for pay-TV. There is a specific ban on use of the system for the collection, transmission, or dissemination of other types of communications, and the resale of the use of any of the facilities is forbidden."

The NCTA pointed out that these restrictions, "parallel the restrictions contained in pole attachment agreements entered into between CATV operators and Bell operating companies." Said the NCTA: "The pole attachment agreement restrictions constitute a striking indictment of all Bell System CATV tariffs," adding that "the interest of the Bell operating companies in maintaining restrictions on use must inferentially be bound up with a general policy of limitation of the CATV operator's operation. Thus, NCTA submits that the parallel restrictions, tariffs vis-a-vis pole attachment agreements, are for the purpose of controlling present or future competition for services which coaxial cable can or will make possible."

Pulling no punches, the NCTA added that "the gravamen of the antitrust implications of Bell System CATV activity is the utilization by the Bell System of its monopoly position in the telephone industry to invade, take-over and control coaxial cable used by CATV operators. And all because of ownership or control of telephone poles. The right of utilities to erect such poles on public rights of way or to use condemnation proceedings to erect them on private property is a privilege granted by state and local governments. Note well that it is the location of the poles and not their intrinsic value which creates the monopoly advantage of the telephone companies over CATV operators. This monopoly advantage has derived directly from governmental privileges conferred on telephone utilities on the theory that the general availability of telephone service is in the public interest. And if this advantage is being abused by attempts to extend the telephone monopoly, NCTA submits that Section 2 of the Sherman Act is being violated."

## Profs Back CATV

A pair of Washington and Lee University professors have suggested that cable television might provide a useful alternative to present TV broadcasting if its development is not frozen by government regulation. The conclusion is reached by Dr. Charles F. Phillips, Jr. and Professor Robert E. R. Huntley in an article on CATV which appears in the spring issue of the *Alabama Law Review*.

The article, second of two parts, deals with an analysis of various attempts which have been made, or proposed, to regulate the CATV industry. The first part, which appeared earlier this year, reviewed the background of cable television.

## Loevinger Protests Danville Action

Federal Communications Commissioner Lee Loevinger has blasted a vehement dissention to the FCC's decision to set aside its May 16 action which granted the microwave applications of Video Service Company to boost the signals of WGN-TV, Chicago, to the Danville (Ill.) Community Antenna System, Inc.

The grant was set aside early in September, upon the Commission's realization that it had previously overlooked the fact that the system is in the Champaign - Danville - Decatur - Springfield market, which is ranked number 73 in the country. FCC rules say that distant signals cannot be imported into any of the top 100 markets without Commission approval — and since there was an objecting petition from an area TV station (WCIA, Champaign, Ill.), the FCC decided to set the applications for hearing.

The objections of Midwest Television Inc. — licensee of WCIA — are based on assumptions that the WGN-TV signals carried on the system are so weak without the new boosters that the system should not be allowed to count that channel as service before the rules went into effect. Video service has countered Midwest's pictures and subscriber

statements with pictures of its own, however, to prove that the signal, while not as strong as some, should be considered as viewable.

Commissioner Loevinger said the majority decision "cannot be supported by reason, policy or expediency and manifests no more than the blind, mechanical reflex of bureaucracy." He said it is clear that the CATV system has been carrying the WGN-TV signal and that while the signal is poor, the Commission action will only serve to work against the public. "Regardless of the theory and philosophy of the Commission's rules on CATV — which are highly controversial at best, the result in this case seems rationally indefensible," Loevinger said, continuing: "to use the power of government to degrade the quality of product (in this case communications) received by the public from one enterprise in order to favor another enterprise because it is a peripheral competitor is surely an abuse of such power. To engage the limited resources of an agency such as the FCC in a complex hearing in order to investigate whether here is a technical basis for such a result is prodigal waste in face of the towering problems that now demand attention and resources. I can only protest and dissent."

## CATV Hurricane Watch

A unique 37-hour emergency hurricane watch and television reporting service was originated by a cable system, **McAllen Cable Television Corporation** in McAllen, Texas last month as Hurricane Inez menaced the Texas Gulf Coast. The around-the-clock coverage, which ran from 8 p.m. on a Saturday night through 9 a.m. the following Monday morning when Inez moved inland, was the only full-time visual news source in the city, as the two Rio Grande Valley TV stations were unable to pre-empt scheduled broadcasts to track the approaching hurricane.

Erwin Sharp, system manager, manned the operation from the system's closed-circuit studio, normally used to originate local public service events. The course of the hurricane was charted on a large map, with supplementary storm news provided by arrangement with local radio station KRIO, whose live

audio reports were picked up by the system. In addition, KRIO alerted listeners on every newscast that complete hurricane details were available on the CATV system's public service channel.

To further extend its coverage, the system set up full-time contact with newsmen in nearby Brownsville, Texas, Padre Island, Texas, and Tampico, Mexico, for on-the-spot reports as Inez threatened the area with 135-mile winds and 12-foot tides. Additional information was provided when the system borrowed amateur radio equipment, mounted a special antenna on its own tower, and taped hurricane reports from Ham operators as far as 1000 miles away.

Local reaction to the coverage was reported to be excellent. In addition to the hurricane surveillance, viewers were notified of local merchants whose shops were opening to provide emergency food and drug supplies.

# CATV, Telco, Cities Clash in Maine

The announcement of a long-term agreement between New England Telephone and Telegraph Co. and Bartell Media Corp., a firm which plans to provide CATV facilities for several Maine communities, has brought forth rousing dissention from cities of that state. The contract, reportedly, calls for providing CATV service via telephone franchises and cable, thus eliminating the cities' right to franchise approval.

According to Lee B. Bartell, president of Bartell Media, CATV in Maine is a telephone service. "We plan to confer with the cities in order to provide the best possible service," he maintained. "But we do not plan to seek a permit, because we are not using the public highways or public streets."

Noting that he believes his position to be consistent with that taken by the Maine Public Utility Commission, Bartell stated that "under Maine statutes, the jurisdiction of the communities is in reference to the use of public highways and streets. We are not engaged in the use of public highways or streets, and therefore the application for a permit would be inappropriate—all we are is a subscriber to telephone service."

New England Telephone officials voiced their agreement that the telephone right-of-way franchise with the municipality is sufficient to allow the telco to enter into a distribution tariff arrangement. The telco, according to New England officials, "provides two options for a CATV operator. He may apply for a pole attachment agreement with the telephone company, or he may request the telephone company to provide the communications services via its cables.

"Under the pole attachment agree-

ment the CATV operator will use his own equipment, cable and manpower to install cable along the streets. Therefore, he must obtain a permit from the proper authorities to run his cable along the public way. The telephone company will not enter into a pole attachment agreement until such a permit is granted to the CATV operator.

"Where the CATV operator requests the telephone company, under existing tariffs on file with the Maine Public Utilities Commission, to provide the communications service necessary for his operations, telephone company-owned equipment, cable and manpower are used. Therefore, in this case, the CATV operator does not need to obtain the permit, as the work is done by the telephone company under permits it has received from the municipality. It must be understood that the telephone company is not a participant or a joint venturer in a CATV business. Rather, the company is undertaking to provide the operators with communications services in connection with their business. As to the operation of the CATV business itself, it is the responsibility of the CATV operator to comply with all local laws, ordinances, and regulations. The telephone company tariff states its communications services will be provided only to qualified CATV companies who are in compliance with all laws, ordinances and regulations."

Spokesmen for the cities involved—Waterville, Fairfield, Winslow, Rockland, Camden and Rockport—staunchly objected to the plan, maintaining that they were not consulted as to the action. Several city managers acknowledged that the action was contrary to their plans for CATV.

At least two of the six municipalities which would be affected by the proposed arrangement have asked New England Telephone to clarify its position. One community, Waterville, decided to look into applications for a permit which previously had been tabled, and announced that it would seriously consider granting a permit to one of these applicants. Waterville Mayor Fortier reported that Bartell would not be considered by the board of aldermen, due to the fact that the firm had never applied for a franchise in Waterville.

Rockland city manager Thomas L. LaPointe said the Bartell contract "might raise some questions on infringements of the rights of municipalities." Adding that the situation was "most disturbing," he continued, "I have three other companies currently interested in making application . . . I feel that the three companies who have shown interest should be considered." LaPointe later reported that his city had "requested clarification by New England Telephone and Telegraph."

A Public Utility Commission staff engineer reported that, in his opinion, Bell and Bartell were "going by the old law." He went on to point out that a law enacted in the last session of the Maine legislature extended the powers of the communities to more than just "jurisdiction over streets and highways." The new law, he said, gives the cities jurisdiction over placement of systems in cities.

Text of the law reads as follows:

"H. The municipal officers may contract on such terms and conditions as are in the best interests of the municipality, for the placing and maintenance of community antennae television systems and appurtenances along public ways. Systems located in accordance with such ordinances and contracts are not defects in public ways.

The municipal officers may establish such fees as are necessary to defray the costs of public notice, advertising and the expenses of hearings relating to applications for a contract, but in no case to exceed \$25 per applicant.

Any person, firm or corporation holding a permit to maintain a community antennae television system, issued prior to July 1, 1965, shall not be required to comply with this paragraph; provided, however, that any such permit holder whose system shall not be in operation on or before July 1, 1966 shall be required to comply with this paragraph and the original permit shall be null and void; provided further that cases in litigation on July 1, 1965 shall not be required to be in operation prior to July 1, 1967."

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## Hyde Speaks on CATV

FCC Chairman Rosel H. Hyde, speaking at the Newsmakers Lunch of the International Radio & Television Society at the Waldorf-Astoria Hotel in New York City, included CATV as one of the six general topics of his speech.

Promising prompt action to clear up confusion in the regulation of CATV, Hyde noted that, "Needless to say, community antenna television is another subject of the hour. Entire speeches could be devoted to it and still questions and problems would remain unanswered or unresolved. The Commission has acted to provide for the orderly development of CATV systems within the framework of our national television services. We have sought to ac-

commodate the needs and interests of both industries — to achieve the best of both worlds — to the over-all benefit of the American viewing public.

"We are well aware of the need for priority processing in this area so that CATV service can be rendered where permissible, hearings held where called for and, in general, the ground rules more fully expounded. We have established a special Task Force to move these petitions off the shelf and onto the Commission's Agenda. The wheels are already turning. I want to emphasize that we will keep our commitment to the industry, to Congress, and to the public, to process these applications thoroughly, but timely."

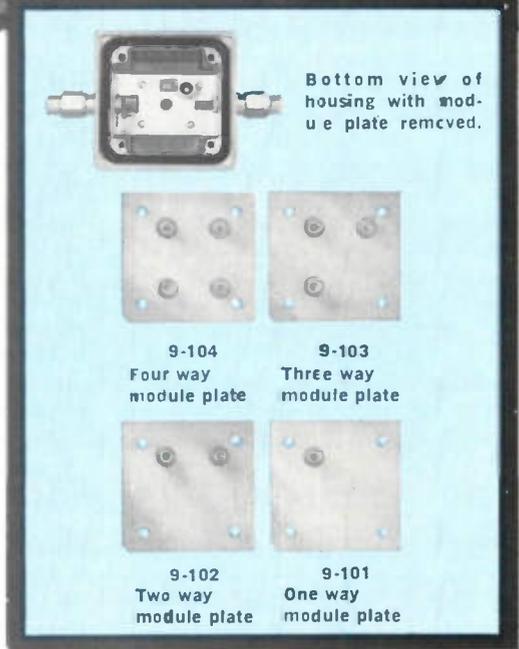
*Craftsman makes electronic products for men who make*  
**DECISIONS!**

Mr. Bill Bresnan, Executive Vice President of Jack Kent Cooke, Inc. is a man who makes decisions. His company uses the Craftsman Modular Directional Tap. So should you.



**MODULAR  
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During a recent tour of the Craftsman Facilities with Dan Mezzalingua, Mr. Bresnan discovered why he not only saves money on in-line taps but also why the Craftsman Modular Directional Tap is the best on the market. Superior engineering, high quality standards and a never ending strive for excellence makes the Modular Directional Tap worthy of the name Craftsman. You too can find out what Bill Bresnan learned . . . there's no substitute for any of the Craftsman products.



For more information on the new Craftsman Modular Directional Tap ask for Data Sheet 1050.

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# Committee Releases Copyright Bill

Years of cumulative endeavor, reasoning and testimony were terminated when the House Judiciary Committee reported out the Copyright Subcommittee's version of the massive copyright revision bill, the first major copyright revision since 1909. Molding the 129-page bill into acceptable shape has required reams of testimony and closed sessions (as many as fifty-one were held this year alone), and close scrutiny of many copyright issues, each with strong lobbying possibilities. One of the most erratic of these is CATV.

Although the industry itself has steadfastly maintained that, under present copyright law, CATV is exempt, a New York District Court Judge ruled otherwise last May. Judge William B. Herlands, ruling in the *United Artists Television, Inc. v. Fortnightly Corp.* case, rejected the most basic tenet of the industry — that CATV is a "community antenna." His ruling of copyright infringement under the existing law cast a shadow on the industry's hopes for exclusion from the copyright revision bill, and prospects turned toward a compromise section in the bill, which was originally targeted for release around June 1.

Rep. Robert W. Kastenmeier (D-Wis.), chairman of the subcommittee, spelled out early plans for dealing with CATV in a letter last spring to House Commerce Committee Chairman Harley Staggers (D-W. Va.) Kastenmeier's proposal at that time was to provide some CATV systems with copyright exemption while others would have full liability, and still others would have to work out compromise agreements with copyright owners. This method of handling the copyright-CATV question was called the "black, white and grey method," a different color for each way of treating copyright. The final, approved bill, however, has been modified somewhat from the form which

was originally announced. In general, the legislation now provides that a CATV system would be exempt from copyright fees if it carries only local signals — to be set by the copyright office (probably Grade B contours), serves only local people and does not violate any of the rules — such as making individual program charges. The system is also exempt if it is for a hotel and makes no direct charge for its services.

A CATV system would be fully liable if it in any way changed or deleted any of its signals' programming or commercials, or if it originated programming on more than two channels, or if it originated any programs but noncommercial "weather, time, and news reports free from editorial comment; agricultural reports; religious services; and local proceedings of governmental bodies." It also would be fully liable if it made a separate direct charge for any program or if it carried a show not intended for the public at large. Full copyright liability would also come down on the CATV system's head if it carried a distant signal into an area already "adequately served" — interpreted as meaning by stations carrying most network shows — or even into an inadequately served area if a station serving that area had the program's copyright and had given the system ten days notice of the copyright conflict.

The "average" CATV system might also fall between exemption and full liability and have to pay "a reasonable license fee" — which, if not worked out by the system and the copyright holder, would be set by the courts. This license fee would apply if the CATV system brought a distant signal into an area not served by a TV station or else inadequately served by one or two stations that did not already have performance rights. If the court found

that a reasonable fee was offered the CATV system but refused, the CATV could be fined. If the court decided the copyright holder was making unreasonable demands, the fee could be reduced or eliminated.

Although the legislation was reported out unanimously by the subcommittee, full contents of the bill were not disclosed until final approval was secured from the parent Judiciary Committee. Members of the subcommittee reportedly feared that powerful pressure might be put upon the committee to change the bill in different ways. All subcommittee members agreed, therefore, to keep the substance of the bill secret until the full committee could vote its approval. Next routing for the bill is through the Rules Committee for scheduling, before the final vote on the House floor. The bill then goes to the Senate.

## Ford's Views

NCTA President Frederick W. Ford's statement on the bill noted that it "has some serious flaws, although it does represent a step in the right direction." The legislation, he said, "is a complex and loosely drawn piece of proposed legislation, replete with ambiguities relating to community antenna television systems. Nevertheless, it is a forward step and with a few appropriate amendments could form the basis for the reception of more diversified programs and clearer pictures by the viewing public.

"It is most difficult to understand," he continued, "why the bill arbitrarily prevents the copyright owner from selling the product of his creative endeavor to CATV systems. This penalty is imposed by depriving the CATV systems of exemptions within the normal service area of local TV stations for originating such programs.

It is even more difficult to understand why the copyright bill is being used to protect broadcasters from the competition of local live public service programs," he added. "It would seem that the entertainment shows are to be protected by denying the public a choice between civic programs of local interest and predominantly entertainment programs.

He also observed that "it is surprising legislators are willing to cut all political candidates off from an inexpensive, local means of addressing constituents."

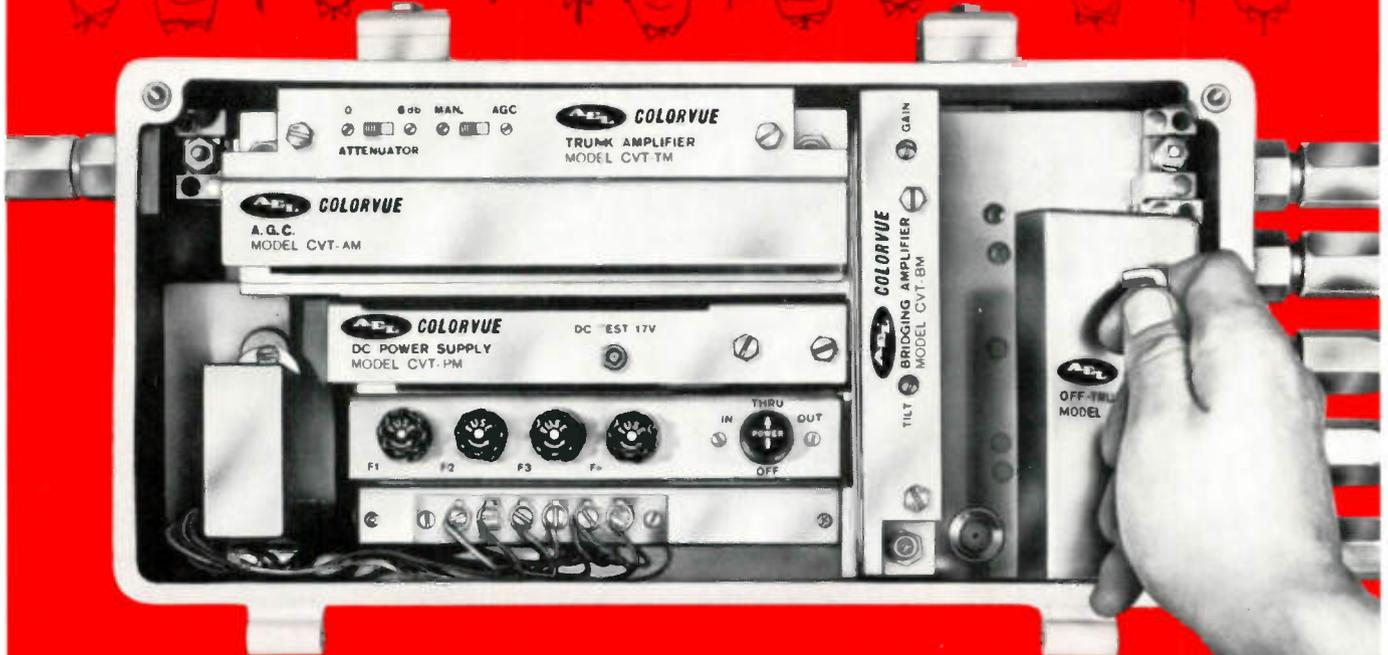
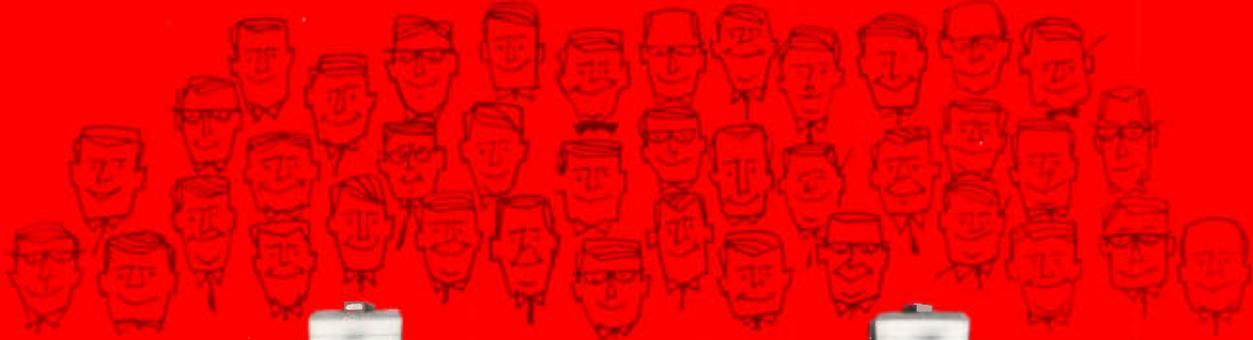
He concluded: "We are studying the implications of the bill in order to suggest amendments which would give adequate protection to the copyright owner and at the same time preserve the public's right to receive programming of its choice."

## FCC Slates Buffalo Hearing

The FCC has ordered a hearing on the conflicting claims of a CATV system in Buffalo, New York, and an applicant for a UHF station there. Ultravision Broadcasting Co., which had applied for Channel 29, asked the Commission to prevent the extension of the cables of Courier Cable Company's system in Buffalo. The hearing was to be on the effect "CATV expansion in the Buffalo area would have on television broadcast service in that market." Also to be considered at the

hearing would be Courier Cable's request for relief from the strictures of the Commission's non-duplication requirements. Pending the solution of the case, the Commission in an attempt to achieve an "equitable accommodation of the conflicting interest" ordered that Courier Cable could continue to "connect subscribers to any of its cables in place of the date of release of the order." Commissioners Robert T. Bartley and Kenneth A. Cox both dissented.

# IT DIDN'T TAKE 234 AEL ENGINEERS



It didn't take AEL's entire complement of 234 engineers to develop the exciting new **COLORVUE** line of solid-state CATV trunk-line amplifiers.

And yet, the availability of this exceptional engineering talent is what made possible **COLORVUE**'s high output capability, high operating gain, low noise figure and VSWR, flat response and 50 to 220mc bandwidth.

So what? So this . . . **COLORVUE** promises—and delivers—full color fidelity across all 12 channels, with 2 amplifiers or with 50 amplifiers cascaded.

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It's the first truly modular amplifier—one basic housing and five individual plug-in units make maintenance, replacement and expansion a snap. Trunk Amp, AGC, Bridging Amp, Off-Trunk Splitter, and even the DC Power Supply, plug-in in seconds—in the field—without shutting down the system. And, as a result of advanced design, only two bolts are needed to open or close the housing.

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## Kentucky Group Meets

Over 60 operators and manufacturers were in attendance at the semi-annual meeting of the Kentucky Community TV Association at the Continental Inn, Lexington, Kentucky. Joe Simmons, secretary-treasurer, reported that the most significant action taken by the group was the formation of a "political action committee" for each congressional district of the state. Supervised by association president William Betts, the committees will tell the CATV story to the state's congressional representatives.

The association also passed a resolution which called for all members to donate ten cents per subscriber to the NCTA in order to help defray the cost of the expanded NCTA programs. The donation would be over and above the regular fees paid to the state association and to NCTA.

Speakers for the meet included Frank Jackson of Ameco, who spoke to the operators on "Trouble Shooting a Distribution System," and Tom Smith of Scientific-Atlanta, who discussed antenna arrays. Several Jerrold sales engineers held a seminar on their equipment. The group tentatively scheduled an association spring election meeting for the last week-end in April.

( TOP  
SECRET  
INFORMATION )

You've got it, and we want it (for the rest of our readers).

Know some short-cuts to CATV technical problems? Getting more good out of your test gear than newcomers in the cable TV industry? Got your truck rigged to make life easier and service better? As an experienced CATV Technician, you can let hundreds of newcomers in on what you have learned **and get paid for it.** Tech tips, long or short, earn standard editorial payments when used in **TV & Communications.** Send materials, or write for more information, to:

**Bob Searle, Managing Editor, TV & Communications, P. O. Box 63992, Oklahoma City, Oklahoma**

## Zenith Files Support on Pay TV

Zenith Radio Corp. has filed strong comments with the Federal Communications Commission in support of the establishment of nationwide over-the-air subscription television. Zenith's comments stated that after 12 years of proceedings, field tests and trials of subscription TV, the FCC has made it possible to "grant subscription TV the right to go into the market place," following the most comprehensive investigation ever undertaken prior to authorizing a new broadcast service.

Such a decision, the filings noted, would logically follow the Commission's Further Notice of Proposed Rule Making, which concluded that subscription TV can be effectively integrated into a total TV system, "with advantages to the viewing audience." The service "can make available programming not carried by conventional television,

thereby providing a supplement to the program choices the public now has."

Zenith also supported the FCC's proposed rules that: subscription TV broadcasts have no commercial announcements; the service be available to both UHF and VHF stations; subscription stations be required to broadcast a minimum amount of conventional programming; and that decoders be rented or leased rather than sold to subscribers. It was also recommended that the Commission avoid freezing the rules into a rigid formula that would make it more difficult to incorporate future improvements and developments.

"The ultimate challenge to the Commission and the entire broadcast industry is the need for many new services not now available and the improvement of old services that television offers," Zenith said.



### A CATV "FIRST"

T.V. Cable of Temple (Texas) has established a reputation as a firm that will go to any length to provide the most complete television service possible. The system recently established a reported "first" in the CATV industry when they attached a hook-up to a Santa Fe railroad coach car, the home of Mr. and Mrs. Robert Smith. Michael Carlisle, system manager, was at first inclined to believe that Mrs. Smith's order for a cable attachment to a railroad coach car was a prank. Later, however, the local technician, B. B. Thompson, checked out the situation, and reported that the coach would be stationary for the next six months. Upon completing the installation, Thompson jokingly told Mrs. Smith that if she decides to move, the firm has enough cable in stock to follow them for the first 100 miles. T.V. Cable of Temple carries 8 channels to some 850 subscribers in the Temple area, according to Mr. Carlisle.

# Another Andrews Tower CATV First:

## ANDREWS QUICK-ERECT TOWERS

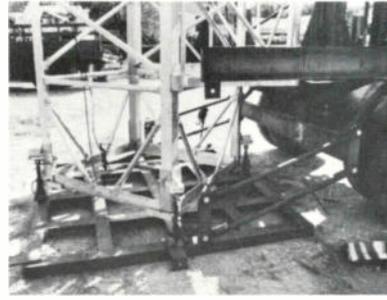
Andrews introduces a completely new concept to CATV with this rugged, revolutionary QUICK-ERECT TOWER! Completely mobile . . . trailer or ground mounted . . . may be erected by five men in four hours. Designed for short term or long term, permanent installation. Fully selectable height.

### CHECK THESE OUTSTANDING FEATURES:

- Microwave towers up to 300', CATV towers up to 410'; ideal for extreme height path surveys.
- Erected in sections for safety and efficiency; sections are held permanently in place by special safety locks.
- Erected by its own guy lines; remaining guys are pulled into place by rising sections. Tower may be raised, locked into place, tensioned and lowered from ground level; no climbing necessary.
- Trailer has its own power unit; trailer-tower is completely self-contained. Room is provided on the trailer to carry transmission lines, reflectors, parabolic disks or antennas.
- Rugged aluminum, all-welded construction.

ANDREWS QUICK-ERECT TOWERS are your answer to difficult microwave, CATV head-end or path survey problems, Pace-setting quality . . . Time-saving economy. It's another ANDREWS first in CATV! Inquire today for full specifications on these outstanding towers.

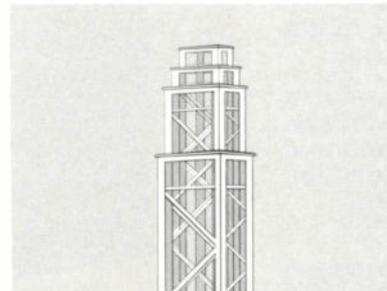
CALL OR WRITE



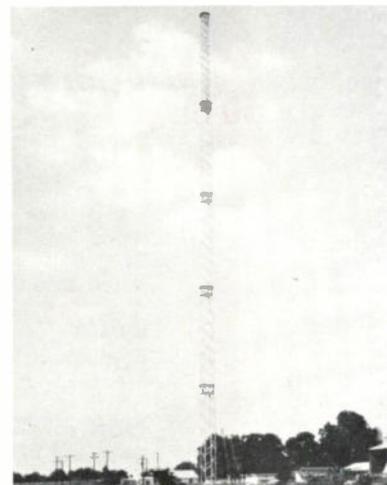
Trailer carries its own base plate. Earth type expansion anchors are used for guys. No concrete is necessary. Reduces erection time to a minimum.



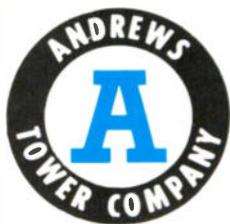
Stacked sections are pulled upright by tower guy wire. Rising sections pull remaining guys into place. No extra equipment required.



No scaling of tower necessary. All erecting is controlled from ground level. Tower is easily moved to site, easily erected by crew of five men.



Tower may be erected to any height for maximum microwave performance or path surveys. Completed unit is as permanent as any conventional tower. Your best buy in CATV towers!



# ANDREWS TOWERS, INC.

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DESIGNER-MANUFACTURER OF SUPERIOR CATV TOWERS

## SYSTEM SALES

American Cablevision, Inc., has purchased the majority interest in **Central Arizona TV, Inc.**, a firm with franchises and applications in several Phoenix area cities.

**Lester Kamin**, Houston, Texas, president of Southwest CATV, Inc., has purchased stock in **Valley Microwave Transmission, Inc.** from the Harbenito Broadcasting Corp.

Eugene V. Klein, president of National General Corp., has announced the sale of four of National's CATV systems to **Genral Electric Cablevision Corp.** The systems service more than 18,000 subscribers out of **Alpena, Michigan, Biloxi and Hattiesburg, Mississippi, and Logan, West Virginia.**

**Fayetteville Cablevision Inc.**, has been sold to **Meredith-Avco, Inc.** The system was previously owned by Durwood Godwin.

**Community Communications Co.** has announced the acquisition of the **Saida, Colorado** system and **Delta (Colorado) Televents, Inc.**

Rex A. Bradley, vice president and general manager of **TeleCable Corp.**, Norfolk, Va., has announced the purchase of the assets of **Auburn (Alabama) TV Cable.**

## NEW CATV FIRMS

**Sequoiah Cable TV Co., Inc.** has been incorporated in Fresno County, California. Directors are John W. Gannon, Thomas E. Kingston and Frederic E. Dorkin . . . **A. E. Martin, Diboll, Texas**, has announced the formation of **Tele-Vue Diboll Co.** . . . **Fairfield (Iowa) Cablevision, Inc.** has filed articles of incorporation . . . **Midwest Cable Television, Inc.**, Mitchell, Nebraska, has been formed to seek franchises in that state . . . **Jackson (Ohio) Community TV Cable, Inc.** has received a non-profit corporation charter in the state of Ohio. Trustees of the firm are Charles Williams, Walden Deal, Sam Johnson, James Mingus and James Williams . . . Articles of incorporation have been approved for **Penn-Mar CATV, Inc.**, a corporation formed by the Hanover Evening Sun, United Transmission, Inc., and Susquehanna Broadcasting Co.

# WEATHER-DATA™

## MODEL 106C WITH SOLID STATE CAMERA

Cable television's latest technical development. This automatic device provides a continuous display of time, wind speed, wind direction, temperature, barometric pressure, and humidity. Housed in an attractive case mounted on a mahogany pedestal, the brightly illuminated display is easily read and understood. It is protected by a nonglaring screen that provides a neat flush front not marred by openings. No controls or adjustments are required as the unit operates automatically.

Space is provided below the displays for inserting a written message. These are easily changed, and provide a strong focal point for announcing special events, cable promotions, and for public service announcements.

...direct Digital  
Readout



## SPECIFICATIONS

Temperature Range:	-65 +130°F
Barometric Range:	26.90 —31.90 in. Hg
Wind Speed:	0-99 MPH
Wind Direction:	360°
Humidity:	Relative 0-100%
Clock:	Solid State
Readout Lamp Life:	Excess of 5000 hrs

### CAMERA

Video Bandwidth	5 MHz
Video Output	1.4 v p-p

### POWER REQUIREMENT

115 vac, 60 Hz, approx. 500 watts

### ENCLOSURE DIMENSIONS

24 in. wide x 16 in. long x 22 in. high

The readout numerals are a full one inch tall and appear with a high degree of legibility on the television screen. This system may be easily tied into existing cable television facilities, as the camera furnishes video and a 20 db RF signal on TV Channels 5 or 6.

Each unit is fully prealigned at the factory and requires no calibration in the field. All "Weather Data" systems are shipped ready for installation. Technical personnel are not required to install either the display or the sensors. After installation, operation is completely automatic.

# AMERICAN CABLE

A DIVISION OF JACK KENT COOK, INC.

# EMERG-ALERT

## MODEL 600 EMERGENCY WARNING SYSTEM

The Model 600 Emerg-Alert System is an emergency alert warning system for the cable television industry. This equipment, which is the first of its type, inserts both video and audio messages into CATV systems. It is designed to permit operation from remote locations such as police or fire stations, governmental offices, civil defense headquarters, or other posts of authority during emergency situations.

The Model 600 has a self-contained video-origination system with a high-quality vidicon camera that is constantly ready to display an alert message on any or all television channels. The alert message is copy that is placed on a card and inserted in a front panel slot—a method that permits messages to be quickly and easily changed.

- CRYSTAL CONTROLLED
- MODULAR PLUG-IN CONSTRUCTION
- SELF-CONTAINED

The Model 600 Emerg-Alert System is compatible with CATV equipment, and is easily installed. Plug-in crystal-controlled video modulator units are easily exchanged, requiring the operator to purchase only required channels.



## SPECIFICATIONS

### CRYSTAL-CONTROLLED VIDEO MODULATOR

Video Bandwidth	10 MHz
RF Carrier Frequency	Channels 2-13
Output Impedance	75 Ohms
Output Voltage	RF over 30 db

### CAMERA

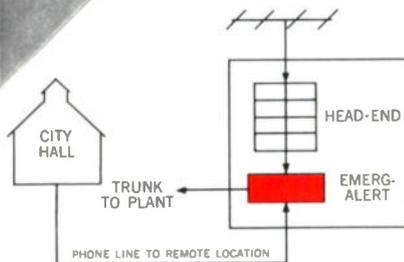
Video Bandwidth	5 MHz
Video Output	1.4 v p-p

### POWER REQUIREMENT

115 vac. 60 Hz, approx. 500 watts

### ENCLOSURE DIMENSIONS

11½ in. high x 15 in. deep x 24 in. wide



The Emerg-Alert unit may be energized from either local or remote position. Whenever the unit is keyed, it will automatically disconnect the trunk that has been inserted through the unit and connect the trunk to its own modulators. Upon keying the unit, an automatic 10 second audio tone will be produced. Audio and video messages will then be inserted on all desired channels.

## NLRB Changes Position

The National Labor Relations Board has announced a revision of its jurisdictional standards for the CATV industry. Formerly, the NLRB took the stand that (1) it would not assert jurisdiction over a small, local system; and (2) a CATV system was not a "communications system" or an essential part thereof—within the strict meaning of the National Labor Relations Act. Under the new ruling, which came about as the result of the recent Athens TV Cable, Inc. case, CATV systems will be considered "communications systems." This means that any system with a gross volume of business amounting to \$100,000 or more per year is subject to the jurisdiction of the National Labor Relations Board. For a copy of the National Labor Relations Act, write to the Bureau of Information, Department of Labor, Washington, D.C. 20212.

## Show-Cause Requested

WIBC, Inc., licensee of television station WAI-TV in Atlanta, Georgia, has asked the Federal Communications Commission to issue an order demanding that Gainesville (Ga.) Cablevision Corp. show cause why it should not be enjoined from starting operation. The television firm in its petition said that Gainesville Cablevision has announced that it will carry the signals of WAI-TV, WSB-TV, WAGA-TV, and WJRJ-TV, all Atlanta; WRCB-TV and WTVC (TV), both Chattanooga, Tennessee; WSPA-TV, Spartansburg, South Carolina; WGTW (TV), Athens, Georgia; and WFBD-TV, Greenville, South Carolina.

The WAI-TV licensee said that both Chattanooga signals plus WSPA-TV fail to put a Grade B contour over Gainesville. The firm added that Gainesville Cablevision had not even asked for FCC permission to carry the distant signals and should be forbidden to begin operations with the Chattanooga and WSPA-TV signals, since the Grade A contour of WAI-TV touches Gainesville, and Atlanta is ranked ARB market 19.

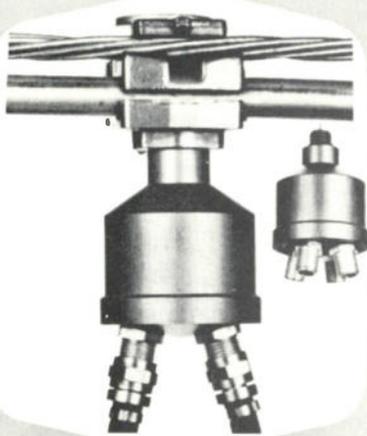
## Buckeye Granted Waiver

Buckeye Cablevision, Inc., has been granted a permanent waiver of part of the Federal Communication Commission's CATV rules. The Toledo, Ohio, system, tormented by the rules since their inception, has received permission from the Commission to carry the signals of WTUX (TV), Detroit, Michigan, a distant signal, during those periods when local educational outlet WGTE is not operating.

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# NEW!



## Multi-Outlet Backmatched Transformers

You save money on equipment and installation! New CAS "Milk-Cow" models give you a choice of two or four outlets from a single existing pressure tap block *without cutting the transmission cable.*

Radically new CAS MC-2 (two-outlet) and MC-4 (four-outlet) backmatched transformers are direct screw-in replacements for  $\frac{3}{8}$ " isolation units on all standard pressure tap blocks.

### Check these features:

- Epoxy-filled—completely waterproof
- Low insertion loss
- Silver-plated brass contact pin
- Backmatched—20 db min. return loss
- 25 db isolation min. between taps
- Rigid aluminum body — isolation values color-coded on bottom plate

Isolation values (in db)

MC-2 12, 16, 20, 25, 30, 35, 40

MC-4 15, 20, 25, 30, 35, 40

Technical data sheet on request.

ORDER TODAY!

MC-2 \$5.45

MC-4 \$5.95



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## NCTA Plans "National Cable TV Week"

The National Community Television Association has announced plans to designate the week of January 30-February 4 as "National Cable TV Week." NCTA President Fred Ford, in making the announcement, stated, "Cable TV systems, created by public demand for better television service, have developed spontaneously all over the United States. 'National Cable TV Week' will be an occasion in which they join to demonstrate their growing stature as a nationwide industry." The special week will be underscored by a concentrated promotion and advertising campaign.

## Lee Sees Pay TV

Federal Communications Commissioner Robert E. Lee, participating in a panel discussion at the Maine Association of Broadcasters' annual convention, predicted that in the future the Commission will act to establish pay television as a regular service. He added emphatically, however, that CATV will not be concerned in the action: cable television will not be a part of the pay TV system.

## Anti-Trust Suit Filed

An Altadena, California, franchise holder filed a Cartwright Act anti-trust action in the San Francisco Superior Court against the local AT&T affiliate and a proposed lease-back operator. The suit, totaling some two million dollars, followed close on the heels of a temporary restraining order which was earlier issued to the telco by the California Public Utilities Commission.

Harold R. Farrow, attorney for International Cable TV Corp., filed the action, which alleged a conspiracy between Pacific Telephone and Telegraph Co. and All Metal Fabricators, Inc. to overbuild a lease-back system and put it into operation before allowing International Cable, the prior franchise holder by five months, access to poles pursuant to its pole attachment agreement. The complaint alleged that the acts and deeds of Pacific Tel and All Metal Fabricators effectively eliminated and destroyed any competition for the supply of CATV services in the Altadena area. As a consequence, the suit claimed, the pole attachment agreement executed March 28, 1966, by International was rendered worthless, and International's investment in planning and engineering in the procurement of its franchise was destroyed—all to the prejudiced disadvantage of International. As a direct and proximate

result of the act and deeds of the defendants, as alleged, International claimed to have suffered damages in the amount of \$700,000. The complaint under state laws asked for triple that amount—plus attorney fees.

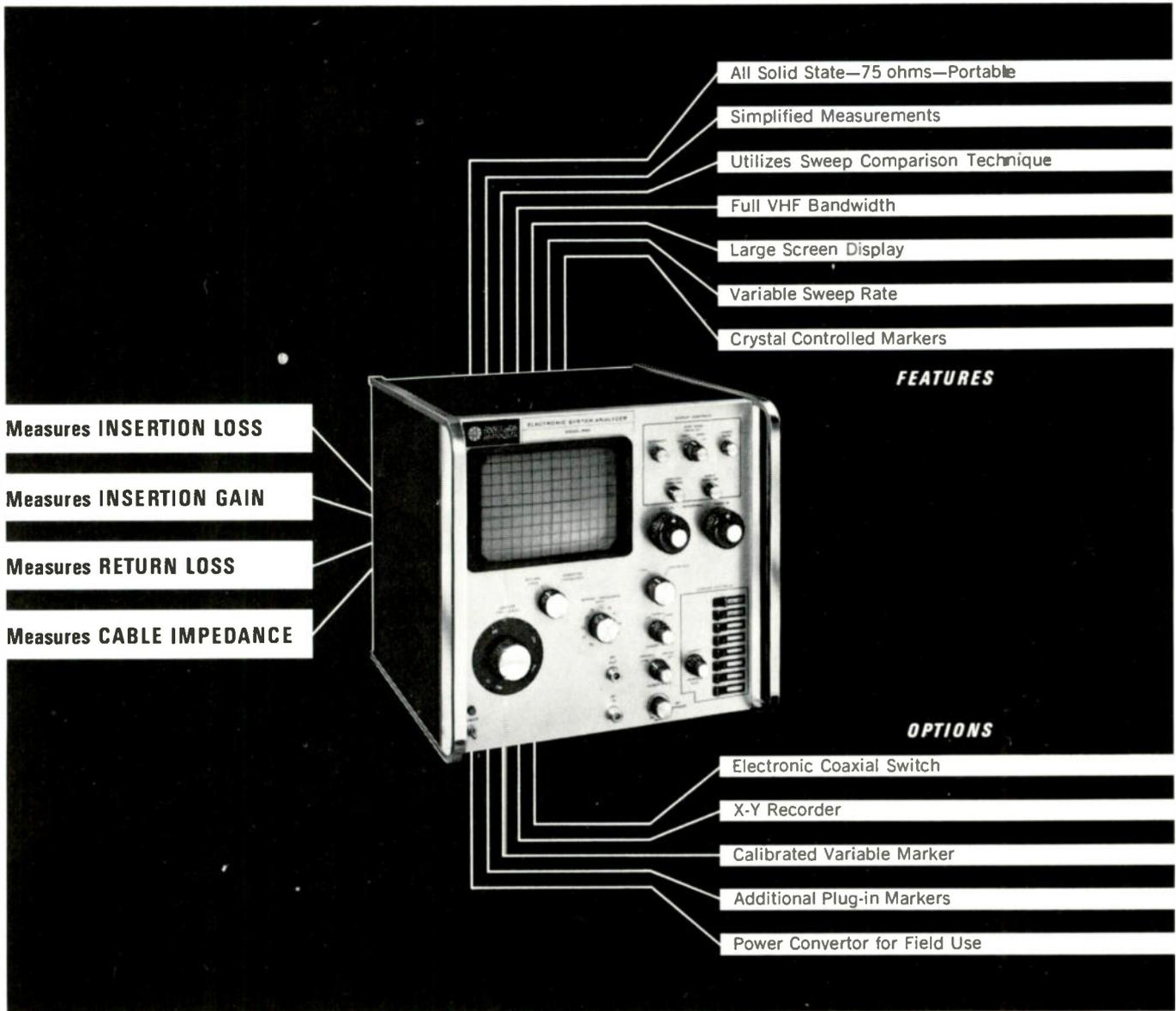
The issues raised by the pleading and the facts alleged were essentially the same as those which were the subject matter of the complaint by International before the California PUC which charged that the system should not have been built because the tariffs had never been approved by the PUC. The petition alleged that the telco had at least ten crews working in the area and also had hired a sub-contractor. On that complaint, and after initial hearing, the PUC issued a restraining order to Pacific Tel and to All Metals.

The hearing before the examiner dealt with a touchy point—determination as to where the ultimate tariff jurisdiction rests: with the FCC or the state PUC's. Of note is the fact that Pacific Telephone later attempted to obtain permission to file a tariff with the FCC, to take effect on not less than one day's notice, covering the same proposed lease-back system in Altadena. When Pacific Tel made this request to the FCC, the only disclosure of the existing restraining order was the statement: "This request is being made to meet an urgent customer service requirement." Neither International nor its attorney, Farrell, nor the California Community Television Association was advised of this. The FCC turned down Pacific Tel's tariff request.

Pacific Telephone again filed its proposed tariff for the same service, effective at a later date. International then prepared and forwarded to the FCC a petition to suspend that tariff, attaching as an exhibit to the petition a copy of its complaint to the PUC and also a copy of the restraining order.

## Pay TV Victory

The U. S. Supreme Court issued a decision last month that, in effect, removes any bars to pay TV in California. The decision climaxed two years of legal battling over pay TV in that state. A voter referendum in 1961 outlawed pay TV in the state, but the California Supreme Court threw out the referendum earlier this year, declaring it unconstitutional. The state attorney general then appealed to the U. S. Supreme Court, hoping to have the voters' choice upheld. The higher court simply refused to hear the case, making no comment on its merits, but the effect is to let the California Supreme Court's ruling stand, a significant victory for pay TV. □



# First Complete CATV System Analyzer

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Anaconda Astrodata's complete CATV System Analyzer, the first of its kind, permits sweep measurement of system parameters with a high degree of accuracy. By combining all required sweep set-up instruments into a solid state 75 ohm portable testing facility, the System Analyzer eliminates errors caused by the use of external jumper cables and impedance matching devices. Measurements are made simultaneously by using sweep comparison techniques.

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# FINANCIAL REPORTS

The Jerrold Corporation disclosed record highs in sales and earnings for the six months ended August 31, 1966. Net profits reached \$2,024,265 or 94 cents per share, over 50 percent greater than the record \$1,294,949 and 61 cents per share for the same period last year. Pre-tax earnings for the first six months rose to \$4,010,265, nearly three times greater than the \$1,402,621 for the corresponding period of 1965. Consolidated sales were \$22,763,914, a 50 percent increase over the \$15,441,426 a year ago. Net earnings rose to \$875,122 or 41 cents per share.

Famous Players Canadian Corp.'s net profit for the first half of 1966 reached \$1,356,000, up from the \$1,086,000 for the same period a year ago. Earnings per share also rose to 78 cents from 63 cents a share for the first half last year. Total sales were \$15,341,000, up from last year's \$13,767,000 for the same period.

American Electronic Labs issued its report for the quarter ended August 31, indicating net income for the quarter of \$132,000, compared with a net of \$101,000 for the same period a year ago. Earnings per share amounted to 34 cents, compared with 25 cents a share for the same quarter last year. AEL 9 month figures indicated: net income, \$431,294, as compared with \$317,000 for the same period last year; earnings per share of \$1.01, compared with 81 cents for the 9 months period last year.

Spencer-Kennedy Labs reported fiscal 1966 consolidated manufacturing sales and revenues from CATV subsidiaries of \$3,378,000, as compared to \$2,094,000 in the previous fiscal year. Consolidated losses for 1966, after all adjustments, amounted to \$90,000 as compared to \$56,000 in 1965. Earnings from operations of the manufacturing division amounted to \$113,000.

Collins Radio Company announced a quarterly dividend payment of 15¢ per share payable October 17, 1966, to stockholders of record on September 26, 1966.

Cox Broadcasting Corp. directors declared a regular quarterly cash dividend of 10 cents a share on the common stock, payable October 15, 1966, to stockholders of record of September 26, 1966.

Superior Cable Corp.'s stockholders, meeting at the company's general offices in Hickory, North Carolina, voted a total of 680,196 shares: 640,664 by proxy, and 39,532 by stockholders in attendance at the meeting.

American Enka Corp., parent firm of CATV cable manufacturer Brand Rex, reported an increase of sales and net income for the quarter ended September 11. Sales for the quarter were in excess of \$45 million, as compared with \$43 million for the same period last year.

United Utilities, Inc. reported earnings of 54 cents a share on an average of 14,943,800 shares outstanding for the first six months of 1966, as compared to 49 cents on 14,284,659 average shares for the same period in 1965. For the twelve months ended June 30, earnings were \$1.09 a share on 14,657,186 average shares outstanding. □

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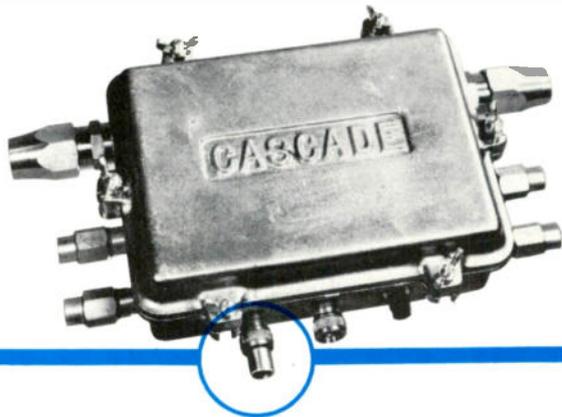


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# TLC

(not Tender Loving Care)



## is a serious subject at Cascade

Cascade's Temperature Level Control (not Tender Loving Care) is a temperature actuated circuit which adjusts the output level of the CATV amplifier to compensate for changes of attenuation caused by temperature variations. If you are considering new CATV amplifier gear you should compare the advantages of TLC with AGC (automatic gain control).

AGC has been in use for some years and has inherent faults. The AGC system which samples an amplifier output level and adjusts that level accordingly has no way of differentiating between a cable's temperature — caused change and change caused by a loose connector, poor splice, water in the cable or connector, etc. These malfunctions would be masked by the AGC system and gradual system degradation can occur which is difficult to troubleshoot and correct.

Temperature Level Control is standard in each Cascade Electronics Trunk Amplifier (CETA-1/25) and Trunk / Bridging Combination Amplifier (CETC-1/15).

This system provides the following advantages:

1. System spacing does not have to be adjusted for AGC positions.
2. Each trunk amplifier station is a control point, compensating for the change taking place in only one amplifier (typically 25 db).
3. A control range of  $\pm 2.25$  db is provided, which is great enough to minimize any amplifier parameter degradation with the distributed type of gain control used by Cascade, a further assurance against derating of performance is obtained.
4. The TLC method places the controlling unit adjacent to the cable length producing the signal level change, rather than at every third amplifier location as is common practice in AGC systems.

Since the TLC is built into each Cascade Trunk Amplifier, no additional AGC cost is required and therefore the initial system cost per mile is reduced. Long haul maintenance costs are reduced.

For more complete information on Temperature Level Control as used in Cascade Electronics Trunk Line Series Amplifiers, write or call Cascade Today. Full details on the TLC system as well as other information are yours for the asking.

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# FOCUS

... On Progress

## Systems

Franklin R. Valentine, executive vice president of Unicom, Inc. has been named to the office of president. Valentine, a past director and treasurer of the National Community Television Association, succeeds Everett L. (Tod) Moore, who is rejoining Unicom's parent company, The Katz Agency, Inc.

Robert Weisberg has been named president of Hampton (New York) Cablevision Corp. He replaces Bernard Zeldin, who will step up to chairman of the board. Paul Scheerer, Jr., has been appointed director and vice president.

John Waggoman has been elected to the board of directors of Hill Country Cablevision, Kerrville, Texas.

Don Turley has been named manager of the Vumore system under construction in Ponca City, Oklahoma. Turley previously was employed by Ardmore and Hugo, Oklahoma, systems.

Tom Soulsby has been appointed manager of the Gainesville, Texas, system being built by Carter Cable Television.

Anthony C. Azzara has been named general manager of the Hammonton, New Jersey, operations of Garden State Cable TV Corp.

Richard McDonald has been named manager of the Sterling (Colorado) Community TV Co. McDonald has been associated with systems at Moab, Utah, and Gallup, New Mexico. He succeeds Charles Pope, who resigned.

Bob Socia has been appointed manager of Leesville (Indiana) Cable Television, Inc. Socia was formerly with Cablevision, Lafayette, California.

J. C. Montgomery has been named manager of the Vumore system under construction in Chippewa Falls, Wisconsin. Bud Normand has been appointed chief technician of the system.

Eugene Upright, former manager of the Cosmos Broadcasting Co. system in Oscala, Florida, has been named supervisor of programming and promotion for the South Carolina Educational Network.

Ray Welpott has been named to head the newly-established NBC television division, which consists of the five NBC stations and the CATV holdings.

John Cooke, formerly manager of the American Cablevision Corp. system in LaCrosse, Wisconsin, has been transferred back to the firm's home office in Beverly Hills, California. James Danielson has been named manager of the La Crosse system.

Faber Spires has been appointed manager of Uvalde (Texas) Television Cable Corp. Spires will continue as chief technician of the system and will be assisted by Don G. Mosher. Mosher was formerly a technician with TV Cable Service of Abilene, Texas.

David W. Thomas has been appointed manager of Booth American Company's systems in Blackburg and Christiansburg, Virginia.

Bruno A. Drelick, 49, founder of Oil City Television Co., Franklin, Pennsylvania, has died. Drelick helped found the Franklin system 15 years ago.

Edmond L. DePatie, 66, vice president of Warner Brothers Pictures, died while on vacation in northern California. DePatie was president of the firm's CATV subsidiary, Warner Brothers TV Services.

Harvey J. Ortt, 79, former operator of a cable system in Newcomerstown, Ohio, has died. Ortt operated the Newcomerstown system until 1958, when he retired.

Stephen H. Swarny, manager of Tower Antenna's system in Gallipolis, Ohio, has been named systems manager for the recently-acquired systems in New Philadelphia, Dover, Uhrichsville and Dennison, Ohio.

Cecil E. Monson has been named head technician for Ontario Cable TV Inc., Geneva, New York.

## Suppliers

Gay C. Kleykamp has been named director of engineering of Kaiser-Cox Corp. Kleykamp has been with Kaiser-Cox since its organization.

Richard J. Wakefield has joined Jerrold Electronics Corp. as assistant manager of the CATV construction division. Wakefield will coordinate system construction. He previously served with the RCA Ballistic Missile Early Warning project.

A. B. Covey has been appointed assistant to the president at C-Cor Electronics, Inc. Covey recently was assistant to the president of Ameco, Inc., and consultant to the president of Stromberg-Carlson Corp.

Richard H. Whitehurst has been named manager of manufacturing at Ameco, Inc. He has more than 17 years diversified industrial management experience, having previously been associated with Avco Corp. and Stromberg Carlson Corp.

C. W. Fuhrer has been appointed vice president-sales of the Diamond Expansion Bolt Company, Inc., a division of General Cable Corp.

Jerome I. Cohn has been promoted to product manager of the distributor products division of Blonder-Tongue Labs, Inc.

Ralph Munroe has been named southeastern area territorial manager for the Lindsay communications sales division of Anaconda Wire and Cable Company's Forest Park, Georgia, south-eastern headquarters office.



Frank Valentine



Gay Kleykamp



Richard Wakefield



A. B. Covey



Richard Whitehurst



Sam Street

The A. E. Petsche Co., Arlington, Texas, has been appointed as sales representative for wire and cable products of ITT Wire and Cable division.

Thomas V. Goodall, Corvallis, Oregon, has been named "the month's outstanding cable television sales engineer" by Ameco. Before joining Ameco last December, Goodall was manager of the systems in Corvallis and Sweet Home, Oregon.

W. G. Holbert has been appointed product manager-subscriber carrier for Anaconda Astrodata Co.

The Lindsay communications sales division of Anaconda Wire and Cable Co. will be the chief sales and distribution arm of Anaconda Astrodata Co. Lindsay will also continue to market Anaconda products to the communications field.

Larry Buckner has been appointed manager of Monroe All Channel Cable TV Co., Bedford, Indiana.

Joseph R. Dawson, news editor for the North Carolina CATV Association, will serve as sales/promotion director of Jefferson-Carolina Corp.

## Professional

Samuel S. Street, Jr., has joined the National Community Television Association as director of membership services, a new staff position. He comes to the NCTA from the post of director of marketing for Viking Industries, and he has been employed by other firms prominent in the CATV industry, including Ameco, Telesystems Corp., and Adler, Street & Associates. Street joined Telesystems in 1962 after having his own advertising agency, S. S. Street, Inc.

Clay D. White has been elected president of the Pacific Northwest Community TV Association for the 1966-67 year. Other newly-elected officers for the association include: Glenn Tarbox, technical vice president; Jerry Laufer, secretary-treasurer; and E. A. Faber, William A. Baker and Sam C. Haddock, directors.

G. Bennett Larson has resigned from Blackburn Co. to open his own office in the RCA Building in Hollywood, California. Larson will specialize in the sale of radio, television and CATV systems.

Howard W. McClure, past secretary of the Pacific Northwest Community TV Cable Association, has been listed in the 1967-1968 edition of Who's Who in the West.

Mike Foster, former vice president-press information for ABC, has been named vice president of the Richard Associates' New York City office.



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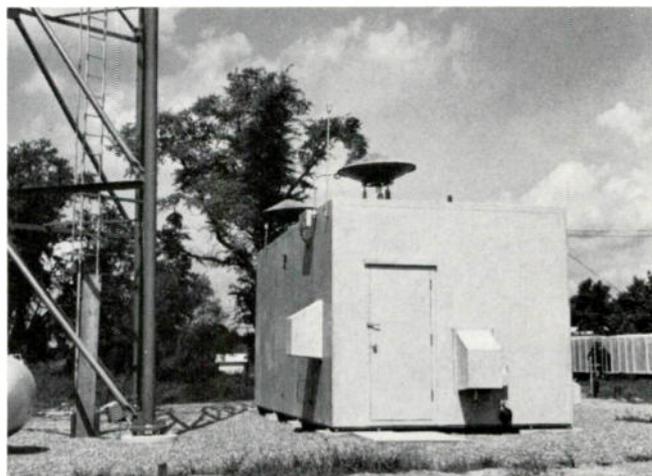
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# NCTA Regional Meetings Launched

Crisp debates and hard hitting speeches were well received by those attending the first of the fall NCTA regional meetings. 150 cable system operators, and representatives from broadcasting, telephone and finance fields converged on New York City's lush Plaza Hotel. They were welcomed by NCTA Chairman Alfred R. Stern, who told of expanding of Association activities in the areas of membership services, new member recruitment and public relations.

Guest speaker was Sol Schildhause, Director of the CATV Task Force of the FCC. He drew strong applause when he told CATV operators that "the Commission wants to get going" on CATV problems. Noting that the CATV reporting form has been delivered and the staffing of the Task Force undertaken, he stated that "already the new group is beginning to make its presence felt." The FCC's CATV Chief said of the operators, "You people probably don't fully appreciate your own genius. You took television's own limitations, as it were, and made something of it. It's almost ironic, when you reflect upon it, how the tables have turned so that the whole entertainment and communications world now looks at you curiously, often warily, sometimes menacingly too . . ." Later he told operators that "television broadcasters are just as uncertain" as the CATV people and that "this is just about the perfect climate for a mutual search for accommodation."

Fundamental advantages of cable television were cited by NCTA President Frederick W. Ford. He told attendees at the Region 1 NCTA meeting that Congress is obliged to "amend the copyright law and communications act in such a way that this industry can prosper and grow and perform the services which cannot be performed by the broadcast frequencies alone." The critical shortage of broadcast spectrum space and the inability of broadcasters

to "provide the public with more local television coverage," can be alleviated by cable television, he said.

CATV relationships with telephone and broadcasting industries were featured in two panel discussions. Bruce E. Lovett, NCTA Assistant General Counsel, debated with Robert L. Hess, sales projects manager, AT&T marketing department. Hess reviewed the history of pole attachment agreements, claiming that the granting of pole contact rights initially resulted only from telco's inability to provide the CATV facilities during the time when CATV first developed. "Since we couldn't do

tomers having a franchise before they will grant a pole attachment agreement, Mr. Hess said. However, Bell has a "very firm policy with regard to franchises where Bell provides CATV service." Mr. Hess stated that "we do not need a franchise from a given local town . . . in order to provide CATV channel service."

Hess cited poor telephone/CATV relationship and expressed the desire to work closely with CATV operators. He mentioned that Bell has appointed liaison men to meet with CATV Association leaders in all parts of the country. "We are in the communications field," he stated. "This is our business . . . we can provide the channel facilities so you can serve your customers . . . we aren't doing this to compete with you . . . definitely not trying to get into the CATV business."

In rebutting the AT&T representative's statement, Lovett cited a New York State case involving a telephone company which is forcing a CATV system off its poles, offering a lease service only. Lovett objected to telco prohibition of certain types of service. He noted that the setting of poles in a community is a "publicly granted privilege, a public trust." Attorney Lovett pointed out that the



System operators, speakers and guests enjoy luncheon conversations at first regional meet.

the serving at that time we did make an exception to our long-standing policy regarding pole attachment agreements," Hess said. He added that AT&T companies will continue to provide pole attachments and that they have "absolutely no plan to discontinue" such agreements.

Mr. Hess stated that Bell now has 1100 pole attachment agreements in effect, an increase from 700 in 1964. Regarding the offering of CATV tariffs, he noted that 42 states now have tariffs in effect and that 31 CATV systems are now buying "channel service" from Bell.

Bell insists on pole attachment cus-

Bell policy of not choosing between applicants, when more than one apply for a CATV pole contact agreement, can be extremely discriminatory in favor of leaseback. During the stalemate between pole attachment applicants, Bell readily proceeds to provide a lease service to an operator, thus excluding the pole attachment applicants from any opportunity to provide service in the community. Lovett said.

During a question and answer session, a manager of a Bell leaseback system noted that there was apparently no provision for preventive maintenance of the CATV system by the telco. He pointed out that "you can't wait

for the system to quit working before you do something about it." Ed Shafer, CATV consultant, questioned the telco representative regarding the inconsistency of their policy of not providing pole space for more than one CATV customer. He pointed out that the same telephone company, as required by law, would provide facilities on the same pole for a dozen CATV companies if they were leasing service from the phone company.

In general, with the exception of approximately 10 telephone executives, the audience exhibited a mood of "good-natured hostility" toward the AT&T policy on leasebacks and pole contact.

Albin J. Malin, NCTA Director, debated with Jack W. Lee, a director of NAB, on the subject of local origination by CATV systems. Lee reiterated the views that he expressed in testimony before the Staggers subcommittee. He addressed himself primarily to the country's 5000 radio stations and their relationship to CATV. He claimed that CATV systems can compete with radio stations in two ways. First, in that they import distant television and radio signals and, secondly, that they originate local information programming. CATV competition, he said, "is not in a fair and open field". Al Malin,



Featured speaker Sol Shildhouse addresses operators.



Albin J. Malin, NCTA Director, Alfred R. Stern, NCTA Chairman and Jack W. Lee, NAB Director during New York meeting.

a veteran of 20 years in radio broadcasting, responded by pointing out that, unlike broadcast stations, CATV can direct programs into limited audience segments without replacing programs preferred by the majority of viewers.

NCTA General Counsel Robert L'Heureux told the audience that the Supreme Court decision in the United Artists copyright case may be handed down by late 1967. "A lot of issues are still to be decided in the copyright matter," he said, adding that new copyright legislation will diminish the importance of the outcome of pending

court cases. On the ever present PUC issue, L'Heureux pointed out that the NARUC bill has been defeated in four states, bringing to 33 the number of states that have decided against calling cable television a utility.

Before the afternoon executive session, the meeting featured reports by two of the more recent additions to the NCTA staff. Barry T. Crickmer, NCTA Director of Information, spoke on "NCTA Public Relations and Advertising Program." Samuel S. Street, NCTA Director of Member Services, discussed the increased services now being offered by the Association. □



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# CATV Manufacturers' Exhibits At the 69th Annual USITA Meeting

Pictured on these pages are the displays of CATV suppliers on hand for the United States Independent Telephone Association convention in Chicago last month. The only major official mention of CATV during the meeting was made in a paper released to members concerning leaseback agreements. That paper is reprinted starting on page 56 of this issue.



Jerrold had the largest display of cable television equipment at USITA meet.



Viking's Bob Baum and John Monte talk CATV to eager listener at phone show.



Mason Hamilton, Dick Yearick and Sherrill Dunn relax at the Ameco booth.



Spencer-Kennedy had full sales crew at show.



Kenneth Lein, Thompson, Iowa, with Robb Jones of the Pruzan Company.



Johnny Mankin, Jr. gets pointers from Tommy Moore at Ft. Worth Tower display.



Anaconda Astrodata display, manned by C. C. Moody, S. C. Forrest and R. O. Doyle.



Vern Chesbro and Don Feaster, Continental Tel, at Preformed Line Products booth.



G. E. Lenz by Entron amplifiers included in Stromberg-Carlson exhibit.



Jack Jungroth of TV&C staff chats with Jack Wyatt of Brand Rex at B-R booth.



Carl Kenyon, Bill Hance and Tom Koch are shown at the McCa-Powers exhibit.



Aberdeen Company's George Acker with Bob Speake and Inara Kalnins.



Phelps Dodge devoted considerable space to coaxial cables for CATV applications.



Jack Bluerock and A. D. Johns of American Pamcor, visit with Julian McGowan.



TeleMation president Lyle Keys relaxes while Ken Lawson adjusts camera.



Large Superior Cable exhibit attracted good crowd at USITA show.



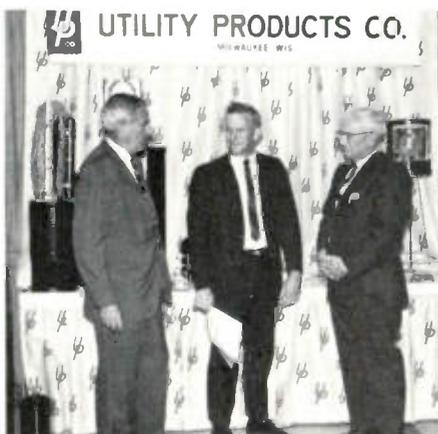
Don Mehl and Ben Golub, Collins Radio, compare notes at the microwave display.



Matt Lysek and John McFall stand by to answer CATV questions at Craftsman booth.



G. Nelson Pfundt, Mrs. David P. Mertz, Mrs. Earl Anderson, Mr. Anderson and Mr. Mertz, at General Machine Products booth.



Douglas Hamilton, Utility Products, chats with Lloyd Freeman and Wayne Munsch.



Dick Kleine and Paul Bradley, at Rohn exhibit, must have just written tower order.

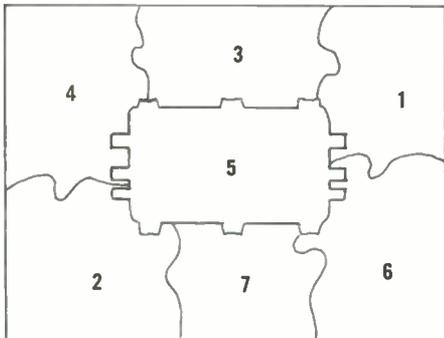


Pleasant faces above belong to Roy Wright, John Henkels III and Bob Heerdink.



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- 3 **Financing** — Kaiser-Cox will work with you on your system financing requirements. Our experienced personnel will help you to procure the best financing possible, custom-tailored for your particular needs.
- 4 **Engineering Assistance** — If you're already in the business, or do not need the complete Turnkey service, we can offer a competent staff of construction supervisors and systems engineers to assist you on a per-job basis. Quotes will be supplied on request.
- 5 **Space-Age Product Technology** — The Kaiser-Cox Phoenician series of CATV amplifiers is the most advanced, most efficient, most copied equipment in the industry today.
- 6 **Research & Development** — A continuing program of product design, testing and field study assures you of the finest most economical products available, end-to-end.
- 7 **Quality Control** — Kaiser-Cox not only conducts exhaustive QC tests on its amplifiers and the separate modules that go into our products — but we also check-out each individual component as it's delivered to us — before it is installed in the equipment! Our standards exceed military specifications because your profits are geared to reliability of service.

Check the facts! Kaiser-Cox has all the pieces for your total CATV needs . . . and they fit together perfectly to form a picture of progress and prosperity.

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*When you install Kaiser-Cox equipment, you never wonder what's new in CATV — you know!*

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# Microwaves Along the Jersey Shore

By Franklin H. Weikel  
Jerrold Electronics Corporation

Atlantic City . . . Ventnor . . . Ocean City . . . Wildwood.

These are four of the larger resort communities along the lower New Jersey seashore . . . towns that burst into life for three months every year. Millions of people from New York, Pennsylvania and New Jersey jam the hotels, motels, rooming houses, boardwalks and beaches of these famous vacation spots from Memorial Day to Labor Day. After the last tourists depart, the towns' permanent residents settle down for a quiet winter, preparing for the next's season's onslaught of sun-worshippers.

Television has become as vital an ingredient in the Jersey shore success formula as salt water taffy and boardwalks. Visitors may seek the sun, sand and salt water during the day—but at night (and on the inevitable rainy days!) they seek the same baseball games, comedies, and adventure shows that they are accustomed to back home. And the year-round residents turn to the video screen to help while away the long lonely winter hours.

Off-air reception of Philadelphia and New York TV (the nearest major outlets) is difficult at best for residents of these shore communities. Atlantic City, the northernmost of the four, is 95 miles from New York and 60 miles from Philadelphia; Wildwood, the southernmost, is even worse off—130 and 75 miles, respectively. A natural environment for CATV, if there ever was one. And, indeed, CATV has prospered along the New Jersey shore. Atlantic City has had an independent CATV (McGinty's Community Antenna System) since 1959. Cable systems have been operated in Ventnor, Ocean City and Wildwood since 1953, 1964, and 1964, respectively, by

South Jersey TV Cable Co., Inc. These three systems are owned by H & B Communications Corporation.

But even these local-head-end CATV systems failed to completely satisfy subscribers' demands. Only the most powerful New York

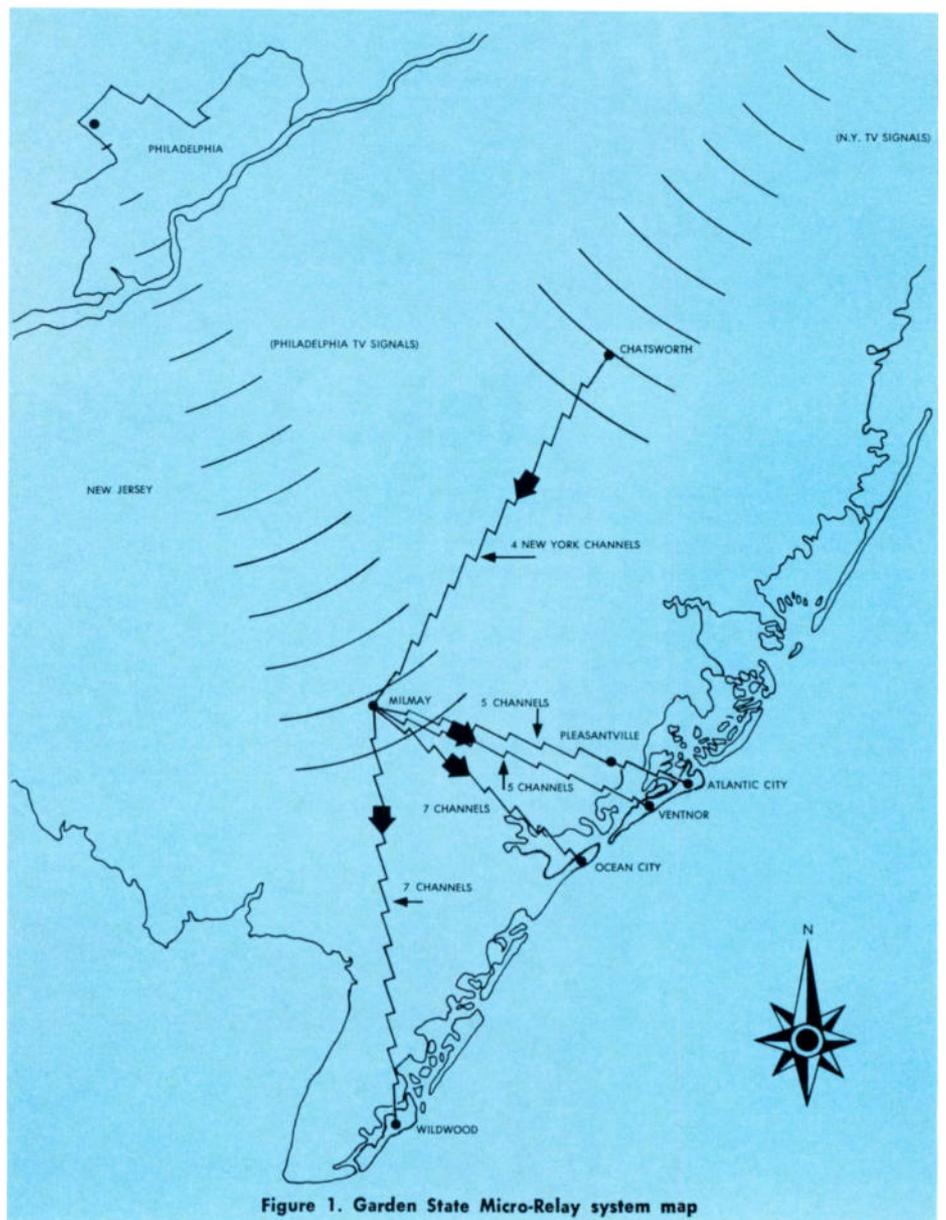


Figure 1. Garden State Micro-Relay system map

and Philadelphia VHF signals could be received, with marginal picture quality at best. UHF reception was, of course, a lost cause. (Philadelphia has three UHF's, with varied and interesting programming.) The growing popularity of color made the problem still more difficult. Clearly, a better means of reception was needed. And just as clearly, that means was *microwave relay*.

This, then, was the impetus for the creation of one of the most ambitious and interesting CATV microwave relay systems ever installed. The system was designed and installed by Jerrold Electronics Corporation for Garden State Micro-Relay, Inc., a common carrier corporation, which supplies microwave-beamed TV signals to the four seashore community antenna systems. (An additional "intercept" station on the Atlantic City leg will feed a cable system in Pleasantville, New Jersey, operated by Alpine Cable TV, Inc.) As shown in Figure 1, the system supplies five channels each to the Atlantic City and Ventnor, and seven channels each to Ocean City and Wildwood.

The heart of the system is a 485-foot microwave tower at Milmay, New Jersey (Figure 2). Milmay's twin tower is the reception

point for Philadelphia VHF and UHF signals; New York video is received at Chatsworth (Figure 3), 32 miles north of Milmay, and relayed to Milmay over four channels of microwave. Radiating out from Milmay like spokes in a wheel are microwave beams feeding the four seashore communities.

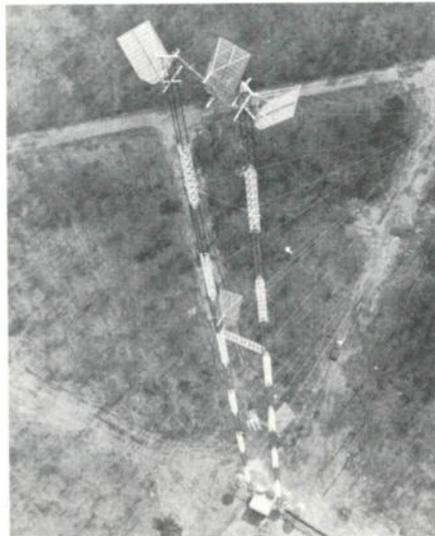


Figure 2. Giant 485-foot twin tower at Milmay, N.J. is hub of Garden State Micro-Relay system.

Aside from its sheer size, the complexity of the Milmay installation warrants special comment. As shown in the block diagram of Figure 4, Milmay's task is to combine up to *seven* microwave channels and then split these channels

to *four* transmitting antennas. The resulting waveguide installation (Figure 5) is a "plumber's nightmare." Cross-polarized, dual-feed antennas are used for the multi-channel transmissions (Figure 6). The excellent performance of the system is a testimony to the skill of the relay system's engineers.

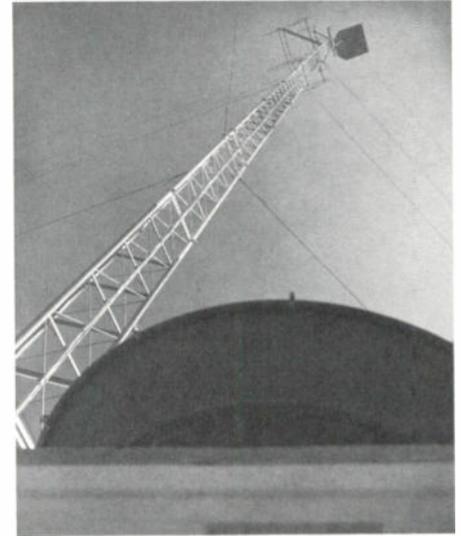


Figure 3. VHF arrays atop Chatsworth, N.J. tower receive New York channels for relaying via microwave to Milmay.

The system design problem was complicated by the need to use an existing tower at Wildwood and rooftop receiving sites at Ocean City and Atlantic City. Only at Ventnor (Figure 7) was a new tower built specifically for the microwave receivers.

The microwave equipment used in the Garden State system is Jerrold's type JM-68, operating in the

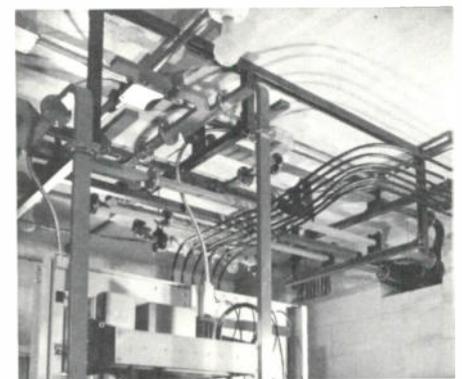


Figure 5. Complex network of waveguide, filters and isolators combines and splits Milmay transmitter outputs to feed four antennas.

6-8 GHz common carrier band. The high power output of the JMT-68 transmitters makes possible the sophisticated combining-splitting arrangement at Milmay.

A final significant fact about the

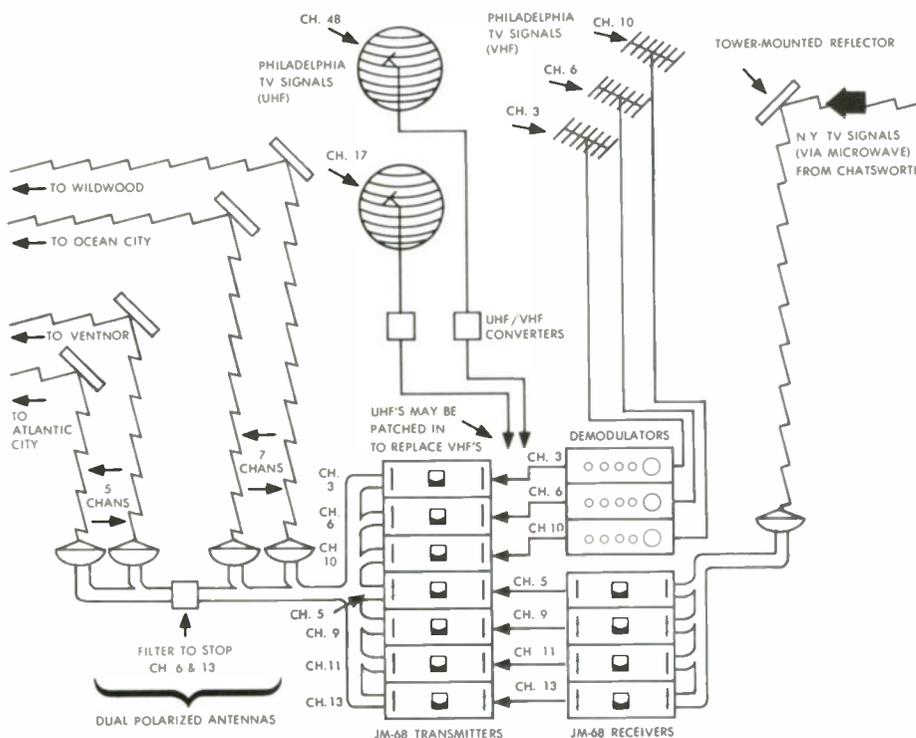


Figure 4. Milmay station, block diagram



Figure 6. Milmay's cross-polarized, dual-feed transmitting antennas.

Garden State system is the speed with which the system was installed and placed in service. The contract was executed February 8, 1966; by June 1 the Ventnor, Ocean City and Wildwood CATV

systems were supplying their subscribers with microwave beamed signals—a mere 112 days! (The Atlantic City leg, authorized later, is now being placed in service.) Jerrold's Communication Systems

Division performed the task on a turnkey basis, supervising all phases of construction, from site selection to tower erection and equipment installation.



Figure 7. Ventnor receiving site.

The waves that lap the Jersey shoreline have attracted the summer visitor for generations. Now there's a new kind of wave reaching these famous resorts—microwave. It's bringing seashore visitors and residents a wider view through microwave-fed CATV. □

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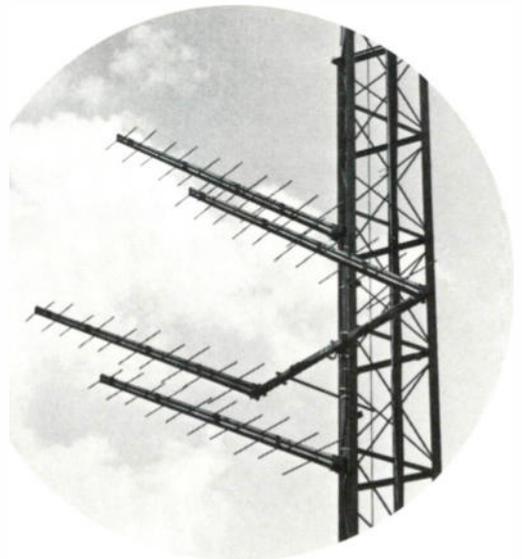


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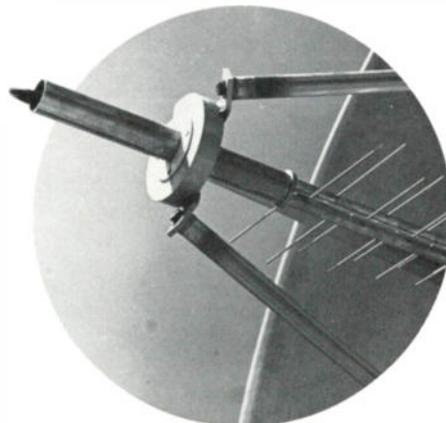
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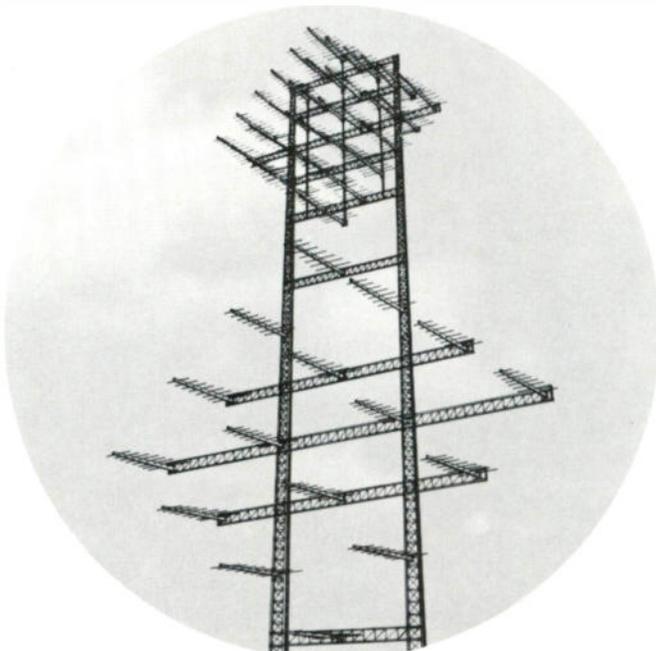
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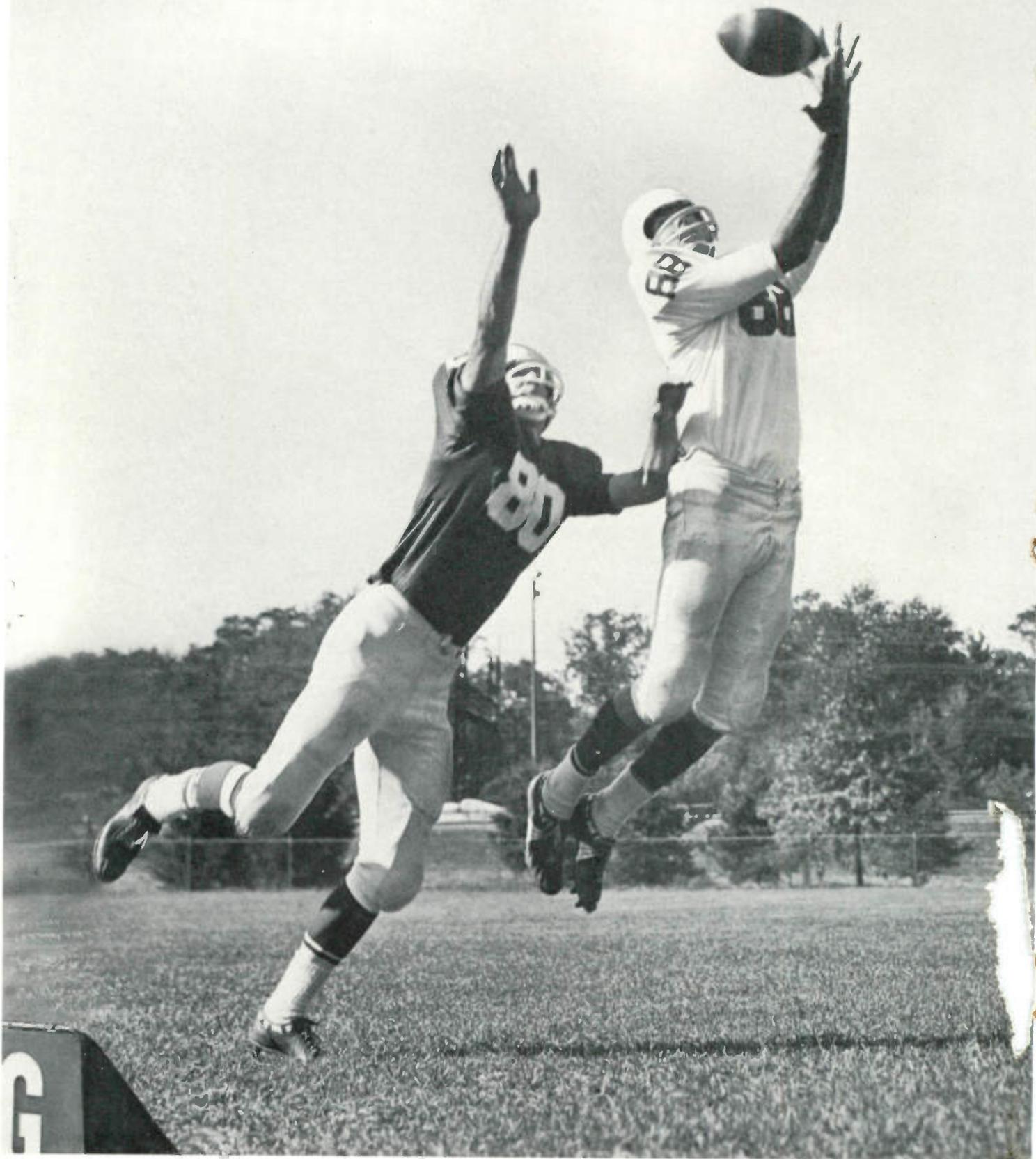


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Gain control range:	10 dB
Minimum slope:	16 dB cable equivalent (54-216 MHz)
Slope control range:	12 dB cable equivalent (54-216 MHz)
Noise figure (full gain):	18 dB maximum
Impedance:	75 ohms
Return loss, input:	20 dB minimum
Return loss, output:	16 dB minimum
Monitor, input and output:	26 ±1 dB down
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# Short Range Multi Channel Microwave

by Hubert Schlafly  
TelePrompTer Corporation

A little more than a year ago, at the time of the NCTA convention in Denver, the project now referred to by the somewhat cryptic name of AML—meaning Amplitude Modulated Link, but more descriptively called “Short Range Multi Channel Microwave”—had already been in the active study and/or experimentation for six months.

Today, the result of this conceptual, theoretical, engineering, laboratory, design and construction work is a physically operating system. This system is transmitting up to 12 color grade, standard television channels, modulated on a single carrier, over a six-mile path in New York City, under an Experimental License issued by the Federal Communication Commission.

I immediately hasten to emphasize that we do not as yet know if these experimental studies will lead to a practical operating system—the reason for the experiments is to collect operational, component, propagation and performance data which will help us arrive at an opinion on operating practicality. Furthermore, there is hardly any need to remind experienced CATV'ers that the granting of an experimental license by the FCC does not indicate, suggest or even imply that the project will qualify for a commercial frequency allocation or that operators applying for such service will be granted a license. Do not underestimate either one of these two points. The first point is important because we are striking out not only into a new frontier of technique, specifically the multi channel-single transmitter concept, but also because we have dared to push into a portion of the electromagnetic spectrum which is beyond the boundary of today's commercial equipment and components.

The second point of caution is the familiar point of the necessity for the Commission carefully to examine each proposed use of the radio spectrum, and to determine whether it is in accord with the Com-

mission's over-all policy, under the Communications Act of 1934, as amended, of concern for the welfare of the general public.

It is my opinion that the Commission does look with interest upon this experimental project. First of all, the engineering staff of the Commission has always shown great interest in, and given great encouragement to, anyone who will stick his neck out by investing substantial dollars in a project which extends our knowledge of the frequency spectrum and its efficient utilization. This project involves research, development and engineering which cannot but extend man's fund of knowledge. Even the telephone company, which hastened to protest any possible future commercial use of the 18 GC spectrum, said that it would not oppose pure experimentation. The second reason for FCC interest is that the AML project offers a fresh point of view and new technical possibilities for the solution of some of the problems that the commissioners are currently considering.

AML employs a means of modulating a microwave carrier and throwing away all of the components of that modulation except one sideband. This sideband contains sufficient intelligence to permit reproduction of the entire range of input information, including the precise frequencies of that input.

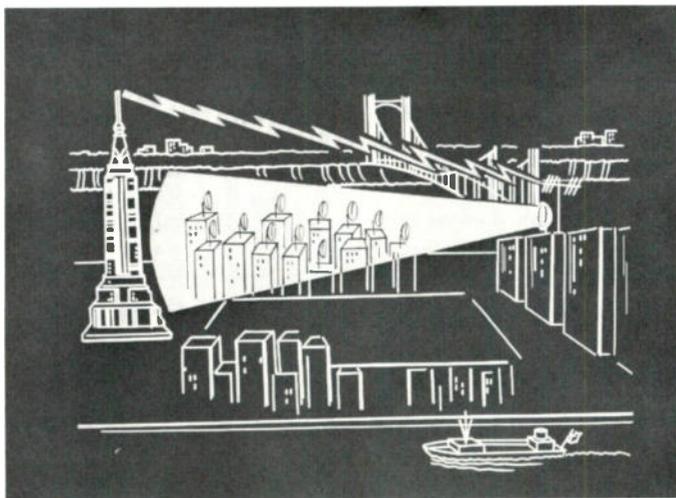
Thus, if a conventional CATV coaxial cable, including *all* of the information and frequencies from 54 to 216 megacycles that are normally carried on that cable is used as the input to an AML Transmitter—then all of these exact same frequencies will be delivered into the coaxial cable that is connected to the output plug of that AML Receiver. In effect, the AML concept permits an invisible coaxial cable, without the benefit of telephone poles, wires, messengers, hardware, amplifiers, power supplies and real estate, to deliver full CATV service from a “head-end” terminal to one or to many “distribution” terminals, which conceivably could be located anywhere within a few miles of that head-end.

The AML concept does not eliminate cable—as some of the electronics trade publications have speculated by referring to the project as “cableless TV.” The final distribution in a local area requires exactly the same cable, and devices, that are used now. AML does permit the full complement of head-end signals to be delivered to particular distribution terminals, at one or a large number of locations, without long, costly, or difficult cable runs through unproductive areas. Once a transmitter terminal has been established, with an antenna pattern as narrow or as wide as is necessary to illuminate a desired area with microwave energy—then a high gain, (approximately 1° beam) receiving antenna may be located anywhere within this illuminated area and output converted. Provided this location has line of sight to the transmitter and exceeds a minimum field strength (allowing for propagational fades) the receiver can immediately obtain all of the CATV signals available at the transmitter site itself.

If this illuminated area includes an isolated farmhouse, or a small cluster of houses in a subdivision, or a substantial suburb across a canyon or a river, each of these locations could have full channel CATV service by the simple expedient of installing a receiver site. Thus, service does not have to be extended in geographic continuity. Service can be delivered im-

mediately to the areas of greatest need regardless of whether or not they are in accord with the construction program for extension of trunk line cable. Furthermore, the equipment necessary to do this job is salvageable. If, for example, signal delivered to a farmhouse were no longer necessary because the people moved away—there would be no loss resulting from an extended pole line installation. Disconnect the receiver and move it to a new location, where it can immediately be productively useful. The operator would not be left with miles of plant which would have to be removed, and would have questionable salvage value.

In a large metropolitan area, such as New York City—and I happen to have an intimate personal knowledge of the trials and tribulations of installing cable in New York City—the AML approach would permit delivery of CATV signals—through the air—into one receiver located in each block. Once into the block, normal feeder cables, amplifiers and drops would be made into the dwellings of subscribers in that block. The importance of this approach is that the CATV system would not have to obtain assignments or pull cables through the underground ducts, and its construction crews would not have to enter manholes in the streets, or impede traffic with equipment or subsidiary conduit constructions. We are indeed very sensitive of the fact that during the public hearings in New York City, prior to the granting of a CATV franchise by the Board of Estimate, the counsel for the telephone company opposing such a grant, warned the city that by allowing CATV operators the



*Artist's conception of AML in Metropolitan Application*

privilege of using communication ducts in the public streets, they would place 3 million phone connections in jeopardy, risk disruption of civil defense networks and increase the likelihood of another power blackout of the entire east coast of our nation. While we dispute this gratuitous conclusion, we hasten to point out that by removing the necessity of having cable in the streets at all, we have made it physically impossible for such dire predictions to come true. As powerful as this argument may be, I somehow do not have the feeling that we will thereby win the unstinting support of the telephone company for the AML project.

I do have one photo which shows an artist's conception of the metropolitan area usage of AML.

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Now let's examine the frequency that was selected for the microwave experiment of AML. Why did we select an 18,000 megacycle frequency. Basically, the reasons were these:

(1) Below 12 KMC, the spectrum is already overcrowded with Government, Common Carrier, and Commercial Users. Furthermore, these frequencies are allocated to comparatively narrow bands, split up between the services. AML, in order to carry the entire VHF spectrum from 54 to 216 MC. would require 162 megacycles of total bandwidth, this is about 0.8% of the 18 GC microwave carrier frequency. Further efficiencies might reduce this to 100 or 108 megacycles.

Above 12 KMC, there is a 500 megacycle band between 12.7 and 13.2 which might be considered. But this band is already subdivided into 12.5 MC channels for which there is a highly competitive demand in the television pickup, STL and CARS Services.

Above 13.25, all frequencies are assigned to government use including Radio Navigation, Earth-Space, and Radio Astronomy, until 17.7 GC.

The current Table of Frequency Allocations provides a nongovernment band for Industrial, Fixed, and Mobile use from 17.7 to 19.3. This 1600 mega-

cycles of virgin spectrum (since to the best of our knowledge no applications have been granted for this frequency band) does not have the crowding or the bandwidth limitation of the 12.7 band and seems to have many logical reasons for an AML type service.

(2) The AML service is intended to operate over limited ranges. As presently conceived, transmission distances in the order of 6 miles, possibly as high as ten or twelve miles, seem adequate for extensive utilization. Therefore, the recognized factor of increased path attenuation and weather effects is less bothersome than it would be for a service which desired relay distances of 20, 30, 50 or more miles. Therefore, the future or projected congestion in the 18 GC band is also favorable to the AML service.

(3) And finally, the state of the art, as understood and extended by competent engineering groups into the one centimeter wavelength region, has reached a point where sound design and totally reliable equipment for continuous duty service seems likely and practical.

So the three points which influenced this 18 GC decision are—in reverse order:

- A. We are confident we can master the technical design.
- B. Its propagation limitations are not limitations for the kind of service we contemplate.
- C. We stand a better chance of obtaining an allocation for this commercial service at a higher rather than at a lower frequency.

How is the experiment working? I am personally very well pleased with our results to date. We have had no surprises or major deviations from theory and we have demonstrably excellent picture quality on 12 channels without discernible cross modulation or noise. Continuing measurements are being made on propagation characteristics, multipath phenomena, beam defraction and other essential factors which will influence future design and contribute to man's knowledge of this portion of the frequency spectrum. Data are still in the process of being collected—conclusions or even observations on the experiment to date would be premature and possibly even misleading.

Recognition of the importance of these experiments to TelePrompTer and to the CATV industry has resulted in the expenditure of a tremendous amount of dollars, and executive time and thought on the project. The fact that Mr. Caywood Cooley, TelePrompTer's Engineering Vice President, has been assigned full time to this particular undertaking, is an indication of the project's importance in the eyes of our President and Board of Directors.

But while the evaluation of need, the pointing of the way, and the detailed industry application have been supplied by TelePrompTer, the real guarantee of success of the project from the technical point of view, is the total support and major project status given by the executives and engineering staff of Hughes Aircraft Company. This company, since it was convinced of the merit of the undertaking, unhesitatingly committed the engineering knowhow and facilities that produced the tremendous engineering successes of the Syncoms I and II, Early Bird, and most recently the astounding first try bullseye of Surveyor. I consider that the Hughes Aircraft Company interest is a sincere compliment to the stature of the CATV industry. □

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Prescott, Arkansas, is a sleepy little city. Located in Nevada County, in the flatlands of South Arkansas, Prescott hasn't much more to offer than other cities its size. And—generally—the citizens of Prescott are content to take things as they come, without much excitement. But for two days last summer, Prescott came alive with the excitement generated by the opening of a new business—cablevision! Mayor Bert Wingfield proclaimed a two-day holiday, and the town turned out for a gala event the likes of which many residents had never before witnessed.

An air of carnival anticipation prevailed throughout the celebration, which turned out more residents and citizens of neighboring communities than the ar-



*Operations manager Larry Mills (r.) assisted in signing up subscribers during the Grand Opening.*

rival of a circus entourage. There were free refreshments, balloons for the kiddies, door prizes, plenty of entertainment, and—for extra enticement—the excitement of a grand prize giveaway: a console color television set.

The festivities were the culmination of an extensive seven week pre-opening sales campaign conducted by Prescott Video TV Cable, under the supervision of David P. Mooney, president and general manager; Larry Miller, Jr., operations manager; W. A. "Bill" Groves, sales manager; and Mrs. Katherine Simpson, office manager. Prescott Video is one of several Arkansas, Texas and Mississippi systems owned by the Palmer Media Group, which is headed by Walter E. Hussman.

Construction in Prescott began on May 2, with the arrival of Jerrold Electronics Corp. crews and construction superintendent Bill Willis. On this same day, Prescott Video opened its office on Main Street and immediately launched an extensive radio and news-

paper advertising campaign which supplemented a hard-hitting direct selling effort under the direction of sales manager Groves.

"Radio advertising began with five, sixty-second spots each day, gradually building to one every thirty minutes on the final day of the grand opening," Groves recalls. "Al Evans, manager of KTPA, the local radio station, came up with a very catchy CATV jingle, which greatly enhanced the radio spots.

"The newspaper campaign used both Prescott weeklies extensively, and consisted of full-page ads run each week, supplemented with smaller progress reports run simultaneously. The ads featured elimination of the \$29.50 connection charge and a seven-day

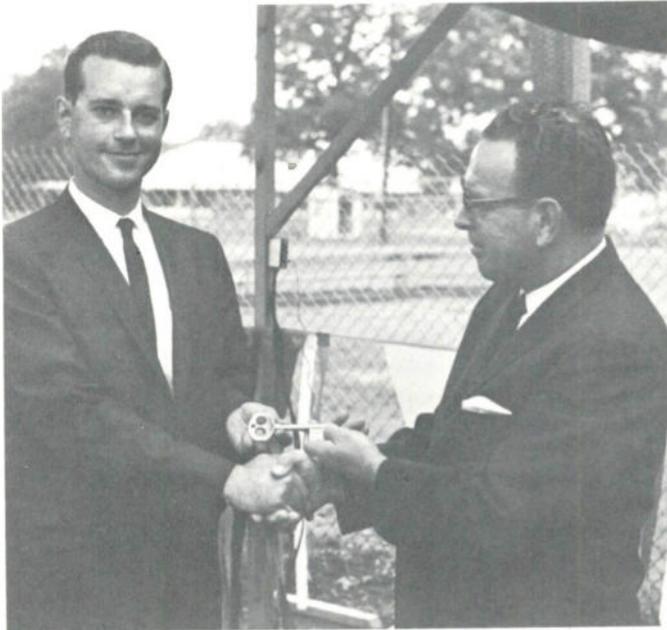


*The local beauty contest resulted in the selection of Miss Sandra Ward (center) as Miss Cable TV.*

free trial of the cable service with no obligation. Each ad contained a coupon which could be mailed in to take advantage of the pre-opening special. The climax of the campaign was reached with the publication of a six-page CATV supplement with color the day before the grand opening."

Meetings were held with the Kiwanis and other civic clubs, at which an NCTA film was shown, and the purpose and benefits of cable TV were explained. Question and answer periods followed each session. Two luncheon meetings were held with the local TV dealers and technicians, and their complete co-operation was obtained.

The sales campaign employed three direct mailings at ten-day intervals. The first introduced the cable firm as a new business, gave a progress report on plant construction, and explained the benefits of CATV. The second consisted of a series of questions and answers on cable television; and the third reminded residents that the system would be energized in



Manager David P. Mooney (l.) received the keys to the system from Ed Dart of Jerrold Electronics.

less than a week. All three mailers made the no-charge, no-obligation, free trial offer, and stressed the urgency of signing up immediately.

Two door-to-door distributions were made of cable company literature to help acquaint people with the services offered. During the first distribution, people were simply handed a piece of literature, and very little effort was made to sign up subscribers. With the second distribution, a personal invitation to the grand opening was tendered, and a hard sell effort was made to sign up subscribers. "The results obtained from the use of this pitch," says Groves, "were extremely good."

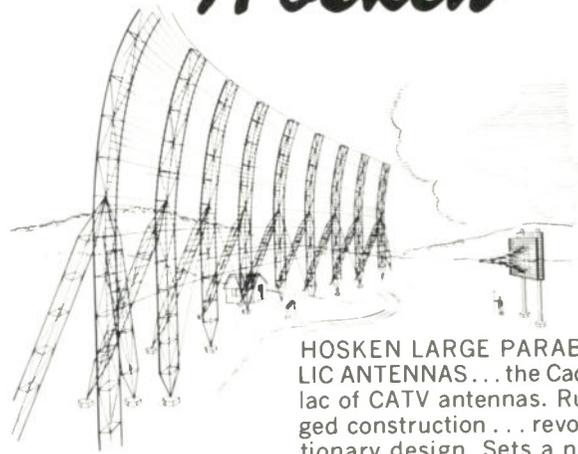
On the final Thursday before the grand opening, an air drop was made announcing the schedule of events for the two days. Some of these leaflets bore a rubber stamp imprint which stated that they could be redeemed for gift certificates from local merchants, if presented during the grand opening celebration.

The Prescott Video TV Cable office, sign-up headquarters during the campaign, was gaily decorated with signs, streamers, and a display of the prizes to be given away during the open house. A large, thirty-foot banner, bearing the company's symbol, "Vic Video," and the slogan, "There's more to see on Cable TV," was suspended across Main Street near the office.

"The utilization of slogans throughout the campaign was targeted to gradually build a sense of urgency in the minds of potential subscribers," says Groves. "Such terms as, 'Don't delay . . . sign up today;' 'Don't be left behind;' 'Avoid the rush . . . Call early;' 'Hurry! You have only . . . days left,' were used extensively. Red and white bumper stickers proclaiming 'There's more to see on cable TV—Don't delay . . . Sign up Today' were in evidence all over town. The combination of these elements resulted in a steady flow of subscribers to the cable office."

P. D. "Pedie" Gathright, well-known Arkansas MC and after-dinner speaker, capably handled the job of master of ceremonies for the Grand Opening. The ceremonies began with a welcoming address by

## NEW CONCEPTS FROM *Hosken*



**HOSKEN LARGE PARABOLIC ANTENNAS . . .** the Cadillac of CATV antennas. Rugged construction . . . revolutionary design. Sets a new high in CATV antenna performance!

Looking for low-budget economy? Inquire about our Econoline Do-It-Yourself Parabolic, complete with instructions for mounting. Lighter Construction . . . Lower Costs . . . Same Power.

Introducing our new **MULTI CHANNEL HEAD-END**. Requires only 5' x 5' of property for mounting a 60' high model. Complete with built-in head-end building. Ideal for small systems . . . excellent for small subdivisions. A small number of antennas give multi-band reception. All equipment mounted, ready for use. The new **MULTI CHANNEL HEAD-END** is your answer to complete CATV head-end economy. Write for complete specifications.



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INFORMATION, CONTACT  
OUR HOME OFFICE



### CABLE TV ANTENNAS, LTD.

FIRST WITH TROPO SCATTER-PARABOLIC  
CATV ANTENNAS

HEAD OFFICE: 335 Frankcom St. • Ajax, Ontario, Canada  
BRANCH OFFICE: 601 United Office Bldg. • Niagara Falls, N.Y.  
TELEPHONE: (416) 942-1232

Mayor Wingfield, followed by a presentation of the keys to the system to company president Mooney by Ed Dart, regional manager for Jerrold Electronics. Mr. Mooney then officially "turned on" the system by uncovering the sets which displayed all seven channels carried by the system. A demonstration was also given of the four FM channels available on the system.

Selection of Miss Cable TV headed the agenda of entertainment featured for the two-day celebration. Contest judges Don and Susie Lierd and Miss Arkansas, chose Miss Sandra Ward to reign during the remainder of the festivities. The beauty contest was followed by performances by The Pacers, a rock and roll group, and by the Upbeats, a local group of teen-age musicians.

Saturday's agenda included the Venerable Quartet, the Langston Sisters and the Snooky Lanson Show, from KTAL-TV, Channel 6, in Shreveport, Louisiana. A gigantic outdoor dance concluded the evening's entertainment, which was received with unusual enthusiasm by many of the older members of the community.

Despite the constant threat of rain throughout the two-day celebration, the turn-out for the system opening was tremendous. Throughout the festivities, people were urged to sign up for cable service, resulting in a saturation of over 35% of the potential subscribers. "The entire event was termed a success by everyone involved," Groves adds with satisfaction. "It is felt that the impressions made during the opening will be a real asset to future efforts by the company. Company personnel were complimented by local

officials on the handling of the entire campaign."

Of the various efforts by the sales force, direct sales (46.3% of the total sales) proved to be the most effective. Direct mail and newspaper coupons brought in 27.6% of the subscriptions, and telephone sales netted 15.5%. The open house itself brought in the smallest percentage, 10.6%, but Prescott Video officials



Here's the **NEWS** you've been waiting for!

**PRESCOTT VIDEO will TURN ON the TV CABLE SYSTEM on JUNE 17 and 18 at a GALA OPEN HOUSE**

**THIS MEANS... YOU HAVE ONLY 15 DAYS LEFT TO SIGN UP FOR THE TV CABLE AND STILL GET A FREE HOOK-UP**

**Remember... applications for TV CABLE service taken after our system begins operation... WILL NOT INCLUDE our SPECIAL FREE CONNECTION offer... SO DON'T DELAY. USE THIS HANDY COUPON TO SIGN UP TODAY**

There's Right... the big news is not PRESCOTT VIDEO will TURN ON the TV CABLE SYSTEM on a GALA OPEN HOUSE... **FREE HOOK UP**... **NO CONTRACT TO SIGN**... **7 DAY TRIAL**... **NO FLUTTER OR FADING**... **ONLY \$4.95 per month and...**

NAME \_\_\_\_\_  
 PHONE \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 CITY \_\_\_\_\_ ZIP CODE \_\_\_\_\_ STATE \_\_\_\_\_

## Want more "hookups"? Here's your BEST SELLER . . .

Already in its fourth printing, this lively, 16-page fact booklet is rapidly winning friends and signing up new subscribers everywhere.

- Shows how broadcast signals and CATV antennas work.
- Pictures a typical Cable CATV home installation.
- Illustrates how a Cable TV Community becomes a Better Community.
- Gives disadvantages and dangers of rooftop antennas.
- Answers frequently asked questions about Cable TV.



. . . and the entire back cover is available for your local company message (available channels, local coverage, rates, special offers, etc.).

**RUSH YOUR ORDER TODAY FOR A FREE COPY AND QUANTITY PRICES OF THIS SYSTEM SALESBUILDER!**

Mail to:

**SYSTEM PROMOTION SERVICES  
TV & COMMUNICATIONS**

P.O. Box 63992 • Oklahoma City, Oklahoma

Weekly full-page ads featured free trial subscriptions and elimination of installation charges.

agree that it was well worth the effort in public relations value alone. Enthused by the wholehearted reception given them by Prescott residents, the firm vigorously launched into another direct mail and direct selling campaign which holds promises of reaching another fifteen to twenty percent of the community's potential. □

## Scala

### PRECISION CATV ANTENNAS

**YAGIS • COLOR-LOGS • PARAFLECTORS**

. . . are your best choice for high-performance CATV reception, rugged construction and long-range durability. (The third CATV system in the U.S. is still using its original SCALA Yagis.) Write for information or contact your CATV head-end equipment supplier.

**BUILT TO YOUR SPECIFICATIONS BY  
SCALA RADIO CORP.**

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Now you can buy all purpose jacketed aluminum sheathed CATV coaxial cable in long lengths at a cost competitive with unjacketed cable!



■ Phelps Dodge, manufacturers of Foamflex, the original aluminum sheathed, foam dielectric coax, by standardizing its manufacturing operations for seamwelded CATV cable, can now offer 75 ohm Foamflex in 3 diameters: .412", 1/2", and 3/4", with the extra protection of a Habirlene polyethylene pigmented jacket at a cost competitive with unjacketed conventional cable. What's more, new Foamflex is available in nominal lengths of 4000

feet. What does this mean to you? One cable usable for all types of installation — aerial, buried or duct. One cable to chop away at excessive scrap, shipping costs and storage problems.

Keep in mind the advantages of Foamflex: average VSWR of 1.05 on all channels; uniform electrical properties over wide temperature variations; low loss, no radiation; stable attenuation at high band frequencies; lighter weight for easy installation may be utilized; long term operating life.

For complete details on new Foamflex and a listing of our Sales-Service-Stocking Centers across the country, write, wire, TWX or telephone: Phelps Dodge Copper Products Corporation, 300 Park Avenue, New York, N.Y. 10022. (212) 751-3200 TWX (212) 867-7455.

**PHELPS DODGE** COPPER, ALUMINUM AND ALLOY PRODUCTS 

# The Case For Leasebacks

From the paper "A Comprehensive Analysis of Leasing CATV Plant," prepared by the Television Services Committee of the United States Independent Telephone Association.

(Editor's note: This publication has often carried news and comments on telephone company leaseback tariff agreements—as well as several editorials on this subject. One result of this coverage has been the complaint by telcos that only one side of the story was being voiced in the CATV trade press. While TV & COMMUNICATIONS's editorial stand on leaseback versus operator-owned systems is well known, it does not follow that "pro-leaseback" news or comment has been suppressed in any way . . . to the contrary, all telco complaints of "bad press" have been answered with an invitation to tell "their side" in these pages. To date, no presentation of the telco's pro-leaseback arguments have been submitted to this magazine for publication. However, despite this lack of action by the phone interests, TV & COMMUNICATIONS does feel an obligation to present both sides of the leaseback situation, and, moreover, to keep cable operators informed as to what the telephone industry is planning or doing in the CATV field. For those reasons, we welcome the opportunity to publish the following "pro-leaseback" arguments, reprinted from a paper released to members of the United States Independent Telephone Association by USITA's Television Services Committee. Obviously, publication of these arguments in no way constitutes endorsement of any of the information or conclusions given in this presentation.)

In recent months CATV magazines and periodicals have carried articles, interviews and quotations from speeches which have been critical of the lease arrangements offered by telephone companies for CATV plant facilities.

In most cases, these statements have failed to recognize, completely or partially, the continuing costs that come year after year on any investment made in plant facilities for the purpose of earning a profit through rendering a service to the public. These costs are for maintenance, depreciation, property taxes, administrative expense, cost of debt money, and finally, income taxes and return on equity investment. All of these items add up to what are called "annual charges on investment."

In a recent article a CATV operator was quoted as stating that the original investment of about \$4,000.00 per mile for CATV plant, plus about \$1,575.00 in pole contact rentals, was his total cost for a ten-year period. He, of course, has added his original investment to only one of the recurring expenses (contact rental) which is somewhat the same as attempting to add apples and oranges. Actually, taking all financial factors into consideration, the lease arrangement offered by the telephone industry will, in most cases, provide high-grade CATV plant to the CATV operator at a far lower

net cost over any period of time than he could obtain by constructing his own plant and paying contact rental.

The telephone industry has perhaps been guilty of assuming that people who are in, or are considering entering the CATV business, fully understand the cost implications of "Annual Charges" and would look at the "bottom line" comparison of pole contact versus lease arrangements before making a decision against leasing CATV plant.

## COST OF MONEY—DEBT CAPITAL

Telephone companies have long records of stable operations and earnings and are generally able to secure debt capital in the form of 30-year mortgage bonds or debentures for a substantial portion of their total investment. The cost of this form of capital has fluctuated some over the years but has averaged less than 5%. Currently the cost of debt capital to telephone companies is nearer 5¾%, but these securities still find a ready market generally among institutional investors. Some of the larger CATV subsidiaries of nationally known firms such as GE or the broadcasting companies are possibly able to secure debt capital under favorable terms also, but certainly no lower than that of the larger telephone companies.

In the case of the smaller CATV operator, this type of debt capital is just not normally available. As a result, such companies must obtain the debt portion of their capital from finance companies or equipment manufacturers having financial subsidiaries. Interest rates on capital from these sources are generally in the range of 8½% to 10%, with stringent clauses requiring repayment over a six-year period, and in some cases requiring, as a condition of the loan, a gift of part of the equity ownership as high as 49%. This very substantial saving in the cost of debt capital available through telephone companies is passed along to the CATV operator in the rates for leasing CATV plant.

## EQUITY CAPITAL

Most telephone companies feel they must earn in the area of 10% to 12% on their equity capital (common stock and surplus) if they are to be in a position to continue to attract the new capital they constantly need from investors to meet the expanding needs for additional communication plant in the areas they serve. Regulatory commissions have generally set rates for services to permit rates of return in this range. From conversations with CATV operators it appears that they generally expect a return on the equity portion of their capital in excess of 15%. Here again is a substantially lower cost on this portion of invested capital which is also passed along to the CATV operator who leases plant from a telephone company.

## DEPRECIATION

Depreciation is a charge to operating expense each year based on the estimated service life of the plant. It is designed to produce the necessary funds to replace plant as it becomes worn out or obsolete. Most telephone companies use a straight line method to compute depreciation based on the original investment, its estimated service life, plus estimated cost of removal, less salvage. If the estimated service life is 10 years, the annual charge will be 10% of the amount developed from this formula. Rates for depreciation of telephone companies have been regulated for many years by regulatory bodies and are supported by extensive historical data. The methods used have stood the "test of time" very well.

Some CATV operators have, in the past, used depreciation rates (at least for tax purposes) based on periods shorter than the estimated service life of the plant, but the total amount of depreciation taken as a charge to operating expense over the life of the plant must be the same, assuming the original cost of the plant to be the same.

Actually, many telephone companies are able to construct CATV plant at lower costs than a CATV operator for reasons which will be explained later. Where this is the case, the depreciation cost in the telephone companies' lease rates

will be lower than the CATV operator would incur, if he owned his own plant.

### OVERALL RATE OF RETURN

Depreciation was purposely covered before outlining the method telephone companies use in computing their requirement for return on investment which is a part of the cost in determining rates for the lease of CATV plant.

It was felt desirable to do this since depreciation rates play a big part in determining the amount of money included in the CATV plant lease rate for return on investment.

As has already been shown, the telephone company will have a cost of debt capital in the 5% area and require a return in the 10-12% area for its equity capital. The composite return that a company requires on investment in plant facilities will vary somewhat due to differences in the ratio of debt to total capital from time to time in any one company or between companies. However, most companies will generally have an overall composite requirement in the 7½% to 8% range and most regulatory bodies are allowing earnings in this range.

This rate of return is applied to the declining balance which results each year by deducting the amount of depreciation from the original investment in CATV plant. In other words, this rate of return is on *net* plant after deducting accumulated depreciation. The effect is that the 8% composite rate will then be in the range of 3.4% to 4% annually, when applied to the *original* cost of the plant. A return on investment of this amount, computed in this manner, would not normally satisfy a CATV operator.

The income tax included by telephone companies as a part of its annual charges in arriving at leased rates for CATV plant is based on the return on the equity portion of its original investment. When applied over the life of the plant it should be about the same as for a CATV operator owned plant, assuming equal earnings on equity. If the CATV operator owning his own plant expects a higher return on equity, the amount of his income taxes over the life of the property would also be higher.

Faster depreciation and sales to realize capital gains could, of course, change the income tax factor to some extent, but it must be assumed that most CATV operators wish to establish a long range, stable and profitable operation by giving good service to customers rather than speculative short-term profits.

### PROPERTY TAXES

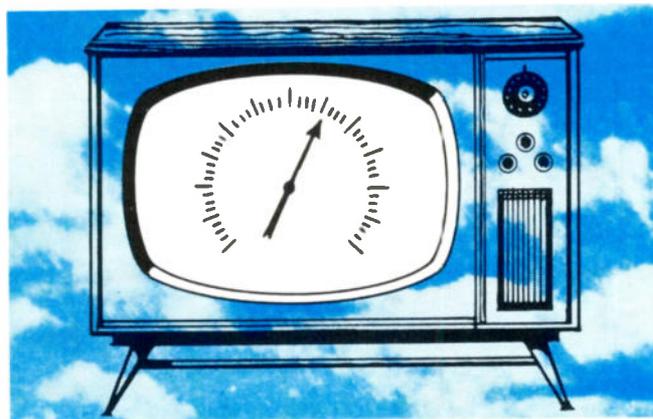
These should be about the same at any one location regardless of who owns the CATV distribution plant. There is a considerable difference in local tax rates between communities and the telephone company must, of necessity, use the average rate for the communities it serves. However, since the telephone company can construct the plant at a lower cost, it would automatically follow that there would be some reduction in property taxes.

### MAINTENANCE COSTS

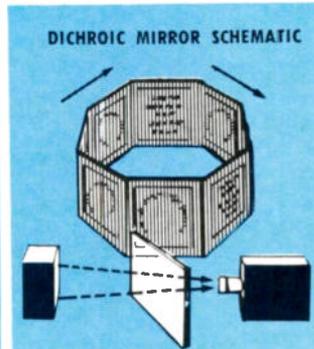
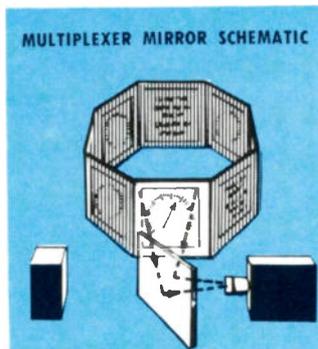
The telephone company should have a real advantage in cost of maintaining CATV plant since it already has its trucks, trained men, and equipment in the areas served. It will use the same supervisors as it does for its telephone operations, the same reporting centers, warehouses, etc. Only a fraction of the cost of these facilities will be charged to maintenance of CATV distribution plant. The CATV operator owning his own plant would arrive at his own figures. However, it is only reasonable to assume that his costs would be higher.

### ADMINISTRATIVE EXPENSE

This part of the annual charges is an allocated expense and it varies somewhat between telephone companies. Some companies allocate a higher percentage to some types of serv-



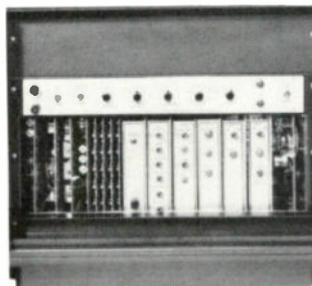
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Presents 9 weather, time and message functions in automatic sequence on 8-sided carousel. "Pop on, pop off" dissolve action of our Stationary Presentation eliminates home set linear distortion.

#### IMPORTANT FEATURES:

- Camera included in price.
- Camera removable in seconds for other uses.
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- Accutron Watch, optional.



Solid state reliability. Only 3 moving parts. Easy installation. Single-unit weather head package; interconnecting cable attached. Test pattern display. Hold and skip switch for every presentation function. **\$4185 complete**

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- Wind Direction
- Wind Speed
- Barometric Pressure
- Humidity
- Temperature
- Time - plus
- Three Message Display Positions

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ice than they do to others. How it would compare with the costs of a CATV operator owning his own plant is not known. However, this cost would be about the same regardless of who owned the plant.

### TOTAL ANNUAL CHARGES

USITA Member Letter #958 issued February 23, 1965, shows typical annual charges for two different telephone companies. To save you referring to that letter we are repeating these charges below for coaxial trunk and distribution cable.

	Company A	Company B
Return on investment	3.41%	4.23%
Depreciation (Straight Line)	10.15	10.00
Maintenance	1.0	1.0
Income Tax	2.35	3.62
Administration Expense	4.57	1.00
Misc. and Property Taxes	1.57	2.50
Total Annual Charges	23.05	22.35

The next step for the company in arriving at its rates for CATV distribution plant is to multiply its cost of constructing the plant by the annual charges. The result is then the annual rental required. Naturally some rounding off would be done before the rate was established.

In the case of companies shown above, this resulted in a \$16.00 per ¼ mile per month for coaxial cable and associated amplifiers for Company A and a \$15.00 rate for Company B. When the telephone company files a tariff with its regulatory body, it submits its costs or estimated costs, estimated service life and other information for review before approval is granted and the rate can be established. The same procedure is required before a change can be made, and in most cases, a public hearing would be required before a higher rate could be established. Public service commissions have generally required evidence that telephone customers are in no way subsidizing rates for CATV plant.

### CONSTRUCTION COSTS

There is no uniformity of cost between telephone companies or other companies insofar as constructing CATV distribution plant is concerned. The cost to any individual company would depend on that company's labor rates, its overheads, including engineering, and the quality and cost of the materials used. Today, many companies use contractors to a great extent on plant construction. In this case, using the same quality of materials, construction costs do tend to even out. There are some areas where telephone companies do have a definite opportunity to construct plant at lower cost than a CATV company.

In many cases where the telephone company is to provide CATV distribution plant it can spin the new CATV coaxial cable to an existing strand. In this case, it would allocate only a portion of the strand cost to the new coaxial cable. Most telephone companies have taken this into consideration as a factor for a portion of new construction, in establishing rates for CATV plant.

In other cases, the telephone company is able to place a new CATV cable in its own space on jointly owned holes without any need to change out the pole to obtain required clearances. The fact that CATV construction by the telephone companies requires few pole change outs for clearance reasons is also reflected in the lease rate for CATV cable.

So much has been written about pole contact costs and why CATV operators should readily be able to obtain them at low costs that it would be repetitious to attempt to cover the entire area again.

The CATV operator should realize that if he is to become a joint user of poles that he must pay the full costs of that use, and that it is only reasonable to expect that he will place his cables in space separated by proper clearances between his cables and those of the telephone company and the wires or cables of the power companies.

Therefore, construction of CATV distribution plant by a

CATV operator will require more pole change outs and is another addition to our rapidly mounting list of additional costs over leased plant.

### BONDING REQUIREMENTS

Some telephone companies have included as a part of their tariff or agreement to provide leased CATV distribution facilities a requirement for a termination bond.

It is apparent that some confusion exists as to type of bond required and its purpose. The actual purpose of the bond is to guarantee payment of charges for the minimum service period should the CATV company for any reason cancel the agreement or be unable to pay the charges for the minimum five-year period required by most tariffs.

In most cases if the CATV operator has a good balance sheet or personal assets, the requirements for a bond are waived. In one typical case the CATV operator was required to pay approximately \$12.00 per year per M of termination liability. Premiums will reduce each year to match the remaining liability under the tariff. For a 30-mile system with 30 customers per mile the CATV Company would pay \$780 in premium the first year for a \$65,000 bond, reducing to \$624 the second year for a \$52,000 bond, \$468 the third year for a \$39,000 bond, \$312 the fourth year for a \$26,000 bond, and \$156 in the fifth year for a \$13,000 bond.

Bond is also required of the CATV operator using pole contact agreements to cover public liability. Unlike the termination bond just described, it does not reduce in cost over any period of years and has an equal or higher premium for comparable coverage than the termination bond. The purpose of this bond is to cover liability for personal injury and property damage and also to assure payment of all costs associated with removal of facilities if the CATV system terminates its operation for any reason.

### GENERAL

There are also service advantages of leasing telephone company facilities which accrue to both the CATV operator and his customers. Most telephone companies, in addition to furnishing regular telephone service, are providing many other complex and essential communication services for fire, police, air navigation, radio and video networks, data, national defense, and space agencies. The quality of the service telephone companies render is under the constant supervision of regulatory authorities. To meet the requirements of these types of service telephone companies maintain large forces of highly trained personnel equipped with modern tools and test equipment. Under the lease arrangement these standby resources are available normally without additional cost on a twenty-four hour a day basis to meet the service requirements of CATV and can be totally mobilized to provide faster restoration of service in times of storms, floods, ice, or other disaster. The ability of the telephone company to readily and speedily finance an emergency restoration is also available under the lease agreement without additional cost.

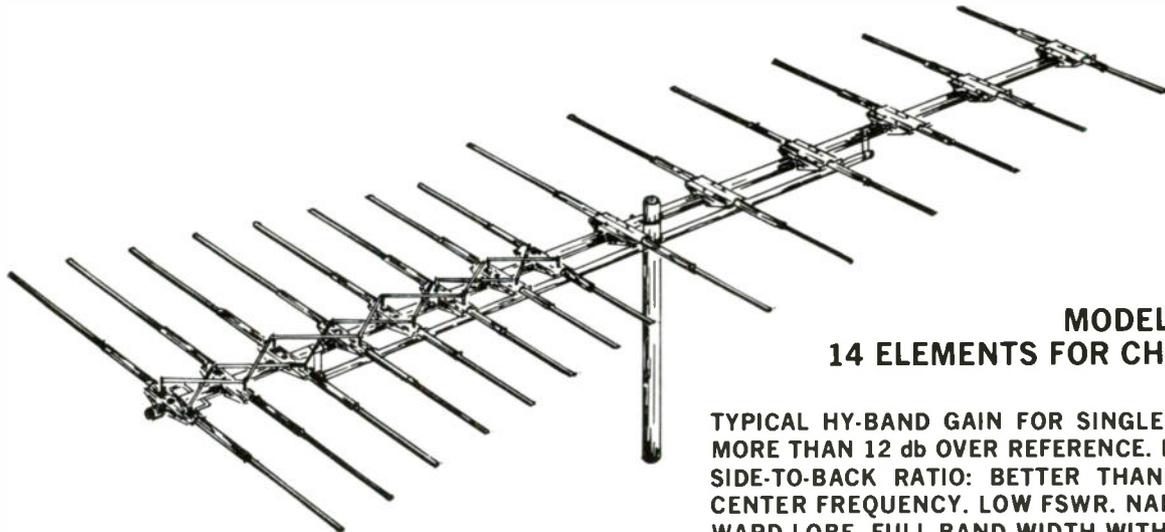
Arguments have been advanced by some CATV operators that they really do not need to book depreciation as an expense (except for income tax purposes) because their property increases in value. They then cite cases as proof where CATV property has been sold after a period of 4 to 5 years at amounts greatly in excess of its original cost. The fact of the matter is that these sales were possible because they had developed profitable business in profitable areas, and the increases in value were really due the actual or potential earnings they were capable of producing. This value comes to any profitable business regardless of ownership of physical plant. There is a common business term that describes it—PRICE/EARNINGS RATIO.

All physical plant starts its inevitable march to the junkyard the day it is placed in service and depreciation charges on physical plant are as real and certain as any other costs of operating a business.

In all comparisons the leased plant operations would yield greater profits than a CATV operator owned system.

# LINDSAY ELECTRONICS INTRODUCES

## LOG PERIODIC YAGI ANTENNAS FOR CATV



**MODEL 14LPY8  
14 ELEMENTS FOR CHANNEL 8**

**TYPICAL HY-BAND GAIN FOR SINGLE CHANNEL: MORE THAN 12 db OVER REFERENCE. FRONT AND SIDE-TO-BACK RATIO: BETTER THAN 30 db AT CENTER FREQUENCY. LOW FSWR. NARROW FORWARD LOBE. FULL BAND WIDTH WITH FLATNESS FOR TRUE COLOR.**

LINDSAY proudly introduces the "LOG PERIODIC YAGI" line of antennas to meet today's more stringent CATV requirements. The best features of regular Log Periodic and Yagi designs are combined in this great new hybrid. Result? The separate weaknesses of these two veteran designs have been removed! Gain improvements of 5 db have been achieved over "pure" Log Periodic designs (size for size) . . . Modified Log Periodic design and addition of a director train produce clean patterns far superior to those from "pure" Yagi designs.

New LINDSAY "LPY" antennas minimize co-channel and adjacent-channel problems. (And cleaner signals are easier to process and keep on the system.) This high-performance antenna line features the **first** single channel Log Periodic designed specifically for CATV use.

LINDSAY LPY's can be effectively stacked using Yagi formulas for gain improvement and further co-channel interference elimination. They can be cantilever-mounted on towers. Close coupling of the rear element to the tower does not pull or deteriorate the pattern appreciably.

LPY's are ruggedly built for all-weather conditions, feature heavy-duty aluminum construction . . . tapered elements and one-piece phasing harness tubes to assure dependable service. A unique new suspension brace adds rigidity to the antenna and keeps it "on target."

### ANTENNA MODELS

10 and 12 element LPY Yagis are available for low-band reception. For high-band reception, 10 and 14 element models are available. **All LINDSAY LOG-PERIODIC YAGI's can be specified to cover any run of channels.** For example, 12LPY2-3-4 is a 12 element model for channels 2, 3 and 4. A 10LPY5-6-FM is a 10 element model designed to receive channels 5 and 6, plus the full FM band. A 14LPY7 is a 14 element model for channel 7, etc.

Never before has such high performance been coupled with such accurate channel selection. Inquire today about this total breakthrough in CATV antenna design . . . The new LINDSAY LOG-PERIODIC YAGI! (Be sure to specify channels desired).

**REPRESENTATIVES STILL NEEDED IN SOME AREAS**

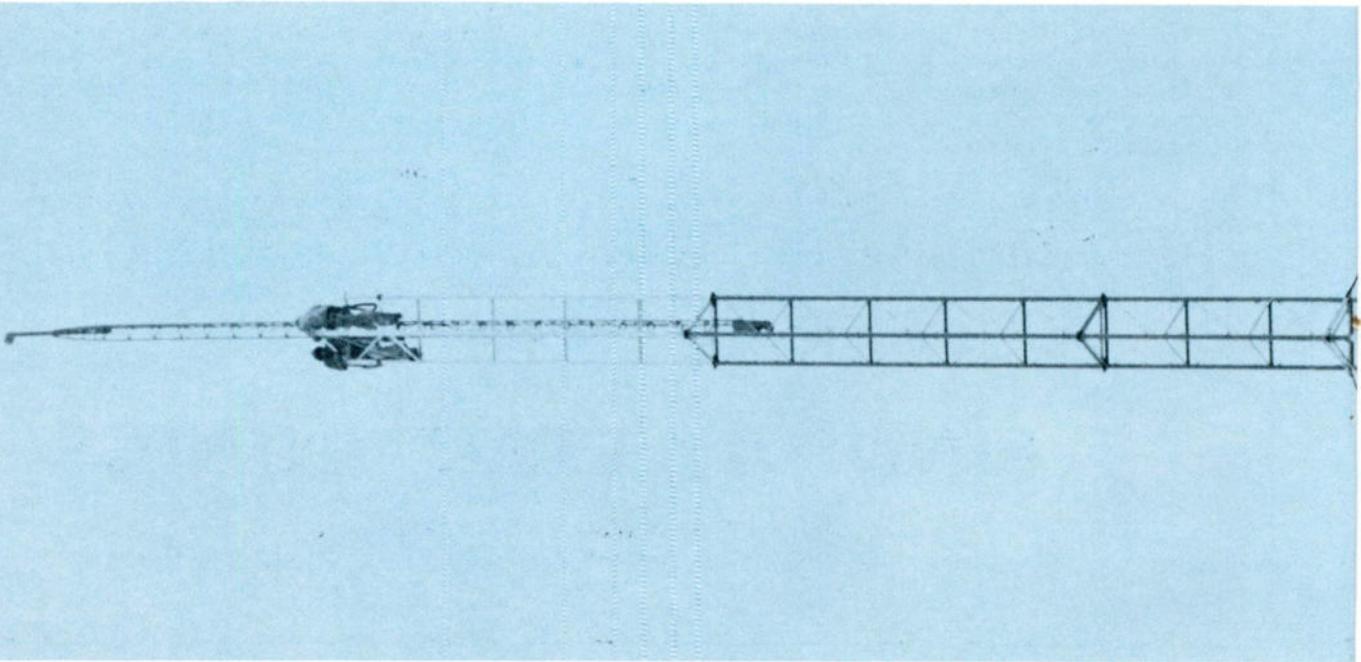
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# STILL... LEADER IN CATV FT. WORTH TOWER CO.



## ■ EXPERIENCE

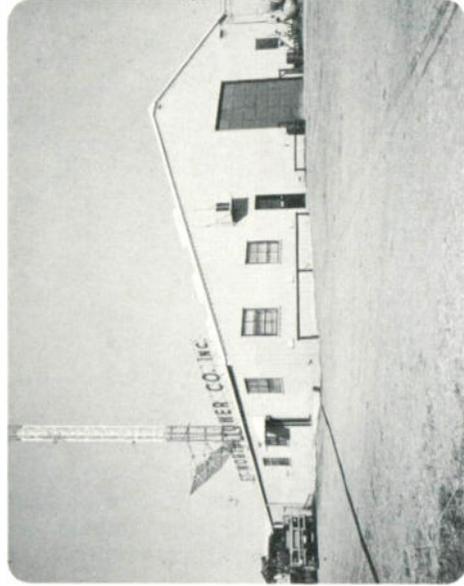
"Fort Worth Tower Company has over 20 years experience in the design and manufacture of communications towers. Ft. Worth was a pioneer in the development of reliable CATV towers. This broad band experience is your assurance that your tower is designed to the highest standards when it bears the name "Fort Worth." It means better performance . . . it's your standard of quality."

—Tommy Moore, President



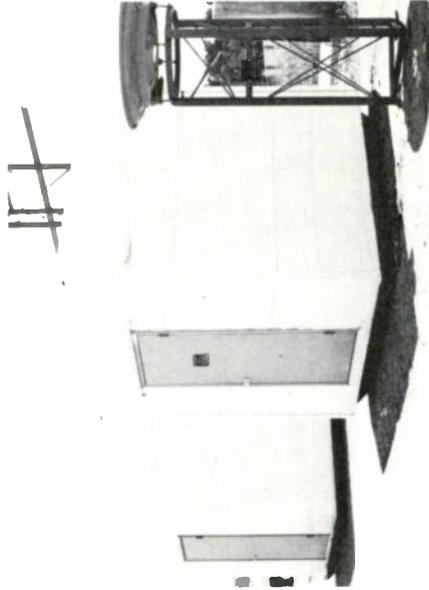
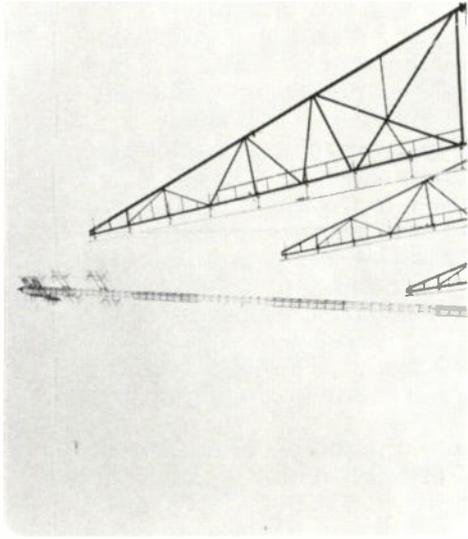
## ■ MODERN METHODS

The Fort Worth tower manufacturing center uses the most modern methods to produce your tower. Experts in every phase of design and fabrication perform their work with professional pride. Ft. Worth erection crews have a national reputation for efficiency and skill. Our final goal is to give you the best "tower package" in CATV, from design to erection and test.



## LATEST CONCEPTS

We're experimenters. The Fort Worth shops produce some of the most advanced tower concepts in CATV. Example? Our new tropo-scatter parabolic antenna. This revolutionary design eliminates microwave equipment, drastically reduces co-channel and adjacent channel problems, has many other outstanding advantages. It's one result of continuing Fort Worth research to serve you better.



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A variety of Fort Worth equipment is available to fulfill your complete head-end requirements. These rugged buildings come insulated and wired, ready for equipment installation. High-strength fiberglass antenna-domes; heavy duty power winches for tower equipment installation and maintenance; reflectors; air safety spheres; these and a variety of other equipment are ready to equip your system.

Fort Worth Tower Company knows CATV requirements. Our tower and equipment lines are geared to give you the most advanced design ... at a reasonable price. We'd like to serve you. Inquire today.

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# R. H. Tyler Company

"Larry Boggs, Bob Clark and I were looking for some things of interest to local people that we could originate on the Wellington system. One idea was a shopper's guide that would feature products of local stores during the morning hours. We thought it might even be a chance for local advertisers to tie in their messages.

"Another idea was a local weather report. I had watched several different TV weathercasts. Some had weathermen . . . some had instruments. On some programs the camera panned instruments blown up to cover the screen. On others, the whole weather board and all the instruments were shown at one time. They were usually too small to be read clearly.

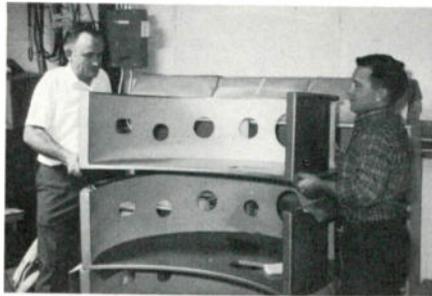
"Of all the ideas we had, we decided that a weather reporting service was the best for CATV viewers. Weather is something everyone talks about . . . it affects everyone . . . it was a 'natural'."



The man who started it all—pioneer manufacturer Hurshel Tyler relaxes in his office.

The man speaking was Hurshel Tyler. The place was R. H. Tyler Company, Wellington, Texas-based pioneer manufacturer of CATV time/weather units. We

were talking about the early days of today's mushrooming time/weather industry. He recalled that it was just 7 years ago this month that plans were laid for the manufacture of the company's first Weather-Scan unit. The result was



Technicians Horton and Morris stockpile cabinets in the factory assembly area.

a circular rotating camera model similar to today's popular unit. It was completed and installed in the Vumore-owned Wellington system in January, 1960.

"We were apprehensive at first that people might lose interest in the service in two or three months, and we were still considering other ideas in case that happened. But . . . we found that there was no need to worry. Even after several weeks of operation, if we pulled the switch, it was just two or three minutes before calls started coming in."

Based on this ready-public acceptance, it was decided to take a second big step and manufacture Weather-Scan units for the national CATV market. It took a year of experimental operation and testing before Tyler had the first commercial Weather-Scan ready. The end result was a move away from circular design. The new unit

had all the instruments mounted in line on a straight backboard. The camera was mounted on a dolly that rolled back and forth on rails in front of the instruments. The unit was almost seven feet long and four feet deep.

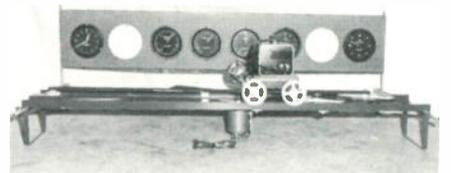
The first commercial model was installed in the Clay Center, Kansas system in the fall of 1961. With the business operation finally underway, Tyler found that his prediction of latent demand was true. Soon after marketing began, 30 of the track units were sold in one six-week period. That clinched the decision to move ahead at full speed.

Despite the success of the initial Weather-Scan model, it became apparent that many CATV systems could benefit from a smaller, more easily moved unit. Head-end buildings were generally small, and the amount of sophisticated equipment inside them was increasing. Research and development was begun on a more compact unit. The result was the introduction, in mid-1963, of the



Secretary Mrs. J. B. King ensures that company business records are kept well in hand.

present circular Weather-Scan model with rotating camera. The over-all dimensions were reduced to four feet long by three feet wide. The new unit proved to be as popular as the old one, and it has been the main stay of the company's marketing program since it was first introduced.

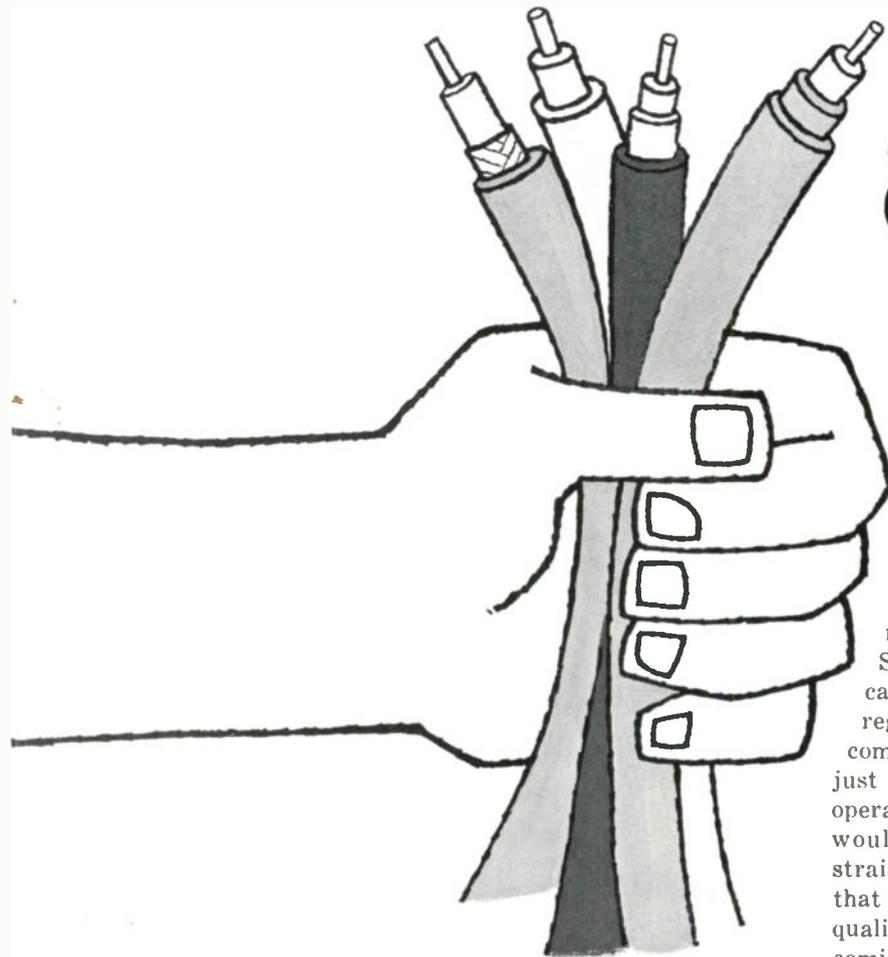


Weather-Scan track unit, the first commercially marketed electronic time/weather system for CATV.

Continual research and development has been carried on during the past three years, both on the Weather-Scan and two variations of the unit for different use re-

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quirements. The first of these to be developed was Roto-Scan, introduced at the 1965 Denver NCTA Convention. This unit contains the same number of time and weather instruments as in the standard Weather-Scan, but they are mounted on a circular panel. The instruments are scanned by a camera rotating continuously in one direction. The unit is also smaller than the standard Weather-Scan, measuring 44 inches long by 20 inches wide.



Technician Bill Morris installs special transformer and camera scanning motor for unit bound for South America.

A second variation of the standard model has been Weather-Scan II, which has just been introduced. The new unit is similar in design to the standard Weather-Scan, but of more compact size. It also features six time and weather instruments. As on the other two systems, an 80-slide message carousel may be installed. Although Weather-Scan II units are already being



The standard Weather-Scan is the mainstay of the company's product line.

marketed, the continuing research program has taken an interesting turn. The new unit is built to accommodate a hood over the instrument panel and camera. A concept is being investigated which will eliminate standard lighting equipment through the use of black light.

The company behind this national manufacturing and marketing operation is located in Wellington, a Texas panhandle community of 3,500 people. Hurshel

Tyler was the original developer of the CATV system there, and was system manager for a number of years after it was purchased by the Vumore Company.

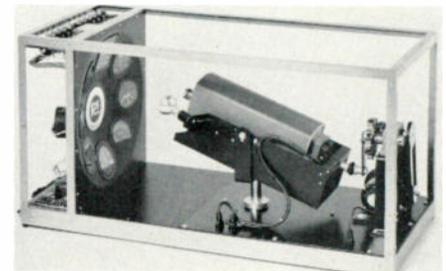
The Tyler company is located on the southern edge of the city in a modern plant built in 1965. It includes the manufacturing section, where the basic instrument cabinet is fabricated and final assembly is completed, and a separate section containing a full bank of test gear for checking completed



Chief technician Raymond Horton installs wind direction gauge on new Weather-Scan II unit.

units. The overall plant is not large, but the manufacturing operation is a model of efficiency and planning.

An aim for "steady growth" seems to summarize the long-range company goals: "We don't hurry—we just take our time," says Tyler. We look back often to make sure we're following the right trail. It seems to work—we just keep



Roto-Scan features enclosed cabinet, continuous rotation of camera over a circular instrument panel.

growing. So far, we've shipped units to every one of the Continental United States. Right now we're getting one ready for South America. We try to get acquainted with every customer, and we put a heavy emphasis on always meeting delivery time commitments.

The R. H. Tyler Company has been a solid citizen in its several years of service to the CATV industry. With these easy-going and quality conscious attitudes, plus continual improvement of its products, it's safe to say that the future for the company looks good. □

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## Local Programming *in action*

By Ron Palmer,  
Hampton Cablevision Corporation

Hampton Cablevision Corporation, East Hampton, Long Island, New York discussed the possibilities of live program origination for several months. Because of production factors we found that it would be extremely difficult to produce a live program which would stand up to the "look" of the surrounding channels' productions.

We, therefore, went to the Sony Corporation of America and asked them to cooperate with us on an experimental basis. Sony made its portable videotape recording equipment available to us on a no-charge basis during the early phase of the experiment. They did this because of the potential for future videotape recorder sales to CATV companies.



*Sony Videocorder used in East Hampton.*

Our first program was an interview with the high school football coach. We did this interview on the playing field while the team was having a practice session. The coach was interviewed by the local radio announcer who normally does the live radio play-by-play broadcast of the home games and after the interview, each of the members of the squad was introduced.

The program was expanded to include shots of the high school marching band, the

twirlers, and the cheer leaders. Our final program consisted of a pre-season round up of all of the ingredients that make up the excitement of home-town high school football. The Art Department in the high school made up posters which were spread throughout East Hampton by the students and this helped to increase our set-in-use factor when the program was shown.

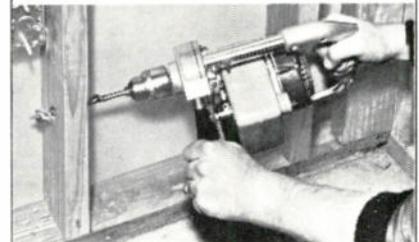
We couldn't have chosen a better subject for our first local program. A tremendous amount of discussion was generated in the community preparatory to shooting this program and because of the inherent capability of the VTR, we were able to play the show for five days in a row at 8:00 p.m. I would venture to say that 95% of the community saw this program and if they didn't have cablevision, they managed to go to someone's home in order to see it. Our subscriptions jumped accordingly and the benefits accruing to our system because of the excitement of this experiment are still being counted.

In addition to the local aspects of this program origination, we decided to institute an informal swap arrangement with a cable system in California. They are also using a Sony Videocorder and, therefore, the tapes can be interchanged. The California system is now shooting their program and we have each arranged our shows so that they will be of interest to viewers in each other's community.

This type of experiment, we believe, will lead to other program formats which can be videotaped and perhaps utilized in not only our community but in others. The use of the Sony Videocorder was vital to the success of our first Public Affairs Program, and we intend to continue this type of local origination. □



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# CATV and Copyrights

## The NCTA Position

From a speech by  
Robert D. L'Heureux  
NCTA General Counsel

The complex subject of copyright, as applied to CATV, is at present poorly understood by many cable system operators primarily because (1) it is still a relatively new industry problem, and (2) to date nothing has been finally settled regarding any of its many complex aspects. It is important that CATV operators give close study to CATV/copyright activities now—before the next session of Congress.

As a first step in presenting a comprehensive study on CATV copyright problems, *TV & Communications* is pleased to publish the current NCTA position on proposed copyright legislation. This position was clearly stated by Association General Counsel Robert D. L'Heureux in his recent speech before the Federal Bar Association and is reprinted in full, below. In future issues, *TV & Communications* will present a multi-part study of CATV copyright problems, prepared for our readers by Mr. L'Heureux.

A community antenna system "means any facility which, in whole or in part, receives directly or indirectly over the air and amplifies or otherwise modifies the signals transmitting programs broadcast by one or more broadcast stations and distributes such signals by wire or cable to subscribing members of the public who pay for such service."

That is the definition of a CATV system contained in H.R. 13286, 89th Congress, 2nd Session, which is a bill which was reported on June 17, 1966 to the House of Representatives by the Committee on Interstate and Foreign Commerce.

A CATV system is a superior television reception service, with no technical difference between it and a home antenna, such as built-in antenna, rabbit-ear or roof-top antenna. It receives its television and radio signals off-the-air. Each home owner, if he could afford the cost, could erect a very high tower in his back yard or on a nearby hill or mountain and avail himself of the same reception service.

### ORIGINATIONS

A CATV system can perform another function, viz., that of originating programs. This is the simplest aspect of this discussion, because I will admit here and now that when a CATV operator makes use of copyrighted material, such as a film or music tape, which is not received off-the-air, to originate programs for the subscribers to his CATV system, he is "performing" in the sense of the pre-

sent copyright laws and he must obtain the right to make use of the copyrighted material. No amendment need be made to the present Copyright Law in order to make this clear. Conversely, the CATV industry cannot and will not oppose any amendment that would state this proposition more clearly, if anyone has any doubt about it. Therefore, there need be in the presently proposed Copyright Revision Act (H.R. 4347 or S. 1006) no special provision which addresses itself to originations on CATV systems, except to spell out the full applicability of the law to originations, if anyone has any doubts about such applicability.

### CATV IS NEITHER ALL FISH NOR ALL FOWL

To the extent that a CATV system originates programs in its own studio, it is absolutely liable to payment for the use of copyrighted material. To this extent it is clearly the type of "fish" which was intended to be netted by the copyright-holder under the present Copyright Act. However, it is also partly "fowl" in its other aspect of being a television reception service, although I am sure many opponents would prefer to spell that word FOUL.

I said "partly fowl", because again one must distinguish between a CATV system's function when it is simply receiving the signals of local television stations, which were intended to be received by the public in the particular area. The local broadcaster has paid the

copyright fees in order that all the public in that area may receive the particular programs. It is a well-known fact of the broadcast industry that a television broadcast station pays upon the basis of the number of people viewing its programs for the copyrighted material which it broadcasts. It pays according to its rate card which takes the factor of the viewing audience into account.

It is immaterial to the broadcaster or to the copyright holder whether the people viewing a local television station's programs do so by means of a built-in, rabbit-ear or roof-top antenna. It should be equally immaterial to them whether the public makes use of an antenna reception service, viz., a CATV system, in viewing those programs. The broadcaster should be interested in the public making use of the best reception service possible, and the public will not pay for CATV service unless this improves their reception of television programs.

This comports with the facts, because neither the television broadcaster nor the copyright holder complained of the activities of CATV systems when most of them, in the early days of CATV system development, offered primarily or exclusively a reception service for local television stations. Although commercial CATV began in 1950, it was not until 1960 that the first copyright suit was brought by a copyright holder against a CATV system and it was not until the late 50's that broadcasters began to harass CATV systems before the Federal Communications Commission, the Congress and the Courts.

### RECEPTION OF NON-LOCAL SIGNALS IS KEY TO CONTROVERSY

What then is the controversy about? It involves simply the reception of the signals of television stations which are not strictly of a local nature. This is the function

of a CATV system which makes the local television broadcaster unhappy. He regards this threat of a possible fragmentation of his viewing audience as undesirable for him. Furthermore, he dislikes having a CATV system make available from another station's broadcast to his own viewing audience a particular program which he has scheduled on his own station.

This is where the FCC comes in. It has adopted the Second Report and Order which compels the CATV system generally to carry the signals of all the local television stations and to refrain from duplicating the programs of the local stations on the same day they are shown by the local stations. This is the regulatory function which will be discussed later on this panel by other persons.

The television broadcaster has made recommendations with respect to copyright which would further the economic protection of the local television stations. With some differences with respect to the extent of the exemption, broadcasters generally have advocated an exemption from the copyright laws for those CATV systems which simply receive the signals of local television stations. This is a function which the broadcaster endorses unequivocally. If the CATV operator is restricted to this function, the local broadcaster need not fear having his audience fragmented by CATV subscribers viewing the programs of non-local television stations. The networks do not need to tremble at the thought of a fourth or fifth network developing in order to serve CATV systems and thus fragmenting their markets.

The FCC has viewed the proposed revision of the Copyright Act as an opportunity to further its regulatory function. Its proposal would exempt CATV systems from the payment of copyright when they receive the signals of local stations. This would involve at least the television stations within whose Grade A or B contours the CATV system operates. It might even involve the reception area within which the local television station actually operates, in fact, where it sells advertising, for example, and the area within which it is credited as serving by the national rating services. This makes sense to the FCC, because its rules require generally the CATV system to receive all

the signals of local television stations within channel capacity of the CATV system.

In addition, the FCC would support statutory fees to be paid by CATV operators in an area which is underserved by FCC standards. Presumably, "underserved" would mean any area where all the programs of the existing national networks are not available to television viewers. The networks would not have any great opposition to this, because this would serve their purposes and provide broader exposure to their programs.

On the other hand, the producer of programs and the copyright holders have objected to anything less than absolute coverage of CATV systems under the copyright laws, in accordance with the decision in the recent case of *United Artists, Inc. v. Fortnightly Corporation*. In that case, the United States District Court for the Southern District of New York ruled that reception of a broadcast signal by a CATV system is a performance of the programs contained therein under the Copyright Act.

The Court had several alternatives. It could have ruled that a CATV system is only one type of antenna, a reception service, and that the copyright holder had no more right to collect fees from a CATV operator than it has to collect from an antenna manufacturer or installer, or from a manufacturer or salesman of television sets, all of whom make money because of the existence of programs on television channels. It could have found that as the rating services give credit to television stations for having a set number of viewers, including CATV subscribers, the copyright holder can collect from the TV stations for the added number of viewers and thus be fully compensated.

The Court could have decided that a CATV system is in part a reception service for local television stations, but that when it receives programs from more distant stations, it is affecting the right of the distributor of programs and the copyright holder to sell these different programs in the area where the CATV system is located. The Court could have ruled that a CATV system is liable under the Copyright Act for the programs other than those for which copyright has already been paid by the local TV stations. Again, the Court could have found

as the Courts did in Canada under a different Copyright Act that CATV systems are a reception service for their subscribers in private homes or apartments, but that they are liable for programs made available to stores and other commercial outlets. Instead, the Court held that a CATV system not only "performs" but that it "performs" every time the signal goes through an antenna, an amplifier, etc. Under this theory, the CATV system may be guilty of many statutory penalties for one reception, contrary to the obvious intent of the Copyright Act.

The case has been appealed to the United States Circuit Court and this Court will soon have to decide whether the lower court's decision is consistent with the intent of the Communications Act to allow the widest possible dissemination and reception of television programs, news and information, and whether CATV reception is the type of "performance" which was intended by the Copyright Act.

## THE CATV INDUSTRY'S SOLUTION

Initially, the CATV industry, through its national trade associa-



## CATV & FLYING DO MIX

In fact, so many CATV operators and personnel use private aircraft in their business, that "Aviation in CATV" will receive special emphasis in the January issue of *TV & Communications* magazine. If you are one of the many flying CATV'ers, we would like to hear from you about how you use aircraft in your business, and what it does for you. Nothing fancy needed—a short informal note (with picture if available) will assist our staff in providing a comprehensive review of Aviation in CATV. Contact Bob Searle, Managing Editor, *TV & Communications*, P.O. Box 63992, Oklahoma City, Oklahoma 73106.

tion, the National Community Television Association, took the position that a CATV system is strictly a reception service, just another form of antenna, and that the CATV operator should not have to pay copyright fees except when he originates a copyrighted program, one not received off-the-air directly or via microwave service. This was the position advanced by its President, Mr. Frederick W. Ford, before a Subcommittee of the Judiciary Committee of the House of Representatives last year.

As you know, that Judiciary Subcommittee did not follow the advice of the copyright holder or of the CATV industry, but proposed a compromise under which a CATV system would be exempt from the payment of copyright for programs of stations within the Grade B contours of which it operates, provided it did not originate programs of its own. This was the white area. There was then a grey area within which the CATV system would try to reach a reasonable agreement with the copyright holder but a resort could be made to the courts, if the parties were not in agreement. In the meantime, the CATV system could proceed to carry programs at its own risk. Finally, there was a black area within which the full application of the Copyright Act would take hold and the CATV operator would have to bargain for programs.

This year, the National Community Television Association, through its President, Mr. Frederick W. Ford, revised its earlier position when testifying before a Subcommittee of the Senate Judiciary Committee. In an attempt at offering a compromise that would take into account all the conflicting views and interests, the CATV industry advanced the following statutory plan.

1. A CATV system would not have to pay copyright fees within the actual reception area of the local TV stations. This is simple Justice, because he has no choice but to carry the local station's signals under the FCC's Second Report and Order.
2. A CATV system would have to pay copyright fees for all other programs. He would have to bargain just as the broadcaster does for copyrighted material which he originates on his system or for programs which have not been made available in the area in which he operates. He would have to pay a statutory fee for the channels which he carries in an underserved area as defined by the FCC and a higher statutory fee for programs in other areas. The fee would be set by the Congress. The fee would be based upon a percentage of gross, as suggested by a Westinghouse Broadcasting official. The CATV industry would not be adverse to some arbitration set-up under

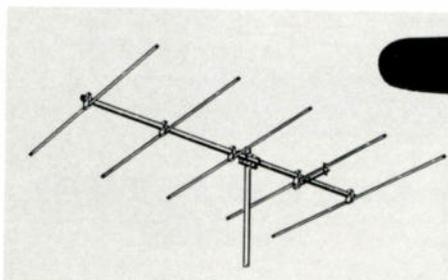
which these fees could be revised for the whole industry from time to time.

## RATIONALE OF CATV INDUSTRY PROPOSAL

Why have the Register of Copyright, the FCC, a House Subcommittee of the Judiciary Committee and the Justice Department all taken the position that some adjustment must be made in the copyright laws in order to accommodate CATV systems? Obviously, because there is a risk that the absolute application of the copyright laws to this industry would very probably mean the discontinuance of this great service to the public or the complete subservience of the CATV industry to the copyright holders.

At the hearing, the copyright owners took the position that the present law subjects all CATV operations to full copyright liability and no change should be made in that law. The Department of Justice disagreed. In its opinion, it is very much an open question as to whether the present copyright law subjects any CATV operation to liability for distributing programs received from a broadcast station. In any event, the Department urged that the matter is an appropriate subject for legislative action. It strongly recommended that the copyright law should specifically provide that no CATV operation is subject to the Copyright Act. It based its recommendation on two grounds. First, it showed that copyright liability of CATV operation is not essential to the protection of the legitimate interests of copyright owners. Second, it is of the opinion that if CATV operations are subjected to copyright law liability, serious harmful anti-competitive consequences can result. It is the position of the Department of Justice that the problems which have arisen with respect to CATV operations are communications-related and not copyright-related and should be handled by FCC flexible regulations, uninhibited by copyright liability.

It should be pointed out that the NCTA position has historically coincided with that expressed by the Department of Justice. We have always believed—and still assert—that the present copyright law does not apply to CATV operations. Furthermore, we have heretofore urged that the public interests would best be served by specifically amending the copyright



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\*For complete price schedule see latest net price lists.

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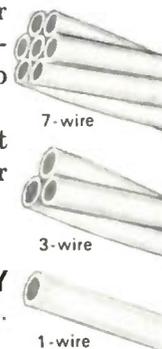
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law to spell out the non-applicability of that law to CATV operations so as to remove all doubts on that score. However, in an effort to arrive at an agreed-upon solution, NCTA has come forward with a specific proposal which accommodates both the copyright and communications aspect of CATV operations. NCTA abides by its compromise proposal.

Unfortunately, there can be no fair bargaining between copyright owners and CATV systems. In the case of CATV, we do not have the usual type of situation where there are willing and able buyers on the one hand and willing and able sellers on the other hand. In that type of situation, the buyer is able to protect himself. If the copyright owner demands too high a price for his product, the user can refuse to buy and can go elsewhere. In the case of a CATV operator, however, no such option is available. By FCC requirement he must carry the programs of all local stations; indeed, he would not be performing the function of a CATV system if he failed to do so. What position is he in to bargain with the copyright owner? The copyright owner knows that all he has to do is sit back and wait and the CATV operator must pay whatever price the copyright owner demands. The CATV operator must carry the local signal. He does not choose the signal; he does not decide what programs go over the station. He distributes to his

community whatever programs are available on the local stations. If the CATV operator determined not to carry the particular local programs, he would be in violation of the FCC rules and regulations and would not be performing the true function of a CATV system. Therefore, the CATV operator must meet the terms which the copyright owner imposes.

We do not doubt the good faith of the copyright owners in their testimony in stating that they have no intention of charging excessive royalties. We recognize that at the outset it is entirely possible that the copyright owners would make modest demands for copyright licenses. However, copyright owners are normal business people. As time goes on, there is every incentive on their part to maximize profits. Once CATV systems have been built and in operation, there is nothing to prevent the copyright owners from exacting whatever price they can obtain. The exigencies of the market place will drive their prices higher and higher. With such a weapon, domination of the CATV industry by copyright owners is inevitable.

The conclusion is clear. The extreme measure urged by the copyright owners—blanket applicability of copyright to CATV operations—is unsound, unworkable and unfair.

In conclusion, I can only express the hope, as it has been urged by

the Subcommittees of both the Senate and House Judiciary Committees, that all the parties will get together and work out a fair and reasonable solution which can be enacted into law within the next eight months. If the Circuit Court of Appeals should affirm the action in the case of *United Artists, Inc. v. Fortnightly Corporation*, and should the Supreme Court of the United States deny certiorari, only chaos could result.

A prudent lawyer then could only advise a CATV system to refrain from carrying any broadcast signal until a solution had been found. Eight million television viewers via CATV systems could be deprived overnight of television reception. You can imagine the avalanche of mail which would then flood Congress. CATV operators would suffer severe financial losses and many would go bankrupt in the several months which would follow before blanket licenses could be obtained at realistic prices from the thousands of copyright holders who could lay claims to the various programs, or before the Congress could hold hearings once more and force a solution upon all parties. Such a solution would not be likely to favor ultimately the copyright holder. All parties to the present controversy can gain by arriving at a reasonable solution which is fair to themselves and fair primarily to the owner of the airwaves, the American Public. □



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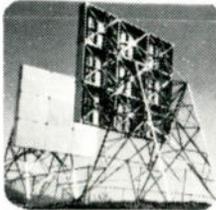
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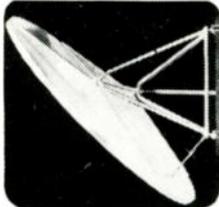
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# Negotiating Better Non-Duplication Terms

By Lyle O. Keys  
President, TeleMation, Inc.

The subject of non-duplication is very complex both as to the programming requirements under the Second Report and Order and in the design of the hardware of its implementation. I would like to concentrate on an area which has been given very little consideration in the industry—that of negotiation between CATV operators and broadcasters.

First, let's examine some of the economics of TV broadcasting. Television stations derive their income from four sources:

(1) Network shows where the network provides the program, sells it to the advertiser, and passes on a portion of the revenue to the broadcaster.

(2) Spot sales where the broadcaster sells spot announcements to national and local advertisers. These spot announcements are normally inserted in the station break periods between network shows.

(3) Sale of locally produced shows such as news.

(4) Sale of non-network movies and syndicated shows.

The broadcaster's income is therefore derived from three principal sources . . . network revenue, national sales and local sales. The non-duplication rules set forth in the Second Report and Order protect only the network portion of the broadcaster's income. Unfortunately, this is where the broadcaster needs protection least. His station, often as not is a "basic buy" on the network and will be bought by the advertiser without regard to ratings or audience dilution. This means that under the Second Report and Order the broadcaster is afforded only a small percentage of the protection he would like to have.

The CATV operator is likewise treated unkindly by the Second Report and Order in that it requires that he delete programs from distant stations without having comparable fare to offer in substitution.

Now let's examine what each of these entities would be like under a more favorable arrangement. The broadcaster would like protection for his station break periods. These breaks, generally of 43 or 73 seconds duration at half-hour intervals, are not protected under the Second Report and Order. The broadcaster would also like protection against prior local carriage of certain syndicated shows and movies. He would

also like the assurance that he would not be placed in the villain's role before the public (and his local advertisers) by the CATV operator substituting an uncomplimentary explanation for deleted program material.

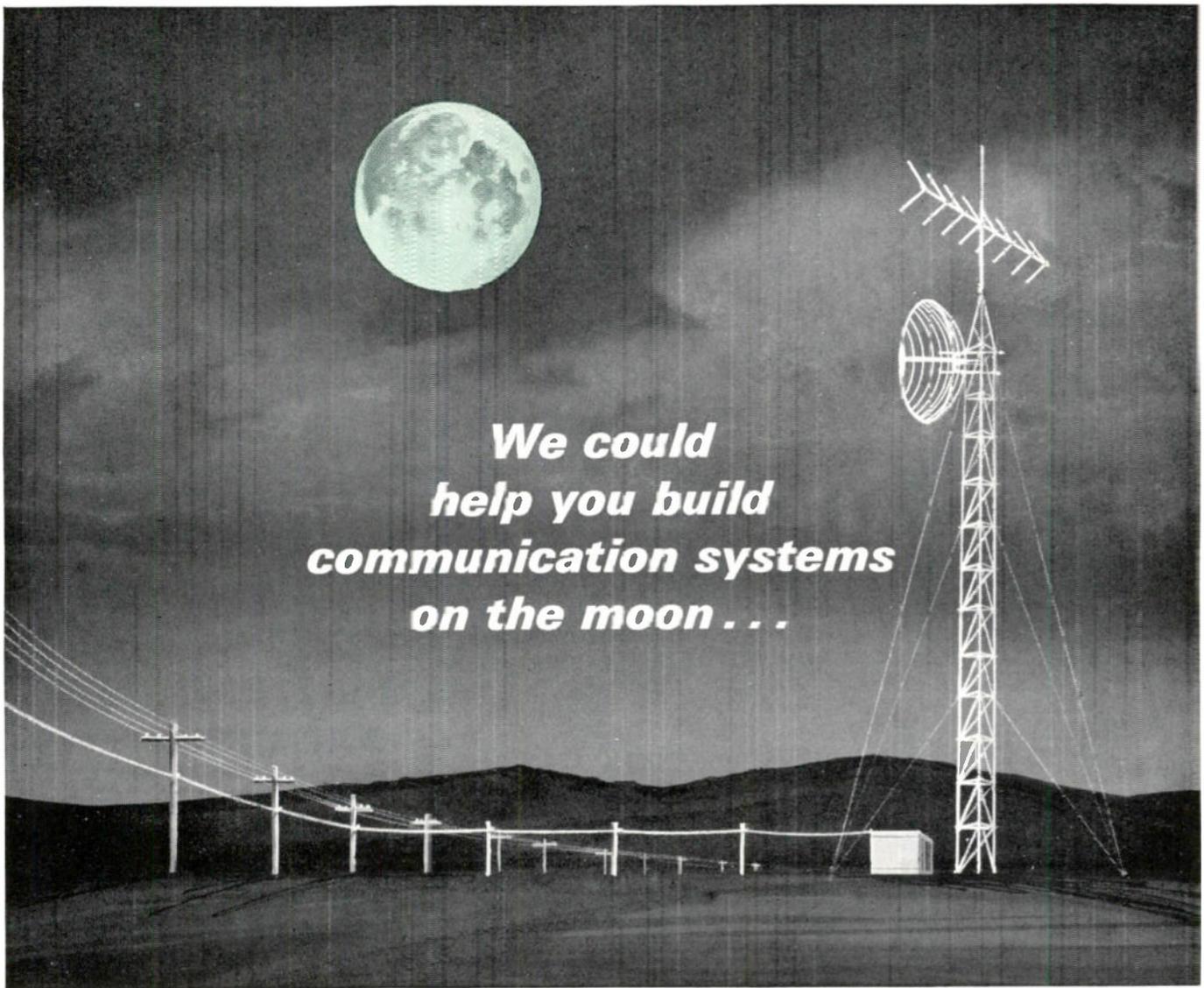
The CATV operator would like two things, a simultaneous-only agreement and the right to substitute the local station's program for that deleted.

Adding up these pluses and minuses the CATV operator emerges holding a strong hand. He can offer the broadcaster carriage of local station breaks both before and after the offending program or he can restrict his protection to network programs only, carrying all station breaks from the distant stations. He can also offer protection against prior carriage at certain non-network shows which are of particular importance to the broadcaster and can offer kind treatment in handling non-duplication publicity. In return for these considerable concessions he can ask the broadcaster a simultaneous-only agreement and permission to substitute the local station (and commercials) for those shows deleted.

These considerations have required some further refinements in the design of non-duplication switching equipment. We used to build switches to switch to any selected minute. This was and is necessary in order to accommodate odd length programs such as the 5 minute news shows currently carried on CBS and NBC.

Unfortunately station breaks are no longer nice round minutes. They are typically 73 seconds, 43 seconds and 32 seconds. For this reason we have modified our equipment design to permit switching at the beginning or end of any commonly used break period. This provision, we feel, gives the CATV operator the 'hold card' he needs in convincing the broadcaster that there's a better way to do it than the FCC way.

In conclusion, I suggest that, if you are a CATV operator you first acquaint yourself with the programming and economics of the local television station; and, if you are a broadcaster, that you approach the non-duplication problem from the standpoint of helping yourself rather than hurting the CATV system. You may be surprised at how easy and harmless non-duplication can be.



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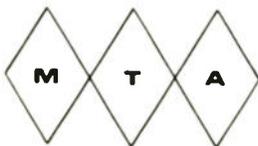
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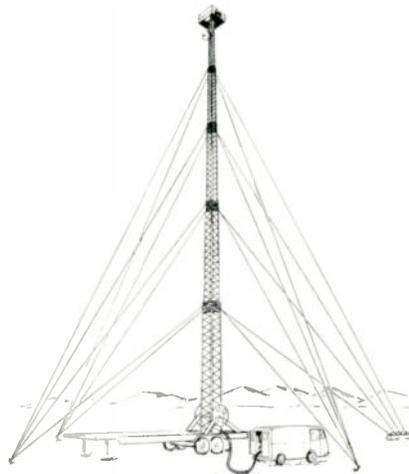


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# Emergency Tower For Cable Systems

A new mobile tower and installation unit are available to CATV and microwave relay system operators for use in emergencies involving tower damage and for system survey use. The "Quick-Erect" unit is made of aluminum, and mounted on a trailer for tractor-trailer transport. It is manufac-



tured by Andrews Towers, Inc. of Fort Worth, Texas, which has patents pending on the hoisting and locking mechanisms used on the unit.

Heights up to 410 feet are available, with top section adjustable for exact positioning in microwave applications. The tower is erected in sections, without installation personnel ever leaving the ground. As each section is raised, its own set of guys is drawn into position, and the section is locked into

place by bellcrank self-latching catches. These catches are designed to disengage automatically when the tower is lowered. Installation requires a four-man crew.

All necessary installation equipment and materials are carried on the tower trailer unit, as well as coax or wave-guide and antennas. The tower can be erected either on or off the trailer (which carries the unit's base plate) and includes built-in climbing steps. The all-aluminum, all-welded construction of the "Quick-Erect" is said to make air transport of the unit feasible.

Installation procedure for the tower is outlined in the following steps:

- (1) Position trailer.
- (2) Level and jack up trailer bed.
- (3) Raise stacked sections to vertical and secure.
- (4) Place and set guy anchors.
- (5) Set and fasten guy block.
- (6) Raise sections with truck-mounted winch and aft guy line.
- (7) Latch sections and fasten guys.
- (8) Adjust turnbuckles on four guys per section.
- (9) Fasten and adjust torque guy lines.
- (10) Connect and adjust RF equipment.

After it is erected, the "Quick-Erect" is handled like any other fixed tower. Guys which transverse pulleys during installation are made of wire rope . . . other guy lines are standard seven-strand guys—all are stored on the trailer for transport. Lighting equipment for the unit is available when required, and the trailer is equipped with a power generator. According to the manufacturer, installation of the "Quick-Erect" requires only four hours, plus transport time. The unit has other communications applications, of course, and can be equipped with an observation platform for other uses other than CATV and microwave. □

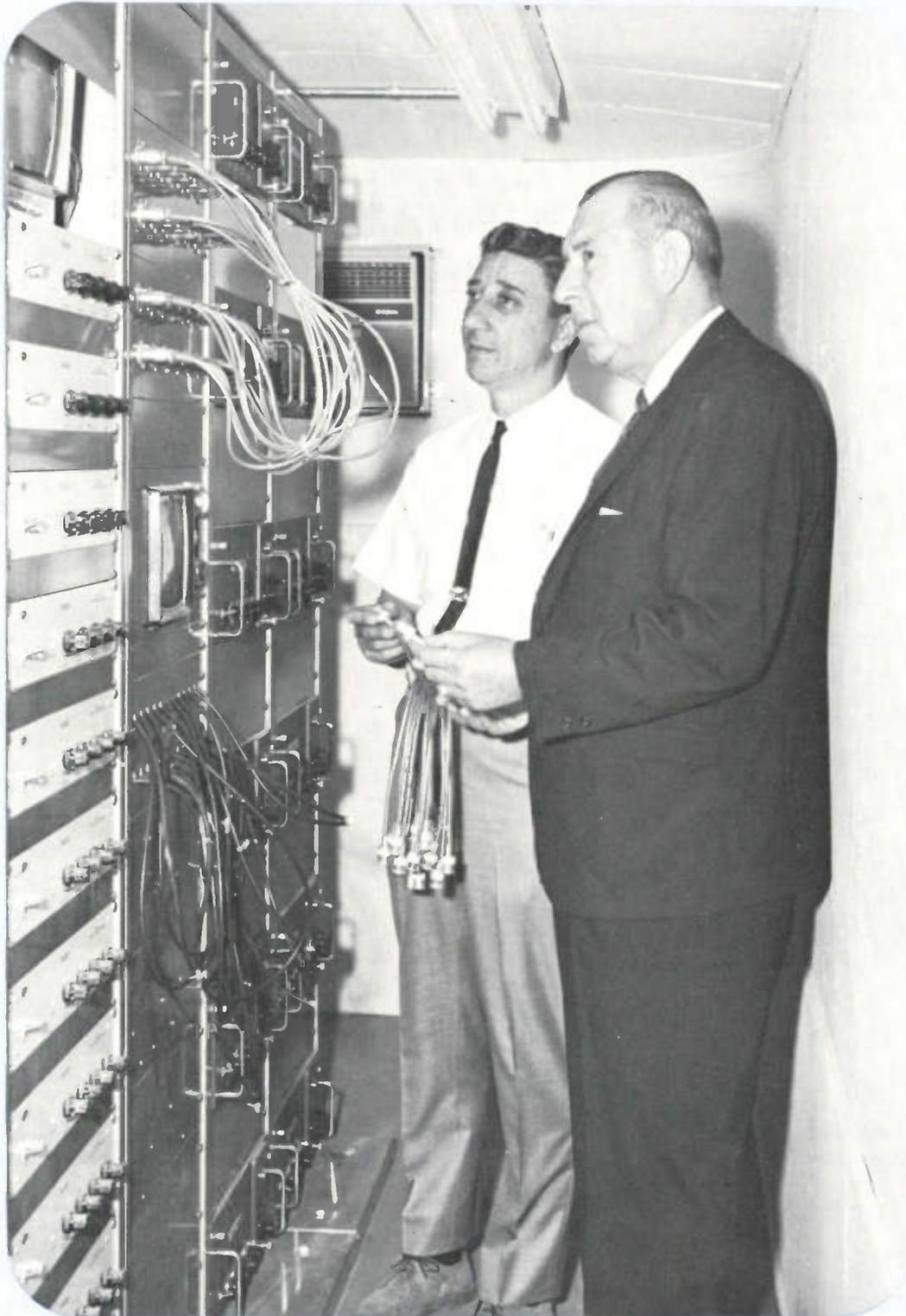
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- Antenna Array Characteristics
- Microwave Reflector Gain
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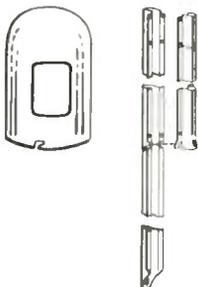
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PH614	6 $\frac{3}{16}$ "	14"	24"
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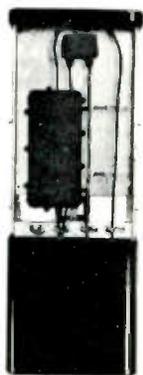


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# Antenna Array Characteristics

By J. B. Weston, Jr.  
Scientific-Atlanta, Inc.

Since the earliest days of CATV, there has been little information available to technicians concerning the performance of tower-mounted antennas and antenna arrays. Most technicians, of necessity, have relied on manufacturers' recommendations for mounting and arraying antennas. At best, the available information has been incomplete. The purpose of this article is to present, in the form of radiation patterns, typical performances which can be expected for antennas and antenna arrays commonly used in CATV systems.

To explain the characteristics, the advantages, and disadvantages of each array would entail a long analysis which is beyond the scope of this presentation. However, some broad conclusions can be drawn.

All radiation pattern measurements for this report were recorded on Scientific-Atlanta's Antenna Pattern Range. This range utilizes the most advanced equipment available for antenna radiation pattern measurements. A block diagram of the equipment used is shown in Figure 1. The overall level is accurate

to  $\pm 0.5$  dB, while the angular readout is accurate to  $\pm 1.0$  degrees.

The antennas used in preparing the data for this article are commercially manufactured, twin-driven-element yagis. Their specifications are quite respectable, as is witnessed by the wide-spread use of yagis in the CATV field. A 12-foot tower section, typical of the industry, was constructed to permit simulation of an average installation. All mounting hardware and RF harnessing was constructed or purchased in accordance with manufacturers' recommendations and is similar to the majority of CATV installations.

## SINGLE YAGI

The basic unit used in CATV is the single-yagi antenna. Many installations utilize a five-or-ten-element yagi for reception of local channels. Most systems mount the antenna on the side of the support tower as shown in Figure 3. An investigation was conducted to determine what affect the presence of the tower would have on the pattern of a ten-element yagi.

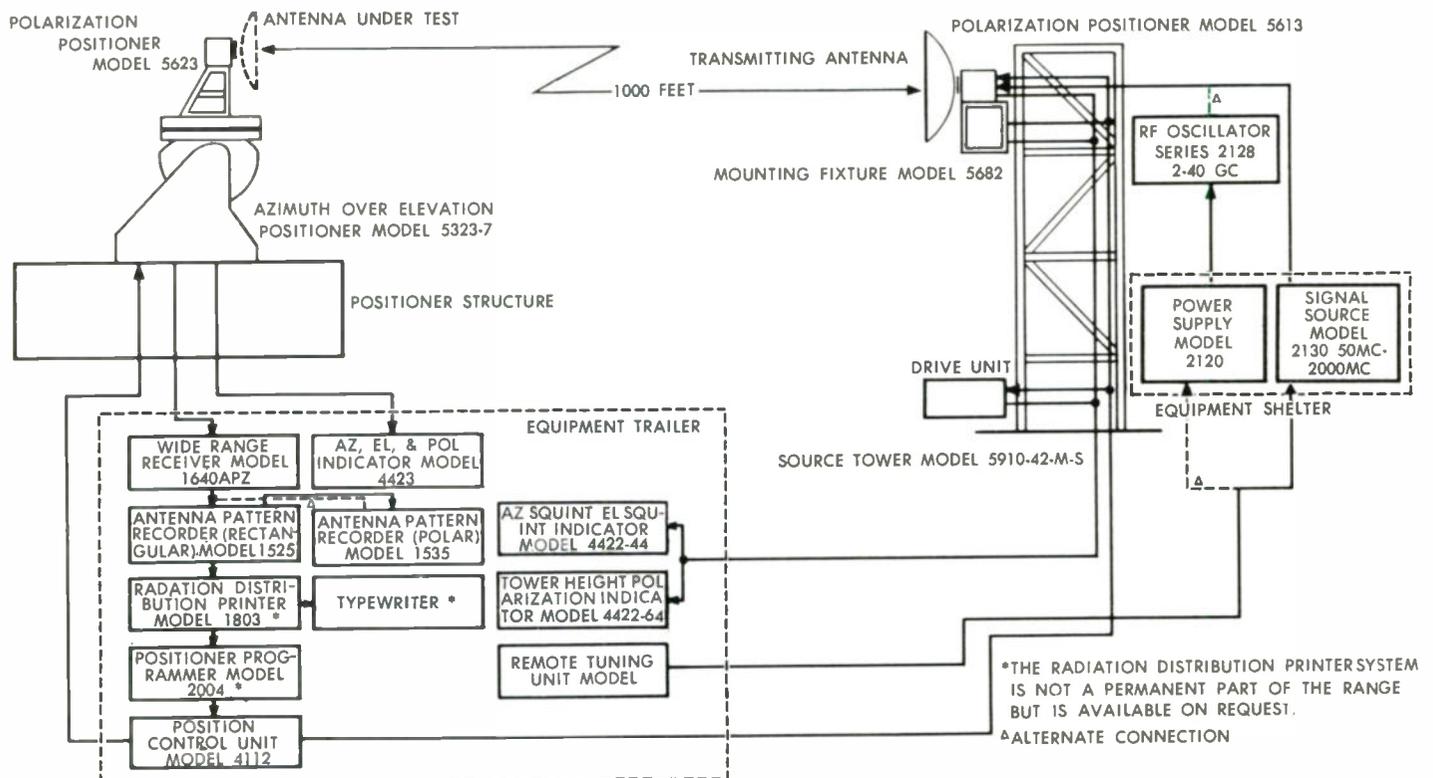


Figure 1. Block Diagram of Scientific-Atlanta Antenna Pattern Range.

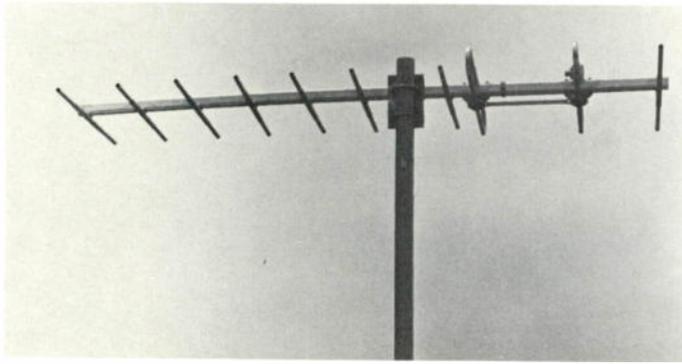


Figure 2. Mast-Mounted Yagi

First, patterns with the yagi mounted on a 1.5 inch OD pipe were made. A drawing of the antenna is shown in Figure 2. The patterns are shown in Figure 4a. A second set of measurements were performed with the same antenna mounted on a tower as shown in Figure 3. For the patterns shown in Figure 4b, the tower was on the left side of the main lobe. The physical spacing between the antenna and the tower was approximately 0.6 wavelengths. This spacing is larger than recommended by the manufacturer. The affect of the tower is obvious.

#### VERTICALLY STACKED YAGIS (J-STACK)

The next investigation was carried out to determine the performance of two vertically-stacked yagis. The most commonly used vertically-stacked array is the so called "J-Stack." As shown in Figure 5, the "J-Stack" requires a physical offset of one-quarter wavelength between antennas and one-quarter wavelength phasing line to provide in-phase signals in the forward direction and cancellation toward the rear. The purpose of this configuration is to improve the front-to-back ratio of the array. Figure 6a was recorded utilizing a coaxial "tee" with a one-quarter wavelength phasing line as recommended by the manufacturer. Figure 6d was recorded with a hybrid "tee" or two-way power splitter and phasing line. As can be seen from the patterns, the front-to-back ratio was improved over the single-yagi antenna. However, the hybrid "tees" provided significantly more improvement. The patterns were taken with a 1.5-inch mast. Pattern distortion, due to the presence of a support tower, would be similar to that shown in Figure 4d.

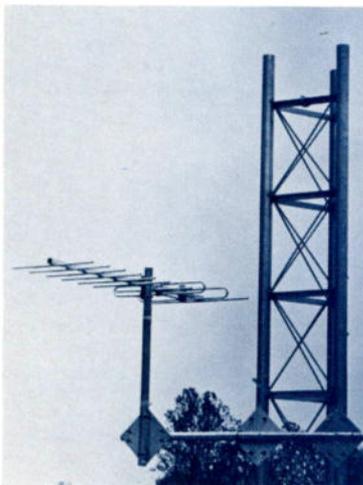


Figure 3. Tower-Mounted Yagi

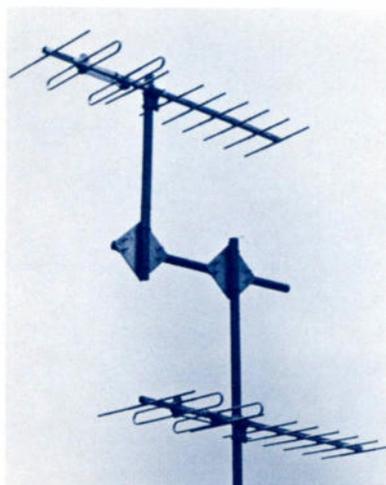


Figure 5. Mast-Mounted "J-Stack" for Co-Channel Elimination

#### OPTIMUM HORIZONTAL SPACING

Horizontal stacking provides narrow beamwidths in the horizontal plane and is used as a means of eliminating co-channel interference. The information on spacing for optimum gain is readily available from manufacturers' literature. Following the recommendations of the manufacturer, a horizontal-spaced array was fabricated. This is shown in Figures 7 and 8. The horizontal spacing was approximately 1.25 wave-

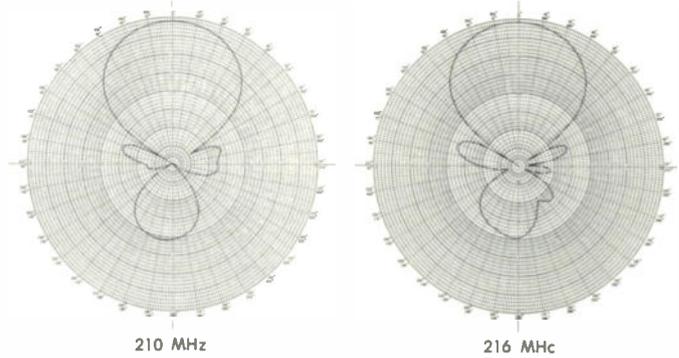


Figure 4a. Patterns of a Mast-Mounted Yagi

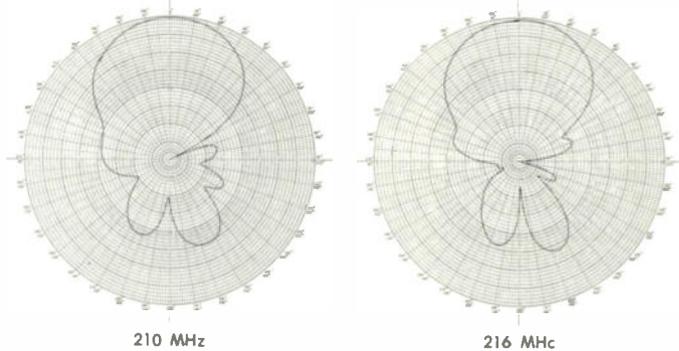


Figure 4b. Patterns of a Tower-Mounted Yagi

lengths. The data contained in Figures 9a-9c was recorded under the following conditions. Figure 9a mast-mounted as shown in Figure 7 with coaxial tees and matching transformer comprising the RF harness. Figure 9b mast-mounted as shown in Figure 7 with hybrid "tees" or two-way power dividers comprising the RF harness. Figure 9c tower-mounted as shown in Figure 8 with RF harness consisting of hybrid

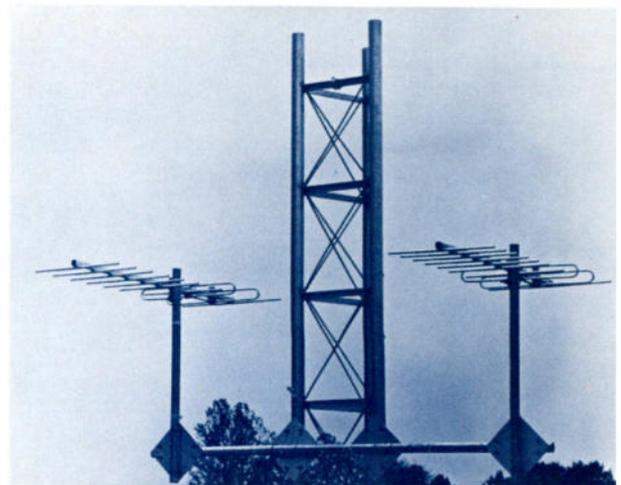
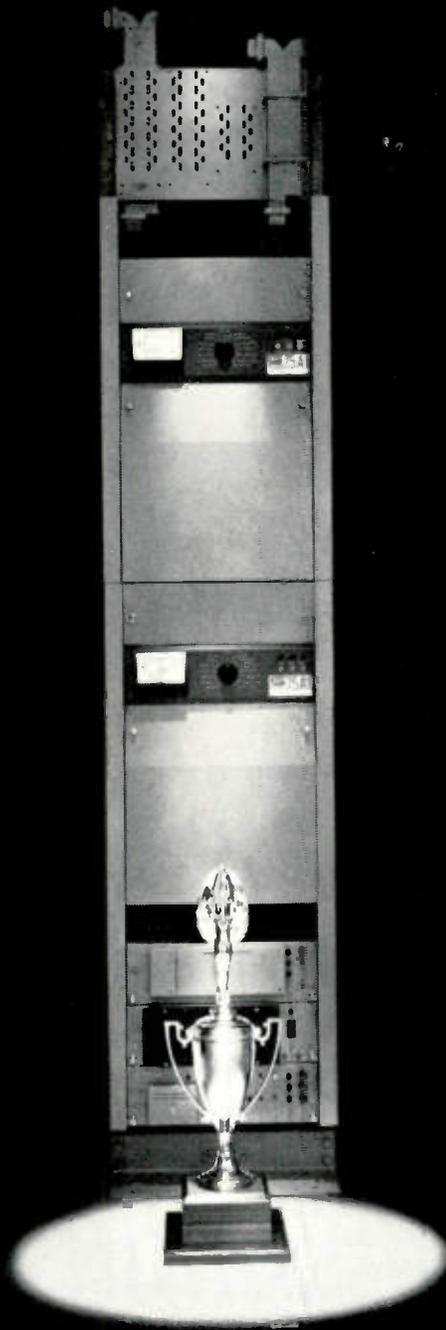


Figure 8. Tower-Mounted Horizontal Stack



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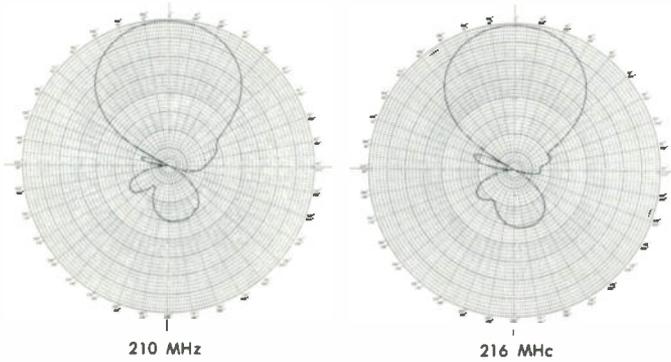


Figure 6a. Patterns of a "J-Stack" using Coaxial "Tee"

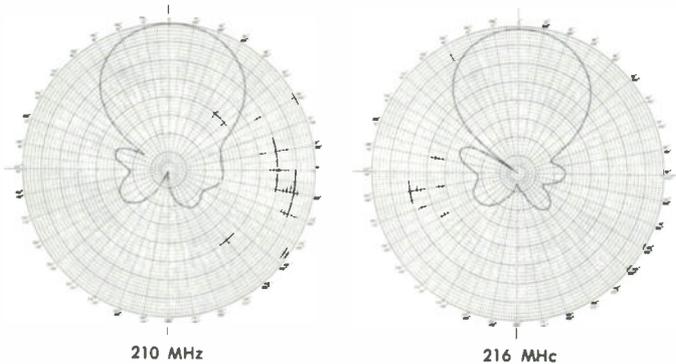


Figure 6b. Patterns of a "J-Stack" using Two-Way Power Divider

"tees" or two-way power dividers. Matched cables were used in all three cases.

Note that the radiation pattern is not significantly changed whether coaxial "tees" or power dividers are used. However, as can be seen, the tower changed the pattern considerably.

Theory indicates that optimum gain spacing results in side-lobe levels of approximately 13 dB. It is interesting to note the relative agreement between theory and practice for this particular array.

#### HORIZONTAL SPACING TO FORCE A NULL

The next set of data recorded presents an interesting study of forcing a deliberate null in a given direction. Since the array factor, to a large extent, dictates the radiation characteristics of an array, it is feasible to use this knowledge to control array patterns for a particular situation. Given a specific direc-

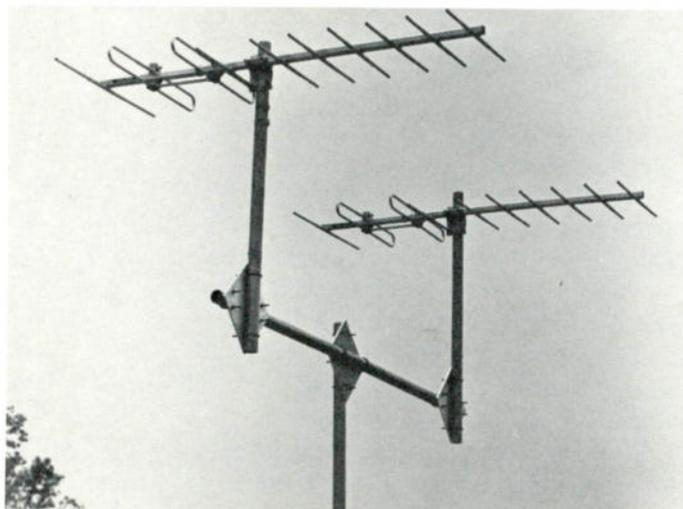


Figure 7. Mast-Mounted Horizontal Stack

tion in which a null is desired, the following equation can be used to determine the required spacing:

$$\sin \theta = \frac{1}{2 d/\lambda}$$

Where  $\theta$  = the direction of the desired null and  $d/\lambda$  = horizontal spacing in wavelengths.

Assume one wishes to have a null at approximately 40 degrees from the main lobe (this would also result in nulls at 120, 220, and 320 degrees from the main lobe). Application of the above formula indicates that the spacing between antennas should be 0.7 wavelength. A horizontal-spaced array was constructed. This is shown in Figure 7. Figure 10a is radiation patterns for the 0.7 wavelength spacing when mounted on a 1.5-inch OD mast. Note that the nulls occur as predicted. In addition, the sidelobe levels are much lower than those obtained for optimum gain spacing (Figure 9b). However, the lower sidelobe levels were obtained at the expense of reduced gain. This is demonstrated by a check of the array half-power beam-

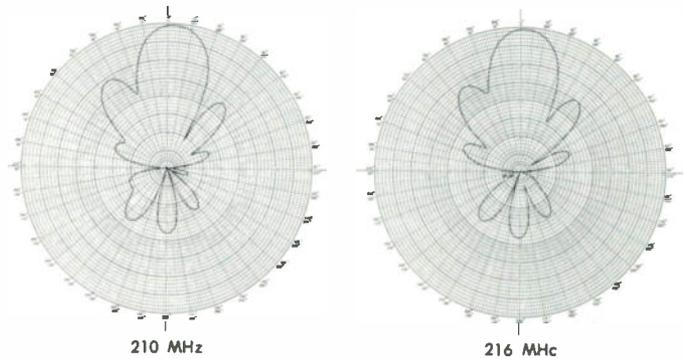


Figure 9a. Optimum Horizontal Stack, Mast-Mounted, using Coaxial "Tee"

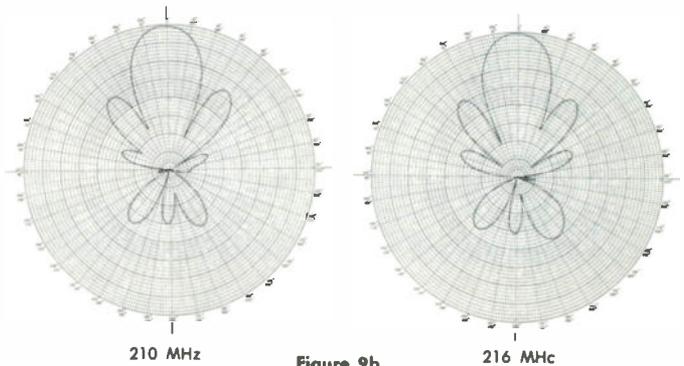


Figure 9b. Optimum Horizontal Stack, Mast-Mounted, using Two-Way Power Divider

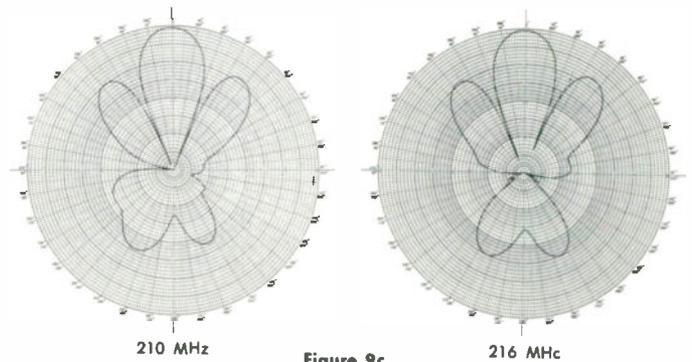


Figure 9c. Optimum Horizontal Stack, Tower-Mounted, using Two-Way Power Divider

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width. The optimum-spaced array has half-power beamwidths of 24 degrees, while the 0.7 wavelength-spaced array has half-power beamwidths of approximately 36 degrees. Figure 10b is radiation patterns of the same array supported by a tower as shown in Figure 8. The effect of the tower was to essentially destroy the predictable nulls of this array.

Consider the requirement of having a null 12 degrees from the main beam (this would also result in

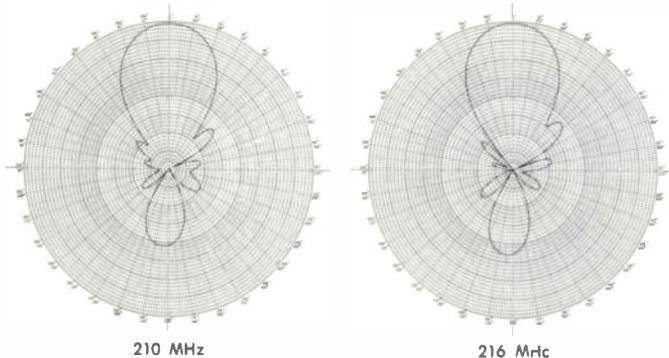


Figure 10a. Horizontal Stack, Mast-Mounted, 0.7 Wavelength Spacing

nulls at 168, 192, and 348 degrees from the main beam). The required spacing for a null at 12 degrees is 2.5 wavelengths. Figure 11a is radiation patterns of a mast-mounted array with 2.5 wavelength spacing. Note that the null position is accurately predicted. The sidelobe level has increased to only 4 dB below the main beam. This is due to the large spacing. This large sidelobe level results in a decrease in gain over the optimum-spaced array. Figure 11b is the same ar-

ray supported by a tower. Note that in this case the tower had only a minor affect on the patterns. The influence of the tower is reduced due to the wide spacing of the antennas from the tower.

### CANTILEVERED ANTENNAS

Two types of antenna construction which tend to minimize the effects of the support towers on antenna performance were investigated. These antenna

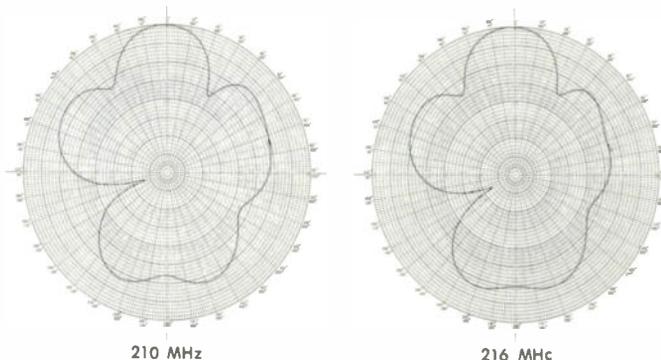


Figure 10b. Horizontal Stack, Tower-Mounted, 0.7 Wavelength Spacing

types are cantilevered, screen-back yagis and cantilevered, log-periodic dipoles. The screen of the screen-back yagi tends to minimize the influence of the support structure. The inherent high front-to-back ratio of the log-periodic dipole also tends to minimize the effects of the support structure.

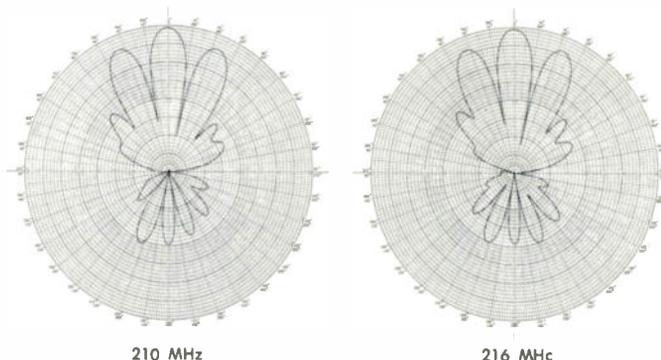


Figure 11a. Horizontal Stack, Mast-Mounted, 2.5 Wavelengths Spacing

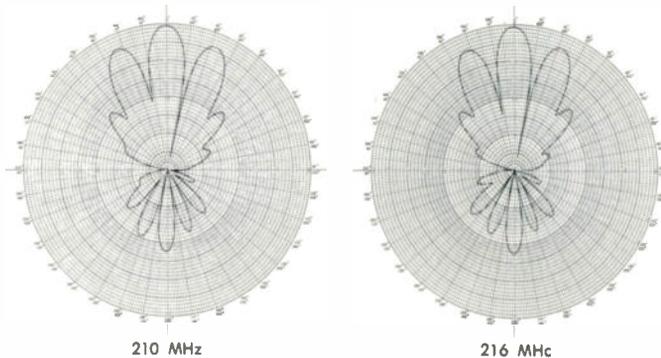


Figure 11b. Horizontal Stack, Tower-Mounted, 2.5 Wavelengths Spacing

Figure 12 shows patterns of a screen-back yagi mounted on a leg of a tower. Patterns with and without the tower were so similar that only those taken on the tower are shown. Figure 13 shows a pattern of a cantilevered log-periodic dipole mounted on a tower. Again, the patterns with and without the tower were so similar that only those taken on the tower are shown.

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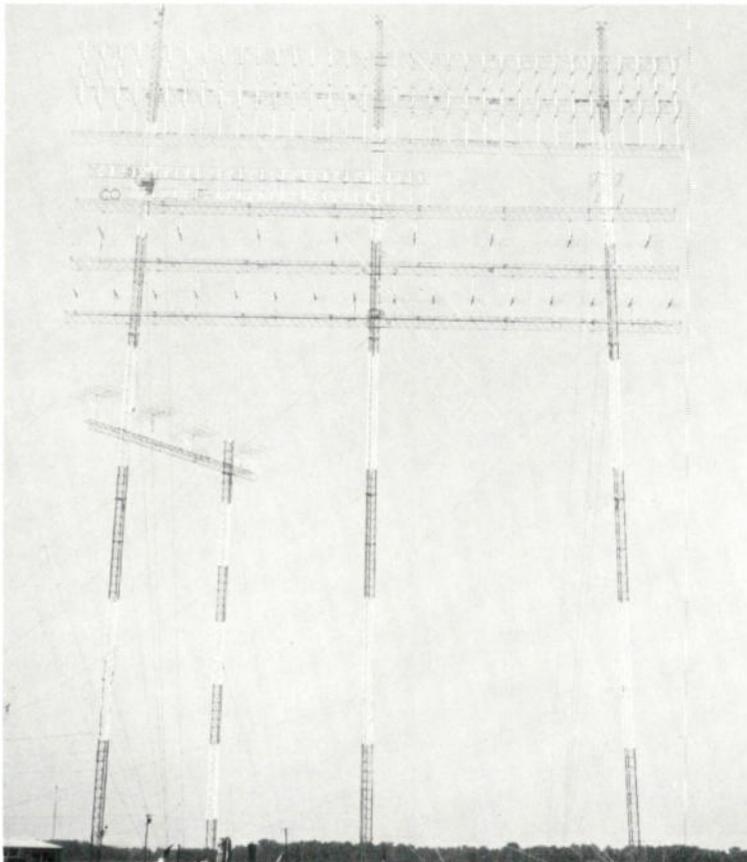
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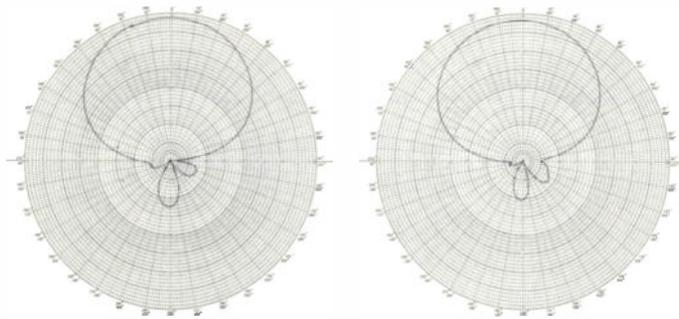
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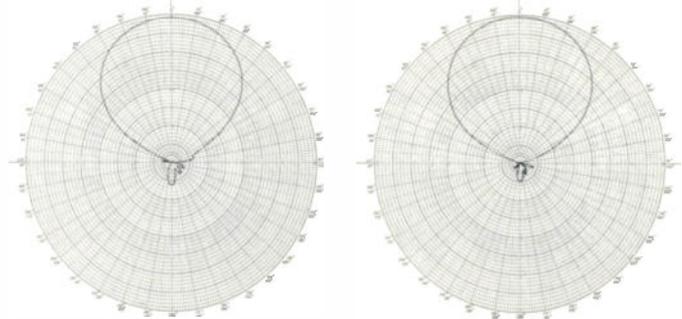
## CONCLUSION

Through the presentation of data, it has been shown that antenna characteristics may be predicted only when all influencing parameters are taken into consideration. The support tower in most cases will

Only through the use of mounting techniques which minimize the influence of the support tower, or through the use of antennas that are designed to minimize the influence of the support tower, can accurate prediction of array performance be made.



210 MHz  
216 MHz  
Figure 12. Tower-Mounted, Screen-Back Yagi



210 MHz  
216 MHz  
Figure 13. Tower-Mounted, Log-Periodic Dipole

influence the performance of the array. Even with the limited amount of data presented, the complexity of trying to analyze the distortion support towers will introduce becomes apparent.

It is hoped the data contained in this article will give the CATV technician a better understanding of antenna characteristics and provide a basis for improved techniques in fabricating arrays. □

## You Have to Give to Get

By Robert E. Cowley  
Flagstaff Television & Cable Co.

What makes a good cable system? Personnel! What makes a dead cable system? Personnel. A good cable system doesn't just grow — devoted personnel have to help it to grow. Do you want a good running business? Manager and personnel, together, have to work to bring it about. If the manager sits in his office, expecting people will just naturally sign up with him he has another think coming.

A cable system manager that offers outstanding service to his community in the field of civic service is building an image for his company. If the manager ignores the civic demands made upon him for donation of service to his community, eventually he can expect to be a forgotten man. He should always be building an image as "Mr. Cable TV." If the residents want *him* to do the thinking for the town and the school, and *him* to give the time and effort to bring advancement for the town and the school, while they use their time for something else, this he should do. The image that is built by the manager of a cable system is the best insurance in the world for his company. The local newspaper will always play up the

civic activities of a company and its personnel.

Everyone gets an enormous personal thrill out of the thought that his city is perhaps a little the better place to live in, because he helped it grow.

If you work sincerely and unselfishly for your community, you will find that it can be a blessing for your company. If you hope that somebody else will do your work for you while you say no, to the civic demands made upon you, you will discover—and to your sorrow, that the community is passing you up. Service to others above self will help to pay off in the long run and pay dividends to the cable system.

The cable company must make as its basic phase of public relations, the highest degree of efficiency and the most pleasant kind of service possible. It must be careful that its telephone and desk girls are constantly pleasant to callers, that its repairmen are well dressed, clean and polite, that bills are handled carefully, and all claims and complaints given gracious hearings. More than in any other field, public relations is most important at the public-meeting level in a cable system. □

## Calendar

**NOVEMBER 2.** NCTA Region 3 will meet at the Dinkler Plaza Hotel in Atlanta, Georgia, in conjunction with the Alabama CATV Association. For details, contact Milton Underwood, Muscle Shoals TV Cable Co., 121 South Court Street, Florence, Alabama.

**NOVEMBER 2-3.** The Pennsylvania CATV Association will hold its annual meeting at the Pittsburgh Hilton Hotel, Pittsburgh, Pennsylvania. For information, contact William Taylor, 129 Main Street, Bradford, Pennsylvania.

**NOVEMBER 4.** NCTA Region 4 will meet at the Skirvin Hotel in Oklahoma City, Oklahoma, in conjunction with the Mid-America CATV Association. Contact G. H. Dodson, Box 24, Sayre, Oklahoma.

**NOVEMBER 13-16.** The California Community Television Association will hold its fall meeting at the El Mirador Hotel in Palm Springs, California. Contact Walter Kaitz, Suite 1506 Latham Square Building, Oakland, California 94612 for reservations or further details.

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# Determining Microwave Antenna-Reflector Gain

By James S. Kreitzberg  
President, Microflect Co., Inc.

The following tables and curves provide a simple method to determine the antenna-reflector gain in a microwave periscope link path.

The performance of an antenna-reflector periscope system is a function of the system frequency, the antenna-reflector spacing, the antenna diameter and the size of the reflector. Figures 1 and 2 can be used to calculate the gain for any periscope system.

First, determine the antenna gain by using Figure 1. Secondly, select the value of " $\ell$ " from Figure 2. Third, run through Figure 3 to the corre-

sponding " $\ell$ " curve and read left for the value  $\infty n$  in db. The net gain is the sum of the antenna gain and  $\infty n$ .

Example:

Frequency: 11 GHz (a) " $\ell$ " = 1.0 (from figure 2)  
Antenna-reflector spacing: 100 ft. (b) " $G$ " = + 48 db (from figure 1)  
Size of parabolic antenna: 10 ft. (c)  $\infty n$  = - 1 db (from figure 3)  
Size of reflector: 10 x 15 ft. (d) Net gain = +48 - 1 = + 47 db  
References: Microflect Passive Repeater Engineering Manual 161 and Microflect Elliptical Reflector Bulletin TM-466.

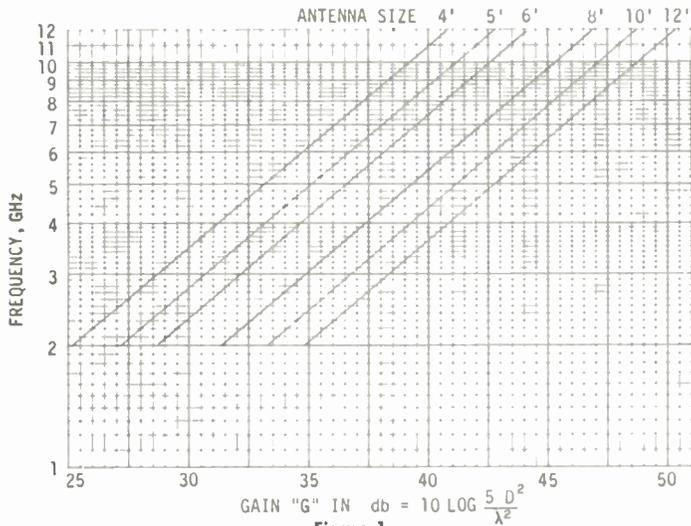


Figure 1.

VALUES FOR $\ell = \frac{D}{W}$						
REFLECTOR	ANTENNA SIZE					
	4'	5'	6'	8'	10'	12'
4 x 6	1	1.25				
6 x 8	0.67	0.83	1			
8 x 12	0.5	0.62	0.75	1	1.25	
10 x 15	0.4	0.5	0.6	0.8	1	1.2
12 x 17	0.33	0.41	0.5	0.67	0.83	1

Figure 2.

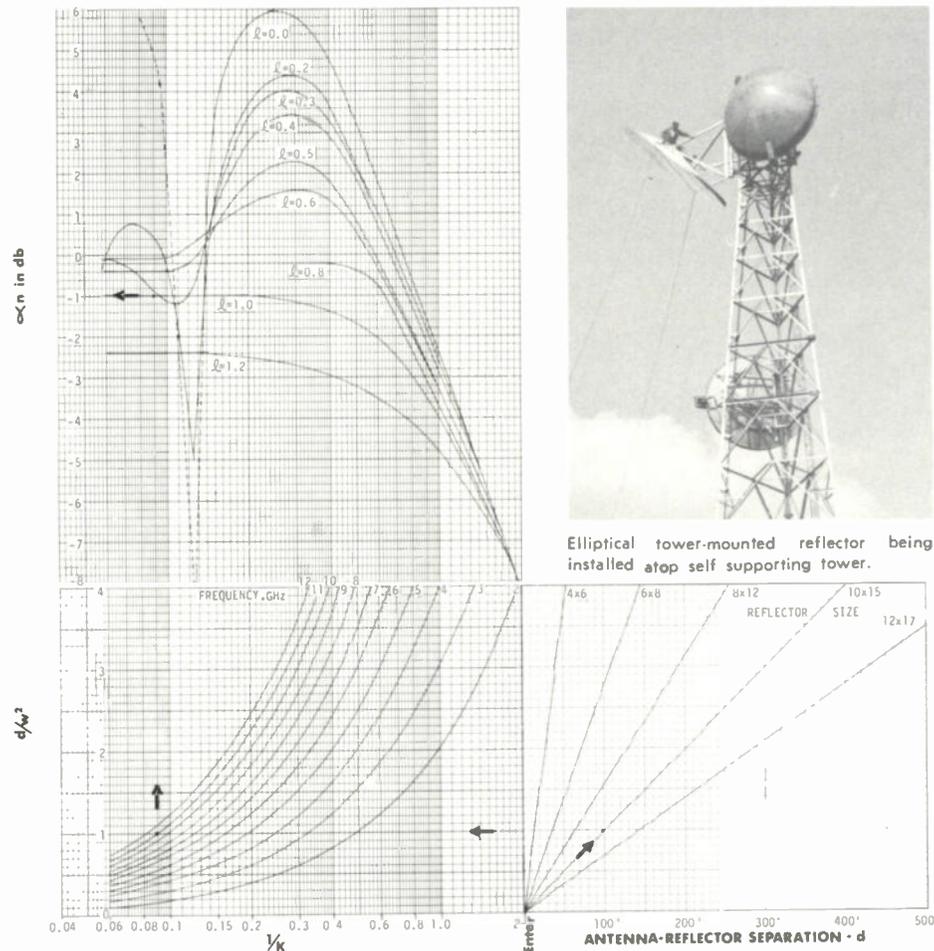
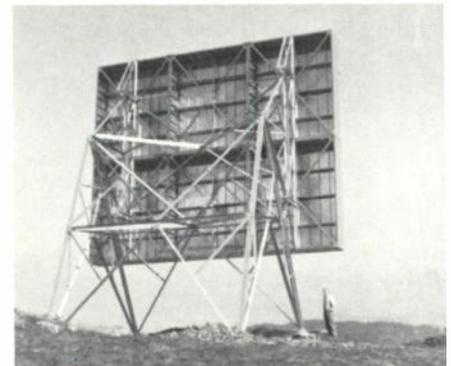


Figure 3.



Elliptical tower-mounted reflector being installed atop self supporting tower.



20' x 24' passive repeater used to relay 43 video channels.



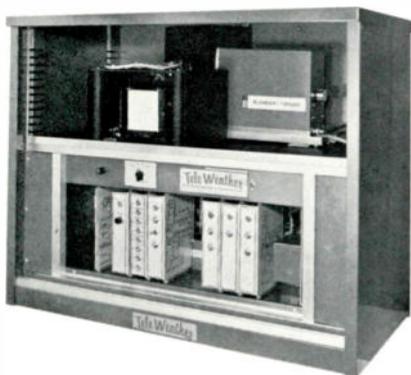
Microwave antenna used to illuminate a tower-mounted reflector.

# PRODUCT REVIEW

NEW COMPONENTS FOR CABLE TELEVISION SYSTEMS

## ECONOMY WEATHER-TIME SYSTEM

A new, lower priced model of the TeleWeather non-scanning video weather and time display system was introduced by Electronic Systems Development, Inc. Called the Model TW-2, the solid-state system offers five weather functions, time, and three message positions. The unit's price is \$4185.00 in-



cluding camera which removes for studio use. Like the larger Model MKW-2C TeleWeather, the economical Model TW-2 features pop-on, pop-off dissolve action between display functions (no scanning), single unit weather head package and fluorescent-neon lighting for long life. For additional information write Electronics System Development, Inc., 1818 Westlake Avenue North, Seattle, Washington 98109.

## NEW ITT SERVICE

Federal Electric Corp., the ITT Service Associate, has recently designed and constructed a TV signal survey van. Capabilities of the van, and manners in which CATV operators can utilize it are outlined in a brochure available from Federal Electric Corp., Industrial Avenue, Paramus, New Jersey 07652.

## JERROLD REFERENCE BOOK

A new edition of Jerrold's pocket-size CATV systems reference data book, the SD-6, has been published, according to Jerry Hastings, manager of Jerrold Electronics CATV Systems Division. The new edition includes frequency data for sub-VHF, VHF, and UHF channels; coaxial cable descriptions and cable attenuation data for all sub-VHF and VHF channels together with the formulae from which the data was derived; functional descriptions of cable connectors, fittings, etc.; splitter/mixer data; pressure tap block and tap insert data; and pages of graphs, test set-up charts, and formulae. You

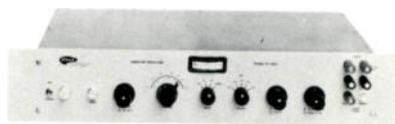
can obtain a free copy from Jerrold Electronics Corp., CATV Systems Division, 401 Walnut Street, Philadelphia, Pennsylvania 19105.

## CABLE FAULT LOCATOR

A new model cable fault locator incorporating an ohmmeter has been introduced by the Delcon Division of Hewlett-Packard Company. Designated the Model 4901A Cable Fault Locator, the 15-pound battery-operated instrument locates the path and depth of buried or underground cable, and shorts, crosses and grounds in buried, aerial or block cable. According to Delcon Division's General Manager, Alan B. Simpkins, the 4901A was developed after two years field experience with its predecessor, the widely used 4900A. The new Model 4901A costs \$695, complete with probes and comprehensive instructions. Contact Delcon Division Hewlett-Packard Company, 943 Industrial Avenue, Palo Alto, Calif. 94303.

## SOLID-STATE SIDEBAND ANALYZER

Dynair Electronics, Inc. has announced the development of a solid-state sideband analyzer for use in alignment of CATV modulators. The Model TS-100A Television Sideband Analyzer is tunable through all 12 VHF channels and provides facilities for video modulation of the unit under test plus analysis of the RF output. The TS-100A is said to eliminate point-by-point measurement of frequency response by providing a video sweep signal which modulates



the video transmitter. The resulting sidebands are analyzed, and a detected response is presented to an oscilloscope, showing upper and lower sidebands in correct relationship to the carrier. This enables the user to visualize the dynamic response characteristics of his modulator and make any required adjustments. In addition, the video sweep output is available for test or alignment at video frequencies. The TS-100A is compatible with most commercial oscilloscopes having vertical and horizontal input deflection responses of at least 10 CPS through 1000 CPS. It is designed to be installed in a 19-inch rack. For further details, contact Dynair Electronics, Inc., 6360 Federal Blvd., San Diego, California 92114.

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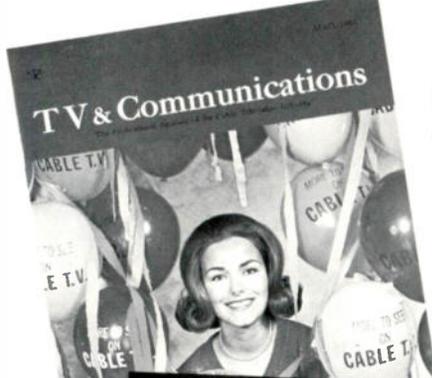
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