

CPC

October, 1970

P 27

# TV Communications

P 80581

The Professional Journal of Cable Television



In This Issue...

Electronic Editing  
Hosting TV Interviews  
Graphics for TV

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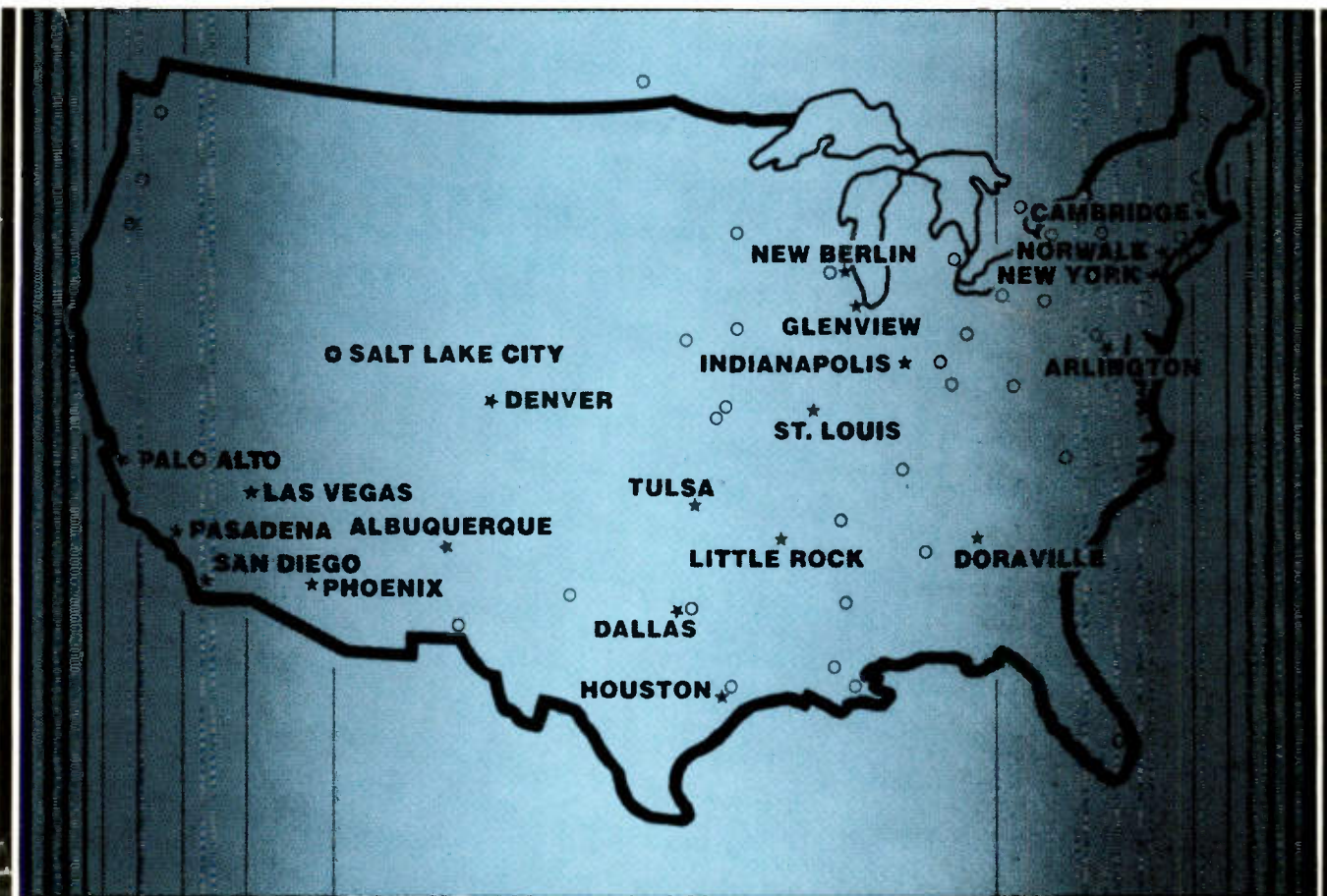
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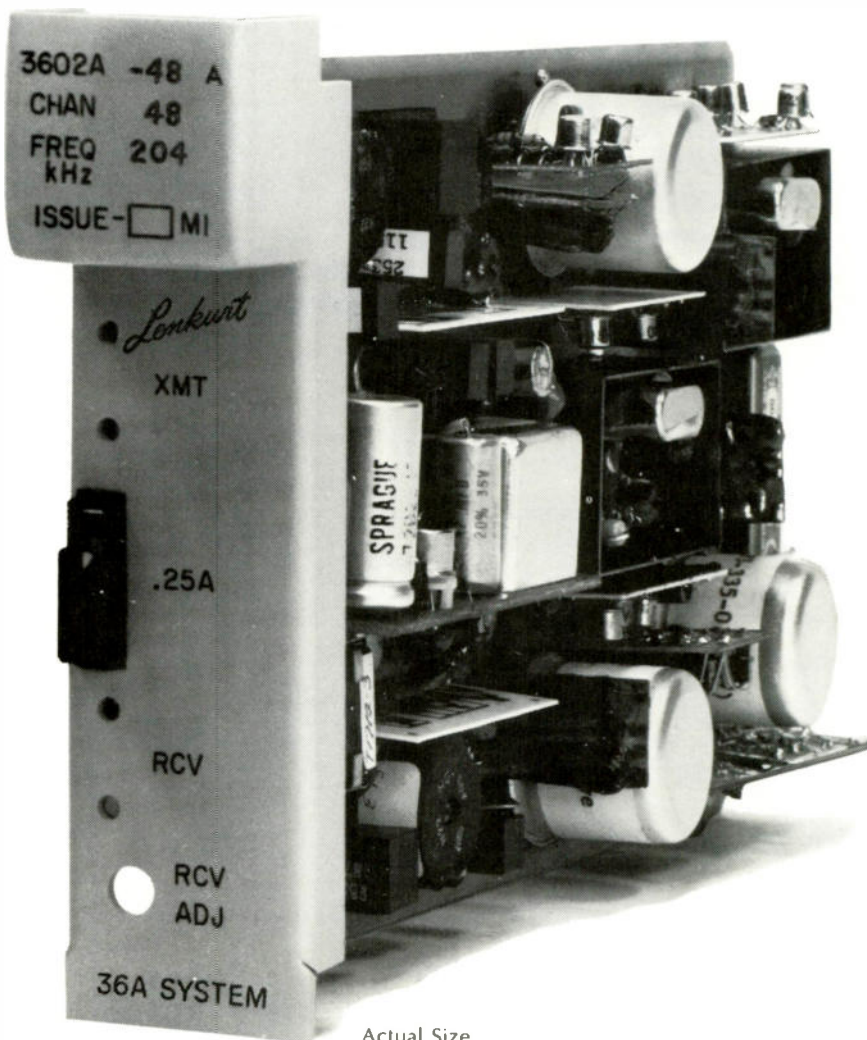
**TELEMATION**

**TALK TO TELEMATION THE ON COMPANY**

October 1970, Volume 7, Number 10

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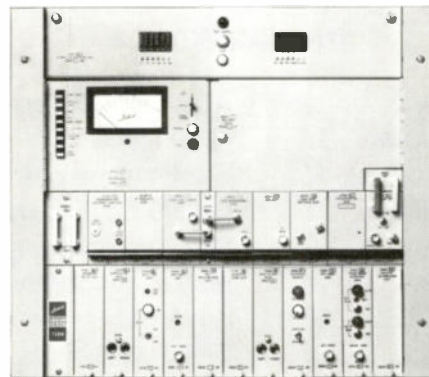
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# TV Communications

The Professional Journal of Cable Television

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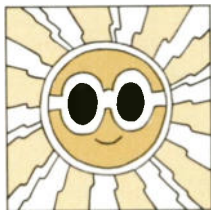
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# The TVC Viewpoint

## EDITORIAL



Robert A. Searle  
Editor

## Time—and Numbers—on the Side of Cable

The National Association of Broadcasters and other powers stand behind the Kingdom of Status Quo. Some cablemen shrink back from the PR noise of mustering giants and cling securely to the claim they staked years ago — when cable was a harmless child.

But now cable is emerging from its adolescence and stands at the threshold of the Big Time. Problem is, *cable* stands at that threshold, while a lot of *cablemen* don't. They continue to cultivate the small plot of ground they've held for years, confident their squatters' rights will be protected. "Grandfathered" is a magic word to them.

Unbeknown to them, they are the strength of this industry — the backbone that has made it what it is today. An even less evident fact is that they are the force that will make *or break* CATV tomorrow.

Although the mammoths faced by the industry are well armed with glistening PR weaponry, they lack two things cable has — sheer numbers and a technology which is increasingly capturing the excitement of the public.

Cablemen outnumber broadcasters three to one. Money speaks loudly, and the TV broadcast industry has a lot of it. But the thousands of CATV voices carry a weight which is woefully underrated — especially by cablemen themselves.

The point is this: The cable tele-

vision industry needs to stop worrying about its weaknesses and start capitalizing on its strengths. Armed with the strength of numbers, CATV can carry influence in Washington — both at the FCC and on the Hill — that is unmatched.

The following steps are suggested for every system manager and chief engineer:

(1) Bone up on the FCC's proposed rules

(2) Evaluate their effects on *your* operation

(3) Make your position known to NCTA

(4) Send a letter to FCC Chairman Burch, stating the same thing

(5) Send the same letter to your representative and U.S. Senators

(6) Back up your talk with campaign support money. (\$75.00 will win a hearing and probably a personal reply from nearly any member of the House of Representatives. It may take more to attract the attention of a Senator, but a contribution of \$50 to \$200 will do the job.)

(7) Stand behind the Political Action Committee for Cable Television. PACCT will support key members of Congress who already have a sympathetic ear for CATV. It only costs \$99 to become a member.

Standing firmly on our strengths, CATV can make it through the next critical year with flying colors and come out with the full right to fill its new shoes.

# We've proved AML microwave here.



## Now we're set for CATV systems

For three years, we've been proving the practicality of this new concept in CATV distribution. In the concrete canyons of Manhattan. Across remote reaches of New Mexico.

Now we have FCC approval to use AML in the 12 GHz band as a supplement to cable distribution systems. Anywhere.

Suppose you want to extend your cable TV plant into outlying areas. Only they're too far away to warrant the trunk cable and headend investment.

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AML stands for Amplitude Modulated Link. It can transmit four TV channels in the same spectrum space used by one FM channel. It's compatible with all existing CATV

# And here.



## anywhere in between.

systems and utilizes the same channels normally carried on cable.

In the city, separate receivers in each block can end the costs and complications of underground duct construction or overhead cable. You bypass rivers, freeways, rail terminals.

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I'm interested in AML

for an existing CATV system.

for a future system.

TV

# Perspective

---

## on the news



B. Milton Bryan  
Executive Editor

Polarization of interests in CATV is probably going to increase. It appears the big-market operations and the traditional antenna-reception systems are just in two different leagues. This is not an unusual pattern for rapidly evolving industries.

Although the little operator stands to benefit significantly from growth of CATV into the major markets, he stands to lose very little of what he has today if cable is kept out of the big cities.

Meanwhile, the bigs concentrate most of their efforts on the acquisition of franchise properties in the coveted majors. They are confident the FCC will give cable some sort of break, and they know they have to be in a franchised position to take advantage of it.

Most of the bigs will get bigger. More capital and increasing numbers of specialized staff members are needed to build in metropolitan areas, so mergers with other cable companies and larger parent companies will be seen in increasing numbers.

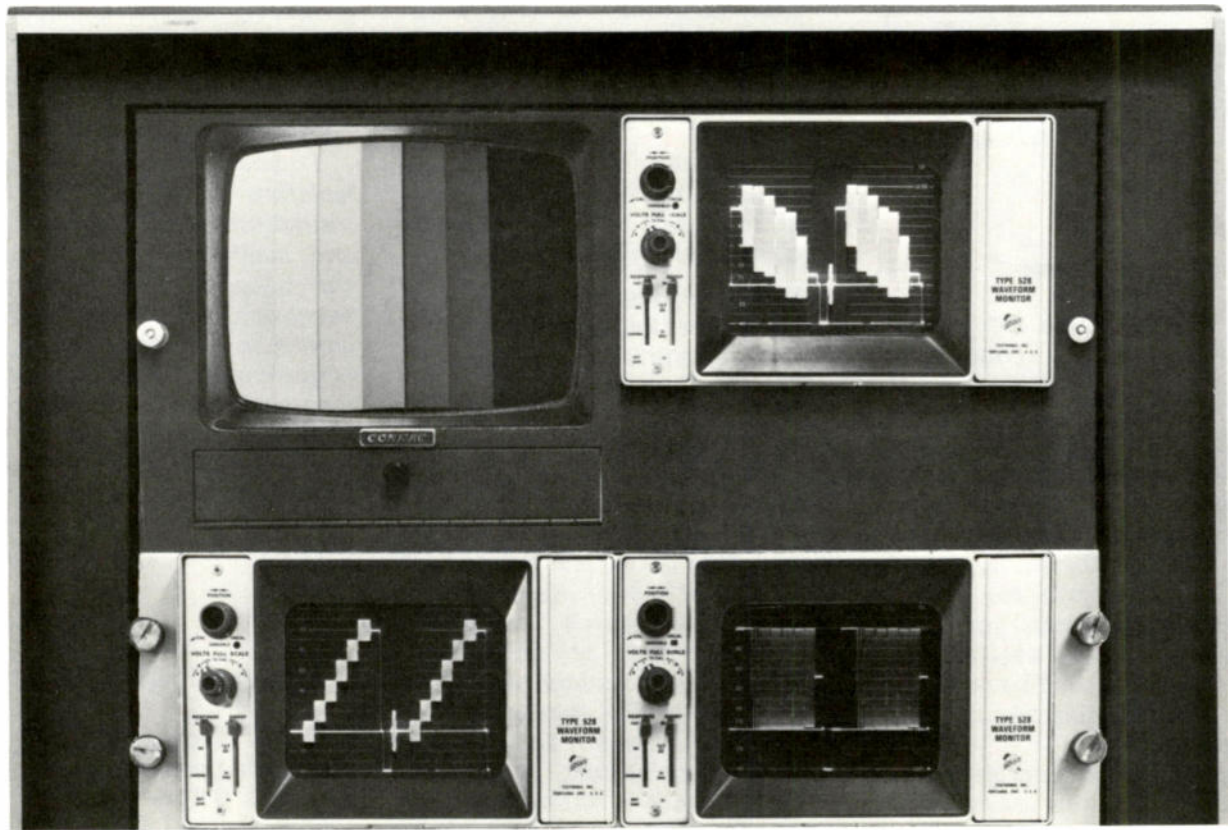
Some companies will probably overextend themselves. Tough competition for franchises and the promise of huge rewards will tempt some MSO's to make commitments a little too far beyond the line of security.

Although nobody is likely to go out of business, the over-eager and over-extended may have to curb future expansion plans, and move more slowly on the development of existing properties. Some will be faced with a liquidity crisis, and will be forced to sell off properties or be acquired.

Companies which secure financing in mammoth amounts and those which were fortunate enough to pick up public money before the market soured (notably TelePrompTer, Tele-Communications and Cablecom-General) will be the ones heading the list.

The same trend will occur in manufacturing. Companies such as Kaiser, Jerrold, Anaconda, RCA and Sylvania which have huge diversified firms standing behind them, stand to benefit the most from massive cable growth. Although the sluggishness of big-business tempo will mitigate against rapid movement into the industry, the abundance of money and depth in technical and engineering expertise will more than overcome the tendency toward sloth-like movement.

Some manufacturers, too, will be faced with a liquidity crisis. Don't be too surprised to see at least one old-line manufacturer acquired in the next six months. One or two may even just close their business doors.



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# LETTERS

## Underground Headaches

• With the telephone companies' more lenient policy concerning rental of underground duct space to CATV operators, a problem is raised for the corrosion engineer responsible for the protection of the extensive lead sheathed cable found in a typical urban telephone system. Bonding the underground cables to other utilities (water pipes, electric neutrals) provides the dissimilar metals necessary to create a galvanic cell. The resulting current is damaging to the lead cable sheaths.

To prevent such damage, many telephone companies attempt to isolate their underground plant from the aerial plant and from other utilities. Insulating joints are placed in the sheaths of pole riser cables, in building entrance cables and in all cables entering a central office. Such isolation must be complete or the effect is negated.

Frequently, when a CATV operator places cable in the telephone underground ducts, the metallic shield of the CATV coaxial cable is bonded to the electric neutral and grounded to the water system. For the safety of both companies' workmen, it must also be bonded to the telephone cables, thus destroying all attempts at isolation of the underground telephone plant.

To overcome this problem, two alternatives seem available. They are:

(1) In all riser cables from the underground system, insulating joints, bridged by an RF frequency capacitor, could be placed in the coaxial cable shield. Only the direct current must be stopped to prevent corrosion.

(2) Metallic isolation of the underground CATV plant could be provided. This would require complete insulation (plastic coating, taping) of all metallic equipment, including ampli-

fiers, taps, etc., so that workmen could not experience a voltage differential between a telephone cable and the CATV cable.

Are either of these technically feasible? This is a problem that must be faced, as CATV expands into the metropolitan areas.

E. W. Dreyman,  
Corrosion Consultant  
Petro-Chemical Assoc., Inc.  
Leonia, New Jersey

*Canadian telephone companies, particularly Bell Canada, have extensive experience with CATV cables in their underground duct space. CATV cables do indeed have the effect of negating the precautions which telephone companies take to isolate the sheaths of their underground telephone cables. The question seems to be whether or not this effect is appreciable or serious.*

*Bell Canada considers downtown Toronto to be one of its most serious underground corrosion areas because of the network of DC-powered street railways still operating in that area. In this area, Bell Canada takes special precautions to isolate the sheaths of underground cables where they enter central telephone offices and where branch cables enter downtown buildings.*

*Cables entering telephone exchanges are carefully isolated from the central office grounding system. Cables entering subscriber office buildings are similarly isolated from the local building water system ground. CATV cables are considered to bypass these precautions, where CATV cables pass through telephone exchange cable vaults or into subscriber buildings. Telephone company engineers with whom the problem was discussed in Toronto feel there is not enough experience to judge whether the effect of the CATV cables is significant.*

*There is some feeling among local telephone engineers that the integrity of the isolation system is becoming too difficult to maintain, due to the introduction of CATV cables and other ground paths associated with the telephone system — such as the*

*grounded shield on buried telephone subscriber drop wire. Alternate methods of protecting the telephone company plant are being considered.*

*I would not be in favor of isolation of the CATV plant by insulation of all parts in the duct and manhole system. Bonding to the telephone company plant is necessary, to assure safety to workmen in the system. If a requirement for isolation is demonstrated, suitable splice fixtures could be developed that would provide the required isolation, without adversely affecting the RF characteristics of the CATV cable.— Technical Editor*

## P.R. Article Requested

• I am looking for an article concerning advance preparation of residents before construction of a CATV system in their city. I do not have all the details, but there were related pictures on the cover and the city was located in the western part of the country.

If the article was in your magazine please send me a photocopy.

Patricia Mendoza  
Coaxial Communications, Inc.  
Gainesville, Florida

*The article on Cablecom General's "softening campaign" in Colorado Springs appeared in TVC last April. A photocopy is on its way to you.—Ed.*

## Consistency—A Virtue?

• TV Communications is very informative and helpful, but why do I always receive it a month late?

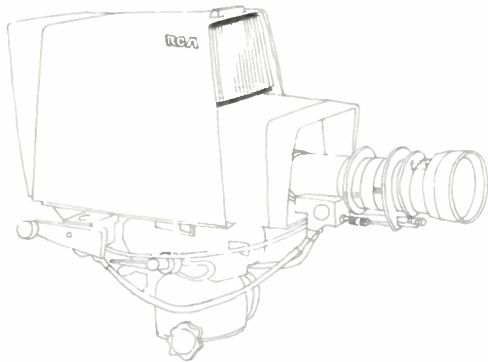
Edward Ohman  
Electronic Sight & Sound Co.  
Grand Rapids, Michigan

*In recent years the post office has not had a reputation for swift delivery . . . as you know. Second class mail such as TVC consistently has super-slow delivery. At least the p.o. has the virtue of consistency!—Ed.*

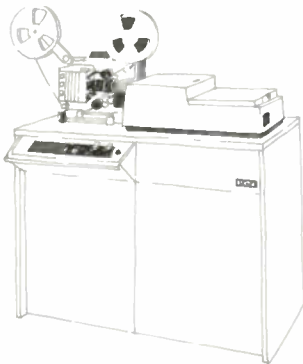


# Cablecaster's Color System

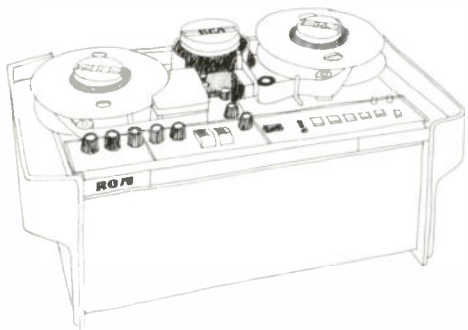
RCA's matched line of origination equipment.  
Designed for quality color, easy operation, low price.



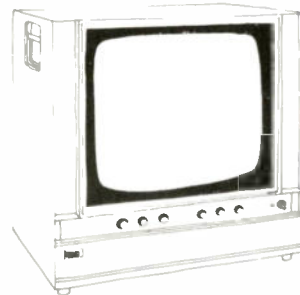
Quality color—what your subscribers are looking for more and more. RCA pioneered color. We can help you pioneer it in Cablecasting. With The System.



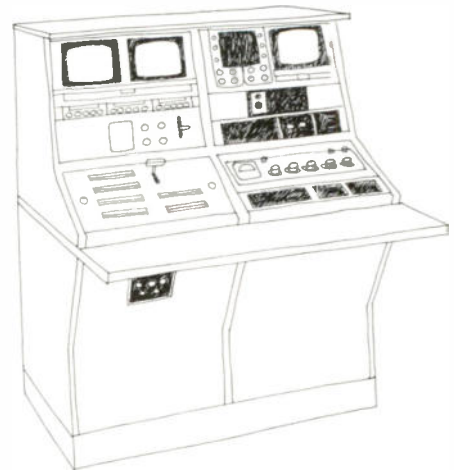
Easy operation—crucial when there's a shortage of trained operators. Like our single tube studio camera. No color registration problems, and minimum controls. Like our color film system that's about as easy as running home movies. The perfect package for 16mm sound film or 35mm slides. The System.



Low price—whether your plans call for a modest monochrome setup or a complete colorcasting studio, call on us. We have the right product combination at prices to suit your budget. The System.



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(213) 849-7221



## Management Guidelines

**D. Stuart MacPhail**  
Managing Editor



## Delegate...Or Fail

The word "delegate" means many things to many people. It has caused more consternation, frustration and management dissatisfaction than any other word.

Delegation is a delicate proposition. *It requires one person to assign part of his authority to make decisions, but none of the final responsibility for those decisions.* While the delegator doesn't take a direct part in such decisions, he ultimately is responsible for them.

The need for delegation is much more than theoretical. Delegation enables the CATV manager to manage, to oversee the work of his subordinates. In a study of why three hundred managers failed, eighteen general causes were uncovered. Number one was the failure to delegate.

The manager or supervisor acquires his own authority through delegation. He must know how to use it, and that includes redelegating part of it, in turn, to his subordinates.

That's delegation in a nutshell, and the crux of the problem. The problem is to crack the nut, to put this principle into practice. To delegate successfully, the cable system manager must be able to answer seven basic questions.

- (1) To what extent should you consult your chief about using authority that he delegates to you?
- (2) What kinds of authority should you delegate to your subordinates?
- (3) How much of your author-

ity should you delegate?

(4) When is the time right to delegate?

(5) To whom should you delegate some of your authority?

(6) How should authority be delegated?

(7) How can you maintain control, once you have delegated authority?

That first question is important and foundational in answering the others. When authority is delegated to you, try to resolve any problems by yourself. Unless you operate on your own, you are not accepting the authority entrusted to you.

Authority is delegated so that you'll use it, to free your chief for the other parts of his job. The more you depend on his help in solving problems, the less help you are to him.

Fear is the greatest obstacle to the successful use of delegated authority. When your superior delegates to you, you may assume that he has confidence in your abilities. Even so, it's often hard to decide whether to proceed on your own or to get help from your boss. Whenever you have a real problem, ask for help.

The longer you work with your boss, the more you'll know how he feels about your acting independently.

Over the next two months this column will consider the second through seventh questions related to the delegation of authority. During the next month, appraise your own patterns of delegating authority and responsibility.

**TVC**

# The FCC Survival Kit



**Telemet's  
Modulator 4400-A2.  
It's the one you're "in spec"  
with on January 1, 1971.**

Model 4400-A2 is uniquely equipped for origination.

Unlike ordinary modulators, it has the envelope delay characteristic of a TV transmitter. So, it produces the 170 nanosecond Chrominance/Luminance advance the FCC requires.

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**OTHER TELEMET CATV PRODUCTS: Demodulator 4500-A1** — Accepts broadcast signal and converts it to base band without distortion. Has plug-in V.H.F. front end modules for channels required. When used in conjunction with Modulator 4400-A2, for waveform tests, an overall Modulator/Demodulator K rating of 2% is obtained. The 20<sup>+</sup> composite color test signal is carried with negligible distortion. **Chrominance Delay Equalizer 4700-A1** — Corrects origination errors in delay as detected by 20T and 2T pulse measurements. Correct delay is attained when the 20T pulse base line is flat and the 2T pulse is symmetrical. A total switchable delay of 275 nsec is in incremental sections of 25 nsec. Each delay is compensated automatically for insertion losses.

**Signal Conditioner 4600-A1** — Corrects for loss of detail and positive and negative smearing. Compensates for low chrominance. All adjustments are made from a monitor jack before actually switching to Operate. Adjustments are made easily from day to day and from source to source.

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You get a versatile, broadcast quality studio: the new IVC COLORCASTER III studio package capable of live, videotape, slide or film programming. You'll own all the equipment necessary for television commercial and program production in color.

We designed the COLORCASTER III package to specifically meet your needs. And there's no trick about the price. Most studio color cameras used in broadcast applications cost far more than our complete, 2-camera system.

The COLORCASTER III package includes two IVC-90 color cameras—one studio and one filmchain. These are the most widely used low-cost color cameras in television today. Another major item is the new IVC-870 color videotape recorder, with assemble and insert editing. Also included are the: audio and video consoles, multiplexer, slide projector, film projector, switcher with special effects, and a studio lighting kit plus the sync generator, distribution amplifiers, intercom, cabling, and all other items necessary to give you a totally complete package. Every component has been pre-selected for your optimum operating efficiency. Home viewers will see color pictures on your cable channel that match the quality of the network channels on your system.

The COLORCASTER III package sells for \$47,900. If this combination doesn't suit your needs, ask us about other available studio packages.

## Why an IVC System?

Owning an IVC system provides you with three forms of insurance: (1) Insurance against incompatibility—all equipment has been engineered to work together. (2) Insurance against malfunction—an IVC cable television studio is designed for upgrading, expansion, or re-configuration to suit your future needs.

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You provide the location—IVC will handle all details of system planning, installation, set-up and training. Our experienced personnel are part of the package, with systems know-how that parallels the proven performance of IVC equipment.

IVC is a pioneer in the installation of cameras, recorders and complete color systems in CATV. IVC has supplied the cable television industry with more color recorders and cameras than any other manufacturer.

Local origination of full color programming is easily and economically within your reach, with broadcast-proven color cameras and videotape recorders. For complete color studio systems information write us in Sunnyvale or contact your local IVC sales office.



*This complete color studio at Peninsula TV Power, Inc., Sunnyvale, California is typical of studio systems designed, and installed by IVC.*



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**The standard for color in cable television.**

# FINANCIAL REPORTS

Cablecom-General, Inc. reports per share earnings of \$.10 for the quarter ending June 30, 1970. This compares with per share earnings of \$.07 for the corresponding period of the preceding year. Earnings figures are based on a net income of \$156,719 for 1970 and \$118,761 for 1969. Revenues were \$1,664,246 and \$1,292,762 for the two periods respectively. Also reported were figures for the nine-month period. Per share earnings for this period were \$.17 as compared with \$.27 for the same period the preceding year. Net incomes for the two periods were \$266,457 and \$405,729.

Cox Cable Communications reports per share earnings of \$.10 for the quarter ending June 30,

1970. This compares with per share earnings of \$.10 for the corresponding period of the preceding year. Earnings figures are based on a net income of \$368,329 for 1970 and \$340,436 for 1969. Revenues were \$2,542,061 and \$2,326,399 for the two periods respectively. Also reported were figures for the six-month period. Per share earnings for this period were \$.20 as compared with \$.20 for the same period the preceding year. Net incomes for the two periods were \$733,298 and \$694,875, based on revenues of \$5,050,744 for 1970 and \$4,610,306 for 1969.


Tele-Communications, Inc. reports per share earnings of \$.06 for the six-month period ending


June 30, 1970. This compares with per share earnings of \$.02 for the corresponding period of the preceding year. Earnings figures are based on a net earnings of \$151,773 for 1970 and \$38,015 for 1969. Revenues were \$3,702,412 and \$2,591,934 for the two periods respectively.

Columbia Cable Systems, Inc. reports per share earnings of \$.27 for the nine-month period ending June 30, 1970. This compares with per share earnings of \$.04 for the corresponding period of the preceding year. Earnings figures are based on a net income of \$254,000 for 1970 and \$33,000 for 1969. Revenues were \$2,472,000 and \$2,171,000 for the two periods respectively.

Maclean-Hunter Cable TV reports per share earnings of \$.06 for the quarter ending June 30, 1970. This compares with per share earnings of \$.03 for the corresponding period of the preceding year. Earnings figures are based on a net income of \$175,690 for 1970 and \$37,019 for 1969. Revenues were \$4,160,486 and \$659,823 for the two periods respectively. Also reported were figures for the six-month period. Per share earnings for this period were \$.10 as compared with \$.06 for the same period the preceding year.

Essex International reports per share earnings of \$1.31 for the six-month period ending June 30, 1970. This compares with per share earnings of \$1.66 for the corresponding period of the preceding year. Earnings figures are based on a net earnings of \$12,292,109 for 1970 and \$15,256,706 for 1969. Sales were \$299,676,097 and \$262,400,323 for the two periods respectively.

Cohu Electronics reports a per share loss of \$.05 for the six-month period ending June 30, 1970. This compares with per share earnings of \$.19 for the corresponding period of the preceding year. Earnings figures are based on a net income (loss) of (\$75,455) for 1970 and \$272,395 for 1969. Sales were \$3,855,346 and \$4,994,034. 



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you need  
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For example, when you need to drill and recover line in-wall. D'versiBit is the answer. Simply make a hole in the wall. A one inch diameter will do. Now, with D'versiBit and its handy position tool, you are in complete control of flexible drilling lengths of five, six or ten feet. You have easy access from mid-wall to the attic, basement or across the wall. Purlins, firestops, insulation or occasional termite shields are no obstacle. And for recovery, all you do is attach a special line grip to a hole in the D'versiBit tip. Then when you pull your D'versiBit from the wall, you bring the line with it. It's a new twist to save you time and frustration. Find out more at your local electrical supplier or write direct.

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*POKES*



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But the big advantage is in saving money. You'll save on installation. You'll save on operation. You'll save 20% of every dollar you spend per mile of cascade. Added up, it's like getting 2 miles free for every 10 you put in!

Dynafoam is the most significant advance in cable technology since the introduction of the aluminum sheath. Look into it today . . . and look forward to better cable performance, at lower cable cost.



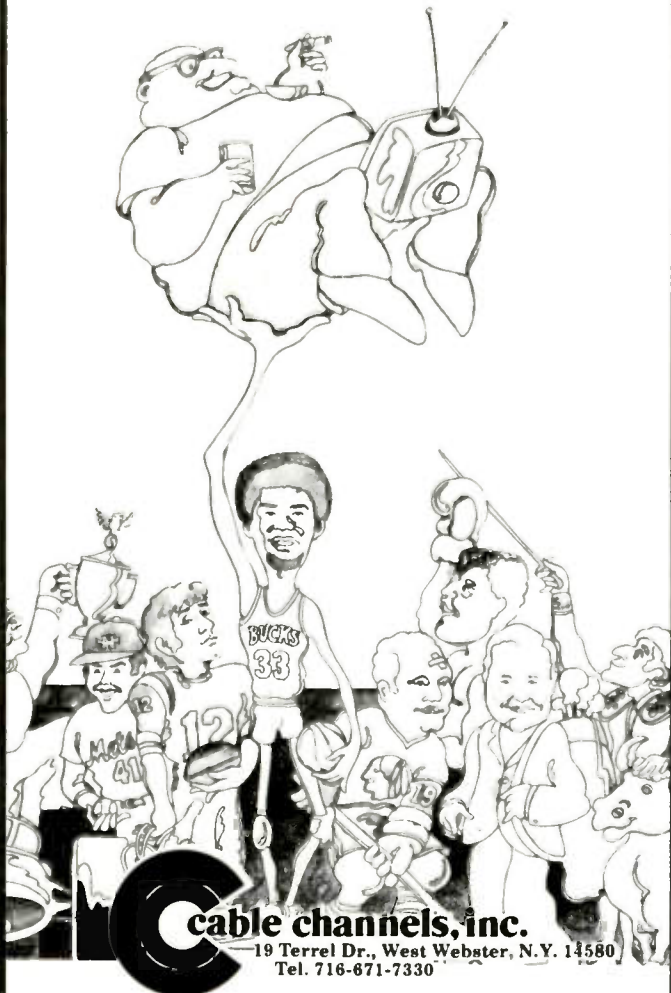
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## Construction Reports

### Northeastern States

Blades, Laurel, and Seaford, Del., General Television, Inc., \$500,000 rebuild planned ... Milford, Del., General Television, Inc., plans expansion of 12-channel system ... Sanford, Me., Coastal Cable and Antenna Co., installs 240-foot tower ... Dennisport and South Dennisport, Mass., Cape Cod Cablevision, construction under way.

Hampton, Glen Gardner and Lebanon Township, N.J., Washington Cable Co., system energized ... Catskill, N.Y., Mid-Hudson Cablevision, Inc., strand mapping under way ... Clearfield, Pa., TV Cable Co., installs 250-foot tower ... Ebensburg, Pa. Cambria TV Distribution Co., construction under way.

### Midwestern States

Marion, Ill., Cable Information Systems, Inc., construction to begin soon ... Angola, Ind., G'TEC Cable TV, adds Channel 24, Toledo and emergency alert warning system ... Eagle Grove, Iowa, TVIQ, replacing \$40,000 worth of defective cable.

Fredonia, Kan., Fredonia Cable TV, 640-foot tower under construction ... Norwalk, Ohio, Continental Cablevision of Ohio, hook-ups to begin in near future ... Richland and St. Clairsville, Ohio, Wheeling Antenna Co., installs 400-foot tower.

Stigler, Okla., Riverbend Industries, Inc., construction 50 percent complete ... Brookings, S.D., KOTA Cable TV, adds DCOO-TV, Aberdeen, and KDLO-TV, Garden City ... Pierre, S.D., Pierre Cable TV, begins \$15,000 expansion program.

### Southern States

Kissimmee, Fla., Osceola Cablevision, construction under way ... Lake Worth, Fla., TelePrompTer Cable TV, construction nearing completion ... Leesville, La., American Cablevision, \$125,000 rebuild under way.

Cumberland, Md., Potomac Valley TV Co., Inc., 300-mile rebuild of 12-channel system completed ... Barnwell, S.C., Home CATV, Inc., construction nearing completion ... Cuero, Tex., Seemor Cable Co., construction scheduled to begin soon.

Danville, Va., Danville Cablevision Co., plans to energize first 26 miles of plant in the near future ... Orange, Va., American Telecable Service, Inc., construction to begin soon.

### Western and Mountain States

Williams, Ariz., Douglas Television Co., adds Channel 2, Flagstaff ... Benicia, Calif., Cablecom-General of Northern California, Inc., installation of system now 50 percent complete ... Malibu, Calif., Able Cable, a division of Malibu Communications, completes \$300,000 rebuild.

Morro Bay, Calif., Central California Communications Corp., plans rebuild ... Oxnard, Calif. Oxnard Cablevision, construction under way ... Whitecliff, Calif., Bay Cablevision Co., hook-ups under way.

Missoula, Mont., Missoula TV Cable Corp., plans \$500,000 rebuild ... Artesia, N.M., CA Cablevision, adds two stations ... Ashland, Ore., Southern Oregon Cable TV expanded its Central Point and Medford system to serve this community.

TVC



# For over 10 years experts tried to design an amplifier to connect MATV to CATV systems.

## Now Benco has four of them!

Four new high level, solid state, broadband amplifiers especially designed to connect MATV systems to CATV systems—yet versatile enough for nearly any application.



<u>MODEL</u>	<u>DA 40-252-B</u>	<u>DA 45-252-B</u>	<u>DA 50-252-B</u>	<u>DA 55-252-B</u>
<b>FEATURES:</b>	Balanced output Stage	Balanced driver and output stages	Balanced driver and output stages	All stages balanced
Frequency Response	40-252 MHz $\pm 1/2$ dB	40-252 MHz $\pm 1/2$ dB	40-252 MHz $\pm 1/2$ dB	40-252 MHz $\pm 1/2$ dB
Minimum Gain (flat)	36dB	44dB	44dB	14dB
Maximum Output	+45dBmV with 12 channel loading.	+51dBmV with 12 channel loading.	+55dBmV with 12 channel loading.	+58dBmV with 12 channel loading.
Maximum Noise Figure	8dB	8dB	8dB	
Gain Control (flat)	10dB	10dB	10dB	
Tilt	Adjustable for 0 to 30dB cable.	Adjustable for 0 to 30dB cable.	Adjustable for 0 to 30dB cable.	
Input and Output	18dB return loss Regulated power supply	18dB return loss Regulated power supply	18dB return loss Regulated power supply	12dB minimum Regulated power supply

**NOTE:** All amplifiers available for Cable Powering or Line Powering. Add CP or LP to model number.

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ABOUT SEALMETIC<sup>®</sup>  
ABD COAXIAL CABLE

## NEW YORK STATE PROPOSES SPECIAL COMMISSION FOR CATV REGULATION

In an unprecedented effort, New York state politicians have initiated an attempt to form a state commission specifically designed to regulate CATV.

New York operators estimate the proposed five-man commission would require a staff of 200 people. It would probably be headed by a chairman who would be salared for approximately \$35,000.

Assemblyman Robert F. Kelly (D-Brooklyn) will be pushing for the passage of Assembly Bill 6700-A when the state assembly convenes early in 1971. He has been holding hearings across the state during the summer in an attempt to have the bill in full readiness for Assembly consideration.

While nobody has come to the hearings with complaints about abusive tactics employed by New York cablemen, operators in the state are still concerned about the potential damage Kelly might be able to inflict with the bill's passage.

The only specific proposals for CATV regulation in 6700-A call for a two percent gross receipts payment to the state. Proponents of the bill are pushing for an allocation of twenty percent of each CATV system's channel and local origination capabilities for use by local educational institutions.

## FRANCIS R. WALSH NAMED BROADCAST BUREAU CHIEF

Francis R. Walsh, 46, former Dean of the University of San Francisco Law School, has been named chief of the FCC Broadcast Bureau. The former head, George Smith, has joined the staff of Commissioner Robert E. Lee as legal assistant.

Walsh has spent the last 16 years with the San Francisco University. Previously, he was a partner in the San Francisco firm of Wallace and Parker. He has also been a professor at Georgetown University law school, and clerked for Judge William Healy, U.S. Court of Appeals, San Francisco.

An author of numerous articles for legal journals, and editor of a casebook on insurance, Walsh has also served as a labor arbitrator.

Still pending at press time was the official announcement of the appointment of Richard Wiley, a Chicago lawyer, as general counsel of the Commission.

## ✓ DEAN BURCH CHALLENGES CATV: URGES CABLE PROGRAMS FOR CHILDREN

Speaking before the American Political Science Association, in Los Angeles, FCC Chairman Dean Burch said cable is "a relatively recent development for which I have high hopes."

In a New York speech before the International Radio and Television Society, he urged the development of children's programming on cable.

In his Los Angeles speech on "Informing the Public: The Role and Opportunity of the FCC" Burch stressed proposals of the Commission designed to open up the communications industry to the public, and he cited CATV as "a national force of great promise."

# Late News (Continued)

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He went on to say that the Commission's primary challenge was the encouragement and development of "structural diversity through new and competing modes of expression." He stressed further that it is now most important to concentrate on new modes of expression to promote diversity — media with a different economic base than broadcasting.

Speaking to the International Radio and Television Society in New York Sept. 16, the Chairman encouraged broadcasters to offer better children's programming, and once again he brought up the promise of CATV: "I realize that all this is easier said than done. But my point is that cable also has a significant contribution to make in this vital area, and that while it may necessarily be a small contribution in the beginning it has the potential of great growth and future impact. It is therefore right to call upon this new industry to begin to take up the challenge."

## SEC GIVES GREEN LIGHT TO TPT/H & B MERGER

TelePrompTer Corp. has won clearance from the Securities and Exchange Commission for its merger with H & B American Corp. The merger was approved by the stockholders of the two firms May 21.

SEC clearance had to be won because merger agreements are normally barred by the existence of inter-company affiliations. The SEC noted that Channing Special Fund owned 3.2% and Channing Growth Fund 6.9% of TPT, while the Growth Fund also owned 4.8% of H & B.

## CONVENTION DATES SET BY CANADIAN ASSOCIATION

The Canadian Cable Television Association has established the dates and locations for the association's annual conventions in upcoming years. The 1971 convention will be held May 10-13 in Ottawa, at the Skyline Hotel, and Banff Springs Hotel, Banff, Alberta will host the 1972 convention from July 4-7.

May 15-18, 1973, the event will be at the Four Seasons-Sheraton in Toronto. The 1974 show will be in Montreal at the Queen Elizabeth Hotel from May 27 through May 31.

## NEW CATV MSO ACQUIRES AMERICAN TELESYSTEMS FRANCHISES

American Cablevision President Don Perry has announced that his new firm has become affiliated with American Telesystems. Under the arrangement, American Cablevision will be responsible for the development and management of cable systems in 17 cities which have granted franchises to American Telesystems.

American Telesystems Chief Executive Erwin A. Fern and Chief Operating officer John Hanley will remain with American Cablevision on a consulting basis. Joseph D. Amott is the newly formed company's secretary-treasurer.

Franchises involved include cities in Maryland, Virginia, Delaware and Pennsylvania. The amount of money involved in the transaction was not disclosed.



# Can a tough, little, low-priced microphone make the big time?

(A success story.)

**E-V** A good little microphone, the E-V 635A. But just how good? After all, it was intended to replace the "workhorse" Model 635...a dynamic microphone that had earned its title under fire in studios and on remotes all around the world.

So when we introduced the 635A we put it to a critical test. A major recording studio was loaned a dozen 635A's and asked to test them. The engineers weren't told the price, but they got the idea that it was somewhere near \$300.00.

They were so delighted with the sound

that they cut several big band recordings with nothing but 635A's. "Best \$300.00 microphone we've got." Then we told them the price. They were shocked. They couldn't believe their ears.

Meanwhile, 635A's were beginning to appear in force on music and variety shows on every TV network. Mostly hand held. Something to do with ruggedness and good balance... but mostly because of the sound. Especially during ultra-close miking.

The rest is history. Radio and TV newsmen quickly adopted the 635A as

their new "workhorse". After all, news only happens once, and the 635A was their best insurance against bad sound.

To most professional sound engineers, the E-V 635A is already an old friend, although it's only been around since 1965.

At the price, they can afford to use it almost everywhere. And they do. (We told you it was a success story.)

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## **CATV Impasse Blocks Copyright Bill McClellan Looks to Burch for Action**

The copyright revision bill was officially abandoned as a possibility this year when Sen. John L. McClellan (D-Ark.) last month introduced a joint resolution extending the life of expiring copyrights for another year. For several years now, such extensions have been approved by Congress in the hope that new legislation could be enacted during the extension period.

McClellan, chairman of the Senate Copyright Subcommittee, noted the impasse over CATV regulation as being a significant factor in the inability to pass the badly needed and oft-delayed bill, but he cited the promises of FCC Chairman Dean Burch for new cable television rules by the end of this year.

"The Commission has set November 23rd as the final date for comments on the proposed rules," McClellan said. "The Commission apparently now recognizes its responsibility to proceed expeditiously toward the adoption of appropriate rules so that the public may more fully enjoy the benefits resulting from cable television."

The powerful Arkansan also noted that the FCC has said that the rules cannot take effect until a new copyright law is adopted. "Accordingly," McClellan said, "it is anticipated that by the time the 92nd Congress convenes, the FCC will have promulgated the necessary rules relating to the carriage of broadcast signals by cable systems, and associated matters. This should facilitate action by the next Congress on the CATV provisions of the copyright bill."

McClellan also pointedly disagreed with the "CATV Public

Dividend Plan" proposed by the Commission as part of its regulatory package. He indicated that he thinks that approach of the copyright bill, which relies more on exclusivity protection, is more practical. And of the proposal to have 5% of CATV systems' revenues set aside for the Corporation for Public Broadcasting, McClellan said: "It is not clear why cable television should be required to subsidize public broadcasting."

NCTA national chairman Ralph Demgen said, "We are disappointed that Congress will not enact an Omnibus Copyright Bill this session. We had hoped the cable television industry's problems would be resolved this year.

"We are nevertheless pleased that FCC Chairman Burch has assured Sen. McClellan that the Commission will make every effort to complete its current CATV rulemaking before Congress reconvenes."

### **Montoya Lauds Cable Future At Rocky Mountain Meeting**

Over 130 cablemen, wives and manufacturers' representatives met for the semi-annual meeting of the Rocky Mountain Cable Television Association in Santa Fe, New Mexico. The group convened at Santa Fe's historic La Fonda Hotel for the two-day affair which included addresses by Senator Joe M. Montoya and NCTA Secretary Edward Allan, as well as technical and management sessions.

Scheduled as a part of the

convention was the dedication of the city's new cable system, owned and operated by LVO Cable. Hundreds of cablemen and local citizens were on hand for the affair, which took place in the rotunda of the State Capitol building. The ceremony included the lighting of ten monitors, one for each channel which will be available on the system.



*Senator Joe Montoya*

Senator Joe M. Montoya (D-N.M.) addressed cablemen at the Friday evening banquet. Speaking of CATV, the Senator said, "You are strong and your image is good." He further stated that cable television "will enhance the pleasure and develop the greater comprehension of all Americans... The time is right for a breakthrough in your industry... We in the Congress... know that you can serve the interests of America well... Congress is waiting for you to assume a bigger role."

### **FCC Okays Canadian Signals For Border CATV Systems**

The FCC has turned down requests by American television stations that CATV systems near the Canadian border be required to afford protection against carriage of U.S. programs aired by Canadian TV stations before being carried by U.S. outlets.

The Commission also denied a number of petitions by TV stations for special relief, requests

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by CATV systems for waiver of program exclusivity rules, and requests by TV stations for show cause orders against CATV systems.

Central to the FCC's actions is the new ruling by the Canadian Radio-Television Commission that will severely limit the amount of U.S. programming that can be aired by a Canadian TV station.

The Commission told all the U.S. stations that there wasn't adequate need for special relief and said further that, "Information indicates that the pre-release problem is not especially significant... and whatever problem exists seems to be on the verge of elimination."

## NAB Wants Cable Out of Top 75 Markets

Apparently, the National Association of Broadcasters and CATV are farther apart than ever, according to the hard-line approach

suggested recently by the NAB staff.

A paper prepared by the NAB's government affairs department and submitted to the Future of Broadcasting Committee was released by the Free Broadcasting News Bureau, the public relations arm of the NAB funded to crack down on cable. The position paper calls for (1) a severely limited "adequate service" concept, (2) a virtual ban on CATV in the top 74 markets, (3) a ban on CATV carriage of sports and entertainment programming already carried by television stations, and (4) long-term program exclusivity protection.

NAB wants a compulsory copyright license to entitle a CATV system to carry distant signals, if necessary to provide its areas with three network signals, one independent station and one educational outlet. The compulsory license would not be granted in the top 75 markets, and would not be granted for radio station signals. "Sports, feature films and

## Barbados Officials Consult with NCTA



On a recent orientation visit to the U.S., Vere Manning (left), of the Barbados Telephone Company met with officials of the National Cable Television Association and the Reston Transmission Co., Reston, Va. Manning is pictured at a CATV transmission site with Wally Briscoe (second from left), vice president of the NCTA; Kenneth Chamberlin, vice president and general manager of Reston Transmission; and Gary Christensen, general counsel of NCTA.



entertainment series for general audiences" should not be originated by CATV systems; if they are, the systems should lose their compulsory licenses.

Significantly, the NAB would not allow overlapping signals from other communities to be counted as local signals, which must be carried, under the NAB plan. An independent agency should establish and periodically revise the compulsory copyright fee.

The NAB would allow no grandfathering for copyright purposes, though cable systems with fewer than 2,000 subscribers not in common ownership with systems totaling 10,000 subscribers would be exempt.

## Calendar

**October 1-2.** The Tennessee CATV Association will meet at the Sheraton Hotel, Nashville.

**October 3.** The Western Canada Chapter of the Society of Cable Television Engineers will meet at the Eldorado Motor Hotel, Vancouver, B.C.

**October 4-9.** The Society of Motion Picture & Television Engineers Cable TV Symposium will be held at the New York Hilton Hotel, New York.

**October 7-9.** The Pennsylvania Community Antenna Television Association will hold its fall meeting at Le Chateau, White Haven, Pa.


**October 12-14.** The West Virginia — Mid-Atlantic CATV Association will meet at the Greenbriar Hotel, White Sulphur Springs, W.Va.

**October 14.** The New England Cable Television Association will hold its fall meeting at a location to be announced.

**October 18-20.** The North Central Community Television Association will hold its annual meeting at the Northstar Inn, Minneapolis, Minn.

**October 28-30.** The Mid-America CATV Association will hold its fall meeting at the Glenwood Manor Motel, Overland Park, Kan.

**November 4-7.** The California Community Television Association will hold its fall meeting at the Hotel Del Coronado, San Diego, Calif.

**November 8-11.** The National Association of Educational Broadcasters will hold its annual convention at the Sheraton Park Hotel, Washington. 

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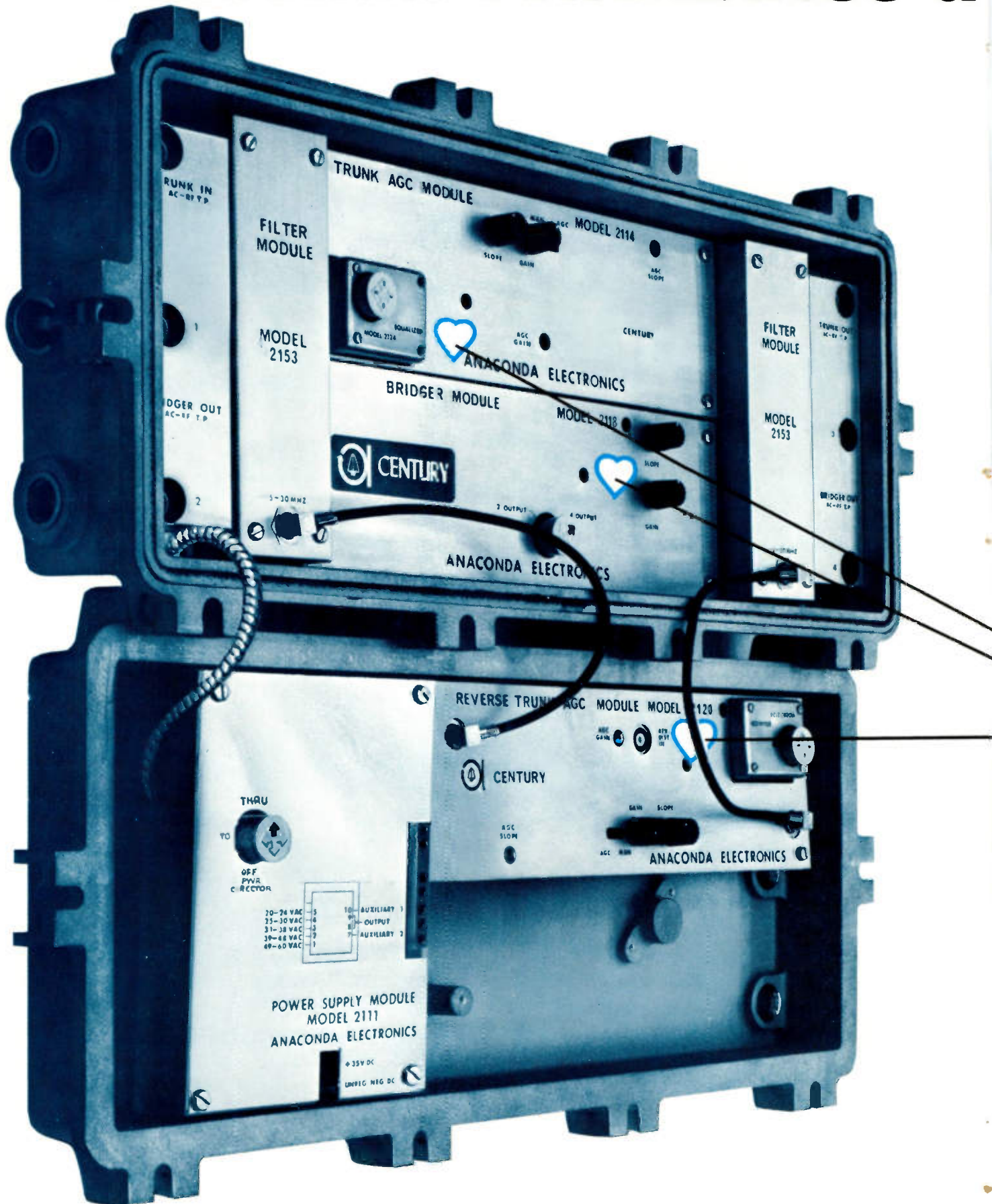
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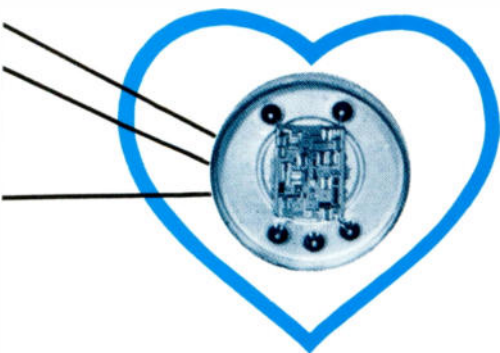
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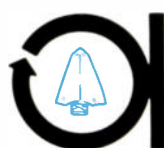
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# CRTC Extends Divestiture Deadline, Requirements Remain Static

The Canadian Radio Television Commission (CRTC) has announced that it is allowing additional time for CATV operators in Canada to comply with the CRTC regulation which calls for Canadian ownership and control of all CATV operations in Canada. Stateside owners of Canadian CATV now have until December 31, 1971, to get out of Canada.

Under the previous schedule, U.S. interests holding Canadian systems had until September 1, 1970, to transfer ownership to Canadian interests. Under that provision, those companies not divesting by then would lose their licenses for cable in Canada and the CATV allocation would be declared essentially vacant.

That requirement has not changed. Only the deadline for transfer of ownership is different. The CRTC extended the deadline in order to allow ownership

changes to be carried out in an orderly manner. If the Commission does not receive an application to transfer ownership from a licensee which is an ineligible corporation by the new deadline, it will receive applications from any interested parties for a license to serve the same area.

## Cox Leaves Commission, Joins Microwave Company

FCC Commissioner Kenneth A. Cox has left the Commission to become senior vice president of Microwave Communications of America, Inc.

Commissioner Cox's term expired June 30, but he had been staying on the Commission until a successor was named. New on the Commission will be Sherman Unger, although the Senate has

yet to consider his nomination.

MCA's affiliated company, MCI, was formed to provide microwave transmission facilities for business. The company won the first specialized microwave common carrier grant last year when the FCC awarded the Jack Goeken-led company a Chicago-St. Louis route over the strenuous objections of AT&T. MCI has since filed for a nation-wide network.

## "Contribute Now or Expect No Favors Later,"—Demgen

NCTA National Chairman Ralph Demgen pulled no punches recently in asking cable operators to contribute to political candidates in this November's elections. "In plain language," he said, "if we expect Congressmen to listen to us next year, they had better hear from us before November."

In a letter to the NCTA membership, Demgen said that "it is absolutely essential that repre-

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sentatives and senators elected in November be familiar with the legislative problems involving cable TV and be inclined toward resolving them favorably." He pointed out that Martin Malarky's Political Action Committee of Cable Television (PACCT) is now mounting its annual fund-raising drive and, while wholly separate from NCTA, is channeling contributions to political candidates with the CATV industry's views in mind.

"It is no secret," Demgen told NCTA members, "that elected officials require money to conduct their campaigns. The fact is that a \$50 or \$100 contribution to a candidate for the House of Representatives or a \$200 contribution to a candidate for the U.S. Senate is meaningful and will be remembered. I urge every system operator to contribute to the Congressional candidate of his choice."

Recognizing the money bind that now faces many businessmen, Demgen added: "I know money is tight, but one way to loosen it in

our industry is for early and favorable Congressional action toward removing impediments that now obstruct the orderly and natural growth of cable television."

### Nixon Explains OTP Function Tabs Mansur Deputy Director

President Nixon has signed the executive order titled "Assigning Telecommunications Functions" which establishes the responsibilities and authority of the new Office of Telecommunications Policy in the White House.

At the same time, he named Dr. George F. Mansur Jr. to be deputy direction of the OTP, which will enunciate Administration policy on broad communications questions, including cable television. Mansur will serve under the 31-year-old Dr. Clay T. Whitehead, recently confirmed in his post by the Senate.

Dr. Mansur is 42 and earned his doctorate in electrical engineering from Iowa State University in 1963. Last year he was the

recipient of NASA's public service award, which cited him "for his outstanding contributions... which made possible the exceptional success of the Apollo program."

As an indication of what may be coming from OTP, here is a quote from a piece by Whitehead in NAM Reports, a publication of the National Association of Manufacturers: "You may expect from OTP lots of questions, interactions, and concern about the uses, capabilities and costs of alternative communications technologies; lots of concern about how we can build an even stronger, healthier, more innovative and more competitive industry; lots of attention to the purposes of telecommunication and its potential for application in defense, domestic and civilian uses; and lots of attention to permitting communications to innovate and to do its job with a minimum of second-guessing or peeping over the shoulder, but coupled with a constant concern that communications are

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consonant with the country's needs."

## Cox Delivers Parting Shot, Blasts FCC CATV Bureau

FCC Commissioner Kenneth A. Cox is gone, but his melody lingers on as yet another of his dissents was released recently by the Commission, this one blasting the Cable Television Bureau of the FCC.

The case was the one in which the Commission refused to step into the dispute between U.S. television stations on the Canadian border and the CATV systems that carry network programs from Canada before they are shown in


## System Sales

Macleon-Hunter Cable TV, Ltd. has announced the purchase of Lakehead Videon, Ltd., serving 19,000 subscribers in Thunder Bay, Ontario, Canada, for an undisclosed price. Lakehead Videon was previously 50 percent owned by Famous Players Canadian Corp., Ltd.

TeleVision Communications Corp. has announced the acquisition of two small systems in Hampton and Williamsburg, Va. The systems were acquired from Peninsula Broadcasting Corp. for an undisclosed price.

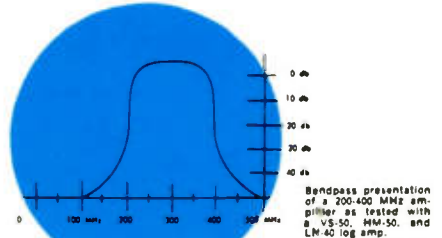
Suburban Cablevision, Inc., a subsidiary of Suburban Propane Corp., has announced plans to acquire Marion Cable TV and Morganton TV Cable, serving Marion and Morganton, N.C. respectively. Proposed purchase price of the two systems was not disclosed.

Teleservice Corp. of America has acquired KNOC-TV Cable, which serves 1,630 subscribers in Natchitoches, La. The purchase price of the firm, which will now be known as Natchitoches Cable TV, was not disclosed.

Norseman Cable TV, Inc., a subsidiary of Norseman Broadcasting Co., has acquired the systems serving Ada, Alger and Bluffton, Ohio, from Reynolds Cable Television Corp. for an undisclosed price. 

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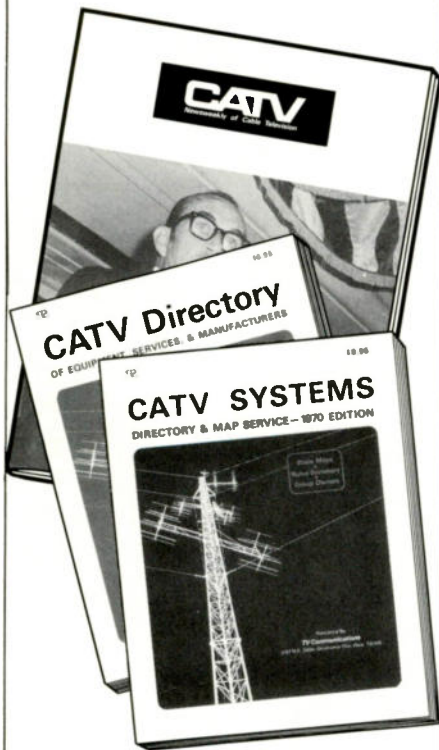
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this country. Cox used the opportunity to complain that "the Cable Television Bureau, as it has in other instances in the past, has twisted the developing cable law completely out of shape. I have written a good many dissents protesting what it has done to the rules and policies devised by the Commission.

"They have not convinced my colleagues, and apparently my arguments here have not been persuasive—and so perhaps I am in error. But I hope that someday legal scholars, not blinded by the real or claimed advantages of CATV, will carefully chart the course of each principle the Commission has laid down in this new and important field as it has been construed, applied, extended, and constructed by the Bureau. I think it will be a difficult but instructive task."

### Forbes Magazine Cites CATV Stock Potential

A cautiously optimistic view of CATV stocks' growth potential was outlined in the Sept. 1 issue of Forbes magazine by guest columnist Charles Rolo. Rolo is co-director of the research department of the New York Stock Exchange firm of H. Hentz & Co.

After outlining the glowing potential of cable television, he asked: "So what are we waiting

for? Why don't we stuff our portfolios with CATV stocks and sit back with the assurance of an eventual bonanza?" His answer was that for a variety of reasons, CATV's earnings picture is unpredictable, and that many CATV firms are "small and unseasoned."

Rolo noted that CATV will be "fiercely opposed" by broadcasters and may have to make compromises, and in addition eventually will have to pay some form of copyright fee.

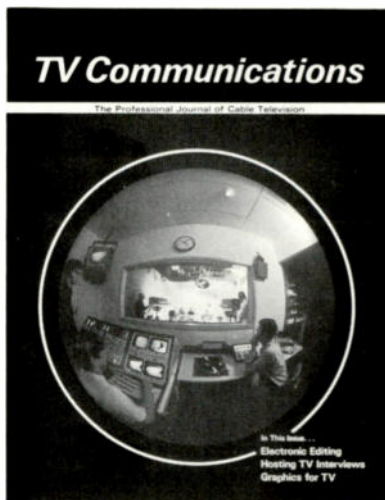
He concluded that "CATV is a highly intriguing long-term speculation. The stock had a spectacular rise, but subsequently sank again.

### Cross-ownership Ban Blasted By NAB

The National Association of Broadcasters has asked the Federal Communications Commission today to reconsider its "precipitous . . . harsh and unfair" rule prohibiting cross-ownership of a television station and a CATV system in the same community.

NAB said the new rule, which would prohibit such ownership and requires stations affected to divest themselves of either their cable or TV interests by August 10, 1973, is grossly unfair because prior FCC actions had encouraged television licensees to enter the CATV field.

TVC



### This Month's Cover...

Local origination is the theme of this edition of TV Communications. Typical of numerous CATV systems across the country, the staff at Cablevision of Oceanside (California) are busy preparing special programming for their 2,500 subscribers. They operate 18 of a potential 24 channels and offer about 42 hours per week of local programming. The fish-eye lens caught production activities in studio and control room during the shooting of "What's Happening In Oceanside." The photo, taken by Rene's Photography, was provided courtesy of TeleMation, Inc.

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# FOCUS

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## Systems

TeleVision Communications Corp. has announced the appointment of Joel P. Smith as vice president, cable division. He replaces F. Gordon Fuqua who resigned for personal reasons. Assisting Smith is newly appointed Edward J. DeMarco who is serving as director of CATV system development.

Karl H. Gutman has rejoined Comtel, Inc., a provider of CATV services in Manhattan, and the parent company Bell Television Services, Inc., as vice president and general manager. He served in the same capacity with the company from 1959 through

September, 1968, when he was named executive vice president of Continental CATV, a subsidiary of Vikoa, Inc.

Marc B. Nathanson, a former Chicago public relations executive, has been named director of marketing of Los Angeles-based Cypress Communications Corp., according to an announcement by Burt I. Harris, president. In his new position with Cypress, Nathanson will be responsible for marketing, sales promotion, advertising, and public relations for the corporation as well as its systems operating in approximately 80 communities in 17 states.

National Trans-Video, Inc., Dallas, Texas has announced the

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## Suppliers

Michael A. Moscarello has been elected president and chief executive officer of International Video Corp., according to an announcement by Donald F. Eldridge, president and chairman of the board. Moscarello was formerly vice president and general manager of Philco-Ford Corporation's audio-video division. A graduate of Brooklyn Polytechnic Institute, he holds a B.S. degree in electrical engineering.

Dolphin Communications, Poughkeepsie, N.Y. has announced the appointment of Bruce R. Martin to the position of national sales manager. He comes to Dolphin Communications from Vikoa, Inc., where he served as a technical sales representative in both their Hoboken and Dallas offices for the last three years.



Mr. Simpson

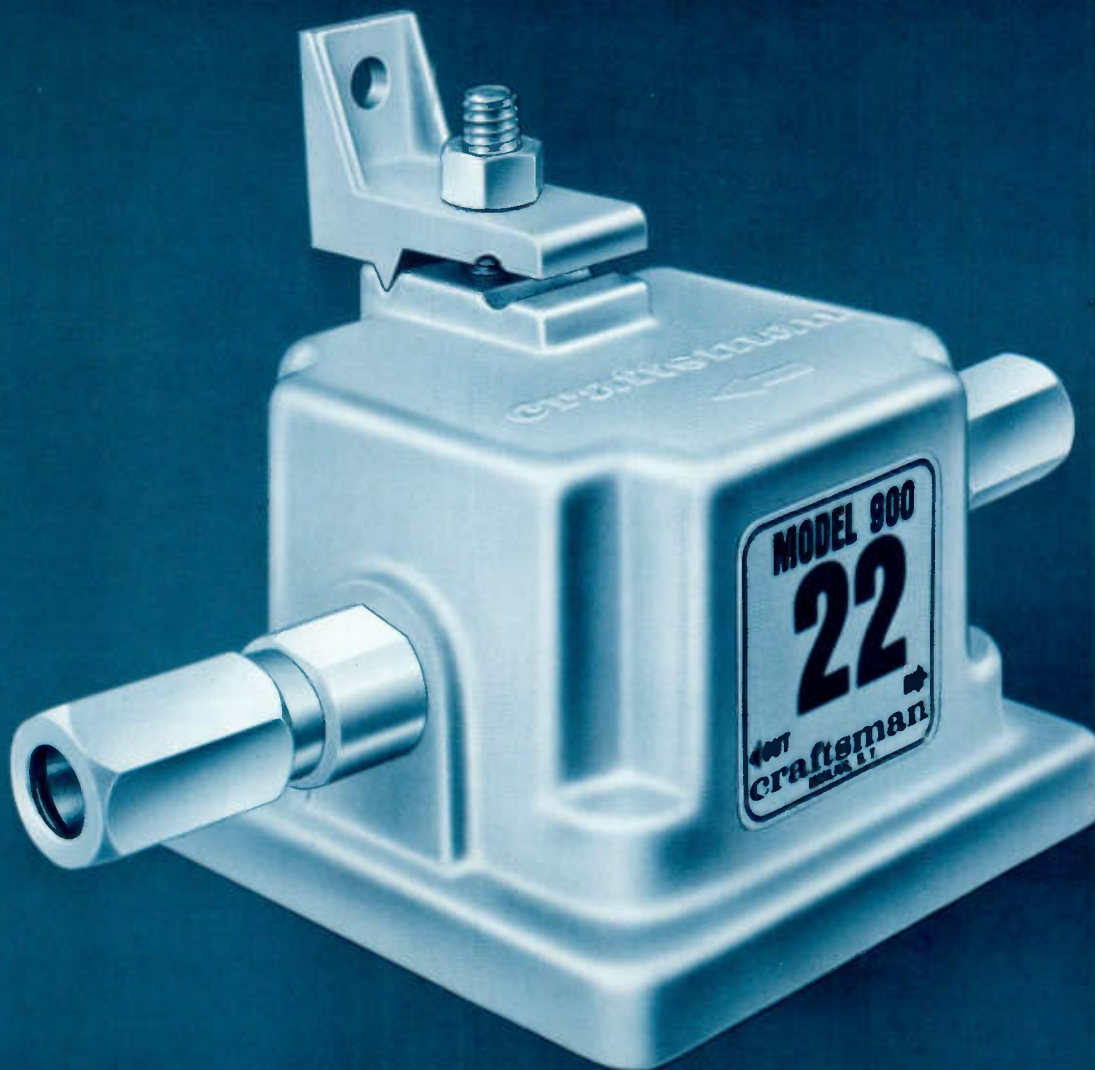


Mr. Smith

Neil Simpson has been selected as an addition to the staff of field sales and service representatives for Communications Technology Corp., according to an announcement by George W. Gillemot, vice president. In his new position, Simpson will offer direct factory assistance throughout the Rocky Mountain area for the complete line of Communications Technology products for CATV and communications. He will headquarter in Denver, Colo.

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two new regional representatives. Paul Labelle has been named eastern region representative, covering Quebec and Maritimes, and Ned Cook has been named central region representative for Ontario and Manitoba. Prior to joining Vikoa, Labelle was involved with engineering for CATV systems and computer interfacing projects for RCA, Ltd. Cook was formerly assistant engineering manager for Skyline Cablevision.



Mr. Labelle

Mr. Wilson

Donald V. Pedersen, formerly general manager of A-V Explorations, Inc., a national film distribution organization in Buffalo, N.Y., has been appointed to the newly created position of film and special products coordinator for the Great Plains National Instructional Television Library. The University of Nebraska-based Library, located in Lincoln, is one of the nation's largest distributors of recorded television courses.

## Professional

Communications Publishing Corp. has announced that R. Wayne Wilson has resigned his post as vice president, market development to become vice president in charge of market research for Ad-Mark, Inc., Denver-based advertising and marketing agency dealing primarily with national industrial accounts.

The Wyoming CATV Association elected new officers and directors at its summer meeting. Officers which were elected are: Ted Quillen, Worland, president; Richard Schneider, Casper, vice president; and Don Loucks, Casper, secretary-treasurer. Directors elected at the meeting are: John Harrison, Pine Bluffs; Al Carollo, Sr., Rock Springs; Ron Tighe, Laramie; and Perry Nash, Rawlins.

TVG



**Too late.  
Your newsman just got you into a libel suit.**

Now what?

It has happened to others, and it can happen to you. One wrong word . . . one wrong picture . . . and you're being sued for libel, slander or invasion of privacy.

There is a way to prevent this from happening. AIM, insurance consultant to leading trade associations, has designed an error and omission insurance program, specifically to protect CATV operators.

★AIM's error and omission program is designed for blanket coverage. You're

not locked in to a few specified coverages. ★Rates are tailored to your particular type of programming. You do not pay for coverage on programming you may never produce.

On April 1, 1971, all CATV systems with 3,500 or more subscribers must begin originating programming. Let an AIM expert give you the full facts about the insurance pitfalls of program origination. Call AIM today.

**AIM for the best in liability insurance.**



**American Insurance Marketing Corporation**

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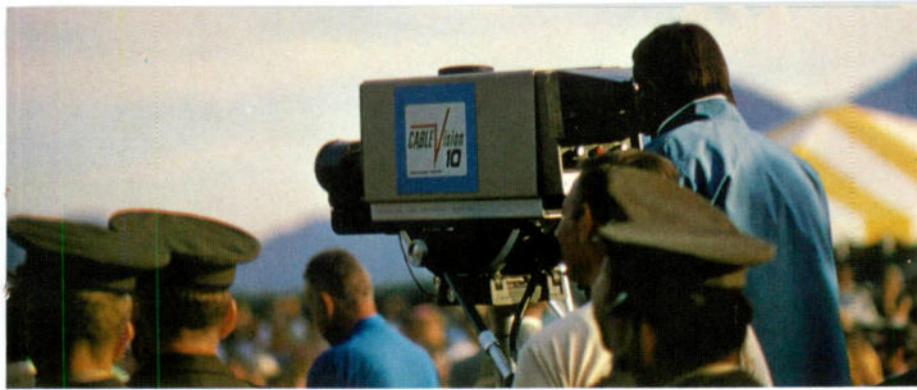
## Local Expression Is Their Aim

Coachella Valley Television claims the honor of producing the first color cablecast. More than two years later, with extensive local programming, ad sales are beginning to reduce origination costs.

**L**ocal origination . . . just what does it mean? Does the showing of an old movie on a *local* film chain qualify? When a *local* VTR is used to play a syndicated CATV program . . . is this local origination? How about a *local* TV bingo game or an automated *local* weather channel?

In Coachella Valley California, when they talk about local origination, they mean the production of programs at the local level. Their aim is to make Channel 10 (their origination channel) a mirror of the community . . . a source of local expression.

Coachella Valley Television, owned by Palmer Broadcasting Company, and managed by Daniels & Associates, serves about 75% of that area's nearly 50,000 population. Subscribers range from the very poor to the very



Beauty pageants . . . political and local concern discussions . . . remote coverage of important events . . . these and many other situations are the basis of the 100% local programming offered on the local origination channel at Coachella Valley Television. Below, general manager Keith Burcham (right) and program director Tony Acone discuss production plans in CVTV's control room (studio is in the background).



rich (including Bing Crosby, Frank Sinatra with about 28 TV sets, Lucille Ball, Red Skelton, etc.).

Cable 10 must compete with 11 other channels going into subscribers' homes. When CVTV decided to develop its local origination channel, Mr. Tony Acone was brought aboard as a full-time program director. He and system manager Keith Burcham began by installing a complete cablecasting (color) studio and control room.

They used their own technicians, trouble shooters and installers to man cameras and studio equipment. These employees took on the extra duties on an "overtime" basis. Staff morale benefited since no one worked in cablecasting efforts unless they wanted to. "They are enthusiastic," says Tony, "they pull cable and tweak amplifiers

during the day and they enjoy being a part of the system at night."

Channel 10 uses no paid talent. Acone and Burcham are trying to develop a programming pattern that is sound . . . and eventually salable. All originations are in color and about 25 hours is offered weekly. Of that, 15-20 hours is "never-before-viewed" programming. All is locally produced.

A proposed rate schedule has been compiled for Channel 10 and they are just starting to sell programs and spots. Rates were established after reviewing the rates of local radio and TV outlets. See Figure 1 for the rate system currently being used.

Readers may want to take advantage of this last month before the November election by following Channel 10's political ad

program. Tony sells a political candidate a fifteen minute block of time. During that time Tony interviews the candidate informally. The candidate also gets two one-minute spots for a total package price of \$30. Before the primaries, Tony interviewed about 25 local and state candidates.

Programming at Channel 10 includes such offerings as:

*Business Focus* . . . a twice-monthly program featuring the chairman of the business department at the local college. National and international business is discussed as it relates to the local scene; and local businessmen are interviewed.

*19th Hole* . . . golf tips are videotaped out on the course and interviews are used.

*Challenges 1970* . . . interviews and panel discussions coordinated by the manager of the local office

# Edmonds, Washington, knows more about TV than New York City.

Edmonds has CableGuide.

It's a unique new service that is now available to all CATV systems. It offers the ultimate in accurate program listings. No more thumbing through newspapers or magazines to select programs— only to find them pre-empted. Now there is up-to-the-minute programming right where it belongs... on the TV screen. CableGuide has other features, too. Like local news, public service information and advertising revenue. Best of all, the CATV operator doesn't have to lift a finger.

GT&E Communications Inc., a CATV operator in Edmonds, Washington, recently joined the CableGuide ranks, and CableGuide reports a significant profit for them the very first month.

CableGuide is the most innovative thing to hit cable television since the cable. Find out more about CableGuide. Write CableGuide, 938 Denny Building, Seattle, Washington 98121, or phone (206) MA 2-1052.





of Human Resources Development. Topics include welfare, narcotics, unemployment, etc.

*Roadrunner News* . . . a college news show done by a college student.

*High Notes* . . . a high school news program with a format similar to the preceding one.

*Community Calendar* . . . confined strictly to community announcements, it covers activities of various service organizations.

*Campaign '70* . . . interviews with candidates for public office.

This fall Tony and crew will launch several new programs. Included will be two college courses that offer credit. The course in real estate practice carries three semester-hour credits, while an art history course carries one semester-hour.

Other new local productions include:

*Gallery* . . . a one-hour, monthly show featuring a local artist, giving demonstrations and instructive procedures in painting and sketching. Guest artists will appear and show some of their work and discuss their techniques.

*The Desert Show* . . . a two-hour, weekly variety talk program. It will include home decorating hints, cooking hints, fashions, astrology and exercising tips.

*Contemporary Theology* . . . a weekly, half-hour presentation on a non-denominational approach to what is happening in religion.

*Student Forum* . . . is a one-hour program each month. Three high schools rotate and student body presidents and officers discuss campus activities. At the invitation of students, teachers and administrators also participate.

*Inner View* . . . a twice-monthly half-hour program featuring local members of the press, questioning local leaders and political figures.

*Once Upon A Time* . . . a children's show. Local library personnel read picture books for pre-school-aged children. Two half-hour shows weekly.

*Council and Chamber Reports* . . . monthly half-hour programs with various councils and chambers of commerce . . . to allow these groups a regular opportunity to report to their communities.

*Estate Planning* . . . a weekly pro-



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BOX 368 • PALM DESERT, CALIF. 92260

prime time spots	1 X	5 X (1 week)	10 X (2 weeks)	15 X (3 weeks)	20 X (4 weeks)
60 secs.	\$ 20.00	\$ 18.00	\$ 16.00	\$ 14.00	\$ 12.00
20/30 secs.	12.00	11.00	10.00	9.00	8.00
10 secs.	7.50	7.00	6.50	6.00	5.50

prime time programs	1 X	13 X	26 X	52 X
1 hr.	\$125.00	\$110.00	\$100.00	\$ 90.00
½ hr.	70.00	60.00	55.00	50.00
¼ hr.	40.00	35.00	30.00	25.00
10 min.	30.00	27.00	25.00	20.00
5 min.	20.00	18.00	16.00	14.00

Rates quoted are time charges only; advertiser may furnish production materials such as slides, film (16mm), flip cards or IVC 1" video tape. Channel 10 will supply at extra cost slides, flip cards or IVC 1" video tape.

saturation spot campaign

15 (30 sec.) spots/week	\$135.00
30 (30 sec.) spots/week	\$240.00

Figure 1: Cable Channel 10 — Proposed Rate Schedule

gram on the mechanics of estate planning and trusts.

*Agriculture Reports* . . . twice-monthly, half-hour shows using various farmers to discuss the activities of their industries . . . to keep the community abreast of local agricultural activities.

Coachella Valley Television is well equipped and competently staffed . . . but they aren't doing anything that many other cable systems could not do. Audience (community) involvement is one

of the important keys to successful programming at Coachella Valley.

Although they are just beginning to carry advertising, Tony Acone believes that within a year, Channel 10 will be generating enough income to pay operating costs (not installation costs).

Serving as a mirror of local expression is paying off for Coachella Valley Television . . . where local origination is 100% local. IVC



The Coachella Valley Television studios, office and engineering facilities are housed in this modern 5,467 sq. ft. building. The studio occupies 2,640 sq. ft. and a 392 sq. ft. control room separates it from the office area. CVTV serves about 12,000 accounts.

# It's Time to Deliver On Those P. R. Promises

The cable industry has long underscored its ability to provide diversity and creativity for the TV viewer. Deliver and excel NOW . . . is the appeal of this leading cableman.

*The following speech was delivered by Irving B. Kahn, Chairman and President of TelePrompTer Corporation, at the recent annual convention of the National Cable Television Association. Unfortunately, due to scheduling, only a few people were able to attend that session. The speech is published in this "local origination edition" of TVC so that a wider spectrum of cable operators may consider the important points set forth by Mr. Kahn.*

**A**n old military axiom reminds us that the higher a man climbs, the more his rear is exposed.

My fellow CATVers, our posteriors are showing!

We have been climbing since the NCTA Convention four years ago when I came before you to present our first formal public relations program. And if you haven't felt the hot breath of sniper fire yet on your backsides, I predict that you will, before very long.

That 1966 program had two principal characteristics. It was educational. And it was basically defensive. It was educational (it had to be) because we knew that most people didn't know there was such a thing as CATV . . . didn't know, nor care, who we were, what we did, how we did it, or why we should be allowed to continue doing it.

And it had to be defensive because we also knew that, among those people who *were* aware of us, their knowledge was rooted in what our opponents were saying about us.

We could count on it. If people weren't blissfully indifferent to cable TV . . . they were, worse still, hostile.

Now, in 1970, things are quite a bit different. We still have our opponents . . . powerful opponents. We still have a massive educational job to do. But, CATV has been discovered and widely accepted. Viewpoints are changing, especially at the FCC, where it counts the most. We no longer are on the defensive.

The tell-tale measure of that is the fact that the National Association of Broadcasters has allowed itself to be drawn into one of the most ill-advised, self-destructive "*public relations*" campaigns in history . . . the Free Television News Bureau. NAB has to be desperate . . . or despairing . . . to employ such tactics.

And would you believe that the man who is directing that misbegotten hatchet job was actively looking for CATV clients to represent just a year ago? He was.

So what am I saying to you? Is the battle over? Put down your shootin' arns, hang the coonskin on the wall and seek more pleasurable pursuits?

You can bet your sweet franchise I'm not!

We need a good public relations program more than ever. But we are entering a new and even more demanding phase of public relations. Responsibilities inevitably follow or accompany any 21st birthday, such as the CATV industry has celebrated. Now we are being called upon to deliver on some of the promises we have been holding forth.

Ours is a service business. We must never forget that public relations is not just a tool . . . it is our most important product.

**"CATV has been discovered . . . viewpoints are changing. We no longer are on the defensive. Now we are being called upon to deliver on some of the promises we have been holding forth."**

It will become increasingly so, for it is an inescapable fact that *the more visible an industry becomes, the more vulnerable it becomes*. One important reason we have been able to take on (with some success) the much more powerful broadcasting and telephone industries is simply that they had climbed so high that *their* rears were exposed. Their arrogance, avarice and bad judgment have generated criticisms that redounded to our benefit. We must learn from their mistakes.

But now we're "it." No, we haven't climbed nearly as high as the broadcasters or the telephone companies, but a lot of very sagacious authorities are predicting that we will scale even greater heights. And the artillery is beginning to zero in on our exposed posteriors. Some observers are beginning to take a close second look, and a less favorable one, not at the cable TV medium, but at us. The people who make up the industry.

We had better heed these probing attacks now, or we may find that all our blood, toil, sweat and tears have been for nought after all.

The rattle of gunfire comes from two principal sources. Those who are gung-ho for CATV but doubt whether we, as free enterprise entrepreneurs, can be trusted to operate and develop it in the public interest. And, those who, for reasons either admirable or ulterior, are trying to find out what's in it for them, how they can get a piece of the action.

The surge of state legislative activity . . . the avarice of some municipal governments . . . the awakening interest of giant companies . . . the plethora of opportunists seeking to *buy* franchises or *sell* programming . . . all of these are a part of this assault.

But I believe the greatest challenge from a public relations standpoint comes from another quarter . . . from sincerely motivated people who hold great hopes for our medium as a force for the well-being and progress . . . perhaps even the survival . . . of mankind. They have a "show me" attitude about us.

Here's a public relations promise on which we simply must deliver. An opportunity for us — no, *a necessity for us* — to convince these doubters, who to a great extent shape public opinion, that we are responsive to the responsibilities of our stewardship of the cable TV medium.

All of us have basked in the pleasant glow of favorable comments about our medium. Call it cable TV, CATV or broadband communications. Favorable comment has come from an apparently unending stream of articles, reports and studies. But that's the point — *the enthusiasm is for the medium, not the industry*. Have you read these statements carefully? A recurring theme runs through them.

For instance, Business Week published a special report which began: "Cable television . . . is changing the entire face of American communications. It will give a new dimension to person-to-person communication, commercial messages, and myriads of services."

But Business Week ended its article like this: "All in all, the cable television industry may be likened to a small boy let loose without supervision in the Apollo Mission control room. Confronted with an infinity of buttons, knobs, and levers, the temptation is irresistible to find out what happens when they are twisted and pressed. No one can predict the consequences, except that they will be far-reaching.

"So the cable TV men, little more than parochial neophytes in the complex yet fragile structure of U.S. communications," Business Week continued, "are pushing all the buttons they can lay their hands on. In the process, they are tying everyone into knots: the television broadcasters, the telephone companies, the FCC, even the computer companies. It is likely



*Irving B. Kahn . . . chosen by CATV Magazine as 1969 "Man of the Year," . . . this year's recipient of the Larry Boggs Award for outstanding service to the cable television industry . . . a man who has built his own company's stake in CATV from three small systems a decade ago to a role of unquestioned leadership. He is distinguished for his never-say-die optimism, his sophisticated, hard-nosed, positive approach and his hearty ambition.*

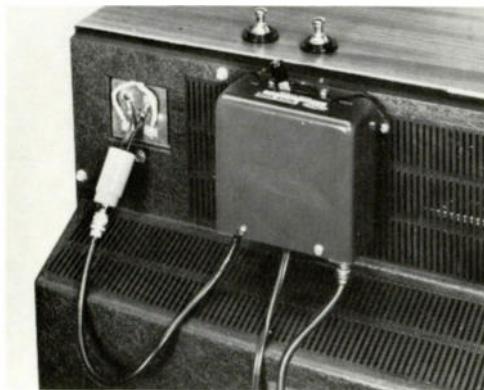
# How Come?

## 12 channel CATV *plus* AEL Communications Corp. *equals* 19 channels

### Answer:

#### The AEL SUPER-BAND® Tunerless CONVERTER . . .

AEL COMMUNICATIONS CORP., Colmar, Pa. is proud to announce the first successfully operating single cable CATV system with more than 12 channels delivered to customers on a continuous and daily basis.



This unique accomplishment is the result of using AEL's SUPER-BAND® Amplifiers and the SUPER-BAND® Tunerless CONVERTERS! Coatesville, an Eastern Pennsylvania City, receives over the air TV programs from all points of the compass.

Designed and installed by AEL, the Coatesville system provides its customers with 14 TV channels, and in addition, channel #15 is an automatic Time/Weather channel, and channel #16 is for local originations. Three other channels are available for future expansion.

The SUPER-BAND® Tunerless CONVERTER provides black & white and *natural* color TV programs with the clarity and definition you might normally find only in station monitors.

AEL COMMUNICATIONS CORP., a subsidiary of American Electronic Laboratories, Inc., Colmar, Pa. draws upon the capabilities and facilities of its parent organization.

AEL's designers and engineers, in the most up to date laboratories, have applied their sophisticated technology and "know-how" to the CATV equipment produced by AEL COMMUNICATIONS CORP.

AEL's designers and engineers, in the most up to date laboratories, have applied their sophisticated technology and "know-how" to the CATV equipment produced by AEL COMMUNICATIONS CORP.



*COLORVUE*

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"At the moment, our greatest opportunity — or perhaps our greatest pitfall — is in the area of program origination."

"One of the most important things . . . is to evolve a constructive policy for encouraging programming excellence."

that when the industry reaches maturity, the vast, interlocking American communications net will look enormously different from the way it does today."

The first installment of the important Rand Corporation study of CATV concludes: "We know that cable television has bright prospects for offering a broader range of informational, instructional, educational, and entertainment programming than today characterizes the television medium. But we do not know how far the cable industry will develop or convert these prospects into reality, even if it were permitted to grow without restraint. Perhaps tens of millions of viewers would be willing to pay subscription fees, perhaps not. Perhaps cable systems are destined to operate largely as extended antennas, as they are now operating, or perhaps they will evolve into full-blown common carrier systems with many new uses in addition to conventional television."

Then there was an entire recent issue of *The Nation* devoted to "The Wired Nation." "Cable TV is about to become America's 'National Highway' of communications," said the cover page. "Who will run it, under whose supervision, for whose benefit?"

Ralph Lee Smith, author of the report and a long-time cable enthusiast, had some rather disturbing (for us) conclusions. He wrote "Cable TV is, at present, not only incorrectly set up to provide full benefits to the public, it is set up in a way to abridge basic freedoms of speech, press and assembly. If action is not taken by Congress, these characteristics will become basic features of the Wired Nation."

I want to say more about Mr. Smith's article, but first, here's a tart comment by Norman Mark, television editor of the *Chicago Daily News*, in the wake of NCTA's recent programming conference:

"It's probably already too late to save cable TV," Mark wrote. "The technological advancement that was supposed to herald the millennium of wonderful TV communications is polluted already."

Recounting some of the *alleged programming* on display at the conference, Mark concluded: "Crud TV may live again."

In a similar vein, *The New Republic* captioned an article on CATV programming: "Pap From A Different Spoon."

Yes, we are a promising industry . . . or, more correctly, *the proprietors of a promising medium*. But, it is apparent from the examples I have just cited that we dare not assume our proprietorship grants us proprietary rights in perpetuity. We are being called upon to deliver on our promises, and this is likely to be the most important public relations undertaking we have had, or are likely to face.

Ralph Waldo Emerson wrote "What you are stands over you the while, and thunders so that I cannot

hear what you say to the contrary." That could be the basis of public relations policy for every company in this or any other business. Or, as a more prosaic latter-day practitioner of the art has put it, public relations is "doing right and getting credit for it."

We have a story to tell, an exciting story of a brighter future in which broadband technology will shower as many channels upon mere man as he can stretch his imagination to find uses for . . . to entertain, to inform, to communicate.

But telling the story is not enough. We must live it. It must be made to happen. At the moment, our greatest opportunity — or perhaps our greatest pitfall — is in the area of program origination. I think you can take it for granted that the FCC's search for "diversity" does not mean just more of the same. But new and different and worthwhile programs and services. We cannot dish up "crud TV" or "pap from a different spoon" and get away with it.

Make no mistake. Programming is going to be our showcase. You cannot get people nearly as excited about yagi antennas, demodulators and preamplifiers as you can about what comes over their picture tubes into their living rooms. You will not be able to plead inexperience or indigence. You cannot ignore your responsibility, or abdicate it in favor of what I have called in the past such pernicious placebos as ancient movies, tired old TV series, or even brand new "especially for CATV" shows tailored to the same old TV formats.

Programming . . . what you select and how you present it . . . is a part of each CATV operator's public relations responsibility.

As an industry, we have the obligation to work together to achieve standards of true excellence in programming. Moreover, I believe strongly that we have the right to safeguard and maintain those standards. One of the most important things NCTA can do in the months ahead is to evolve a constructive policy for encouraging programming excellence.

There is a second public relations challenge, and this in the arena of social change. As part of a new and particularly flexible communications medium, we cannot avoid being in the forefront of the social revolution. We must face up to the realities of ghetto programming, ethnic programming, controversial "hot potato" programming . . . and to the whole spectrum of community relations, employee relations, hiring practices and other issues that go hand-in-hand with establishing and keeping an effective role in the community.

Essentially, we must establish dialogues (and make sure they are dialogues, not monologues) to ascertain what our communities want and need, and then we must act upon those needs.



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**"Change is not innately desirable, unless it represents progress."**

**"Can we deliver progress . . . or merely change?"**

Finally, we have a continuing public relations challenge, obviously, in trying to quiet some of the shrill voices who believe that only massive doses of government intervention and regulation (apparently several layers of it) will accomplish the goals they deem desirable. I do not want to characterize my friend, Ralph Lee Smith, as a shrill voice. But I do want to cite just one paragraph in his generally well-researched Nation article that is a glaring illustration of the damaging conclusions that can be reached from flawed premises. Mr. Smith stated:

"Rhode Island, Connecticut, Nevada and Vermont have passed laws bringing cable systems under the regulation of the state Public Service Commission. Many Connecticut communities need CATV, and before passage of the new law, numerous operators had applied for franchises. Since then, no cable system has been built in the state. The operators have gone elsewhere, where their profits will not be scrutinized or regulated. By doing so, they prove the importance of adopting public utility regulation in all the states."

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What's wrong with that statement? Just about everything! First, until the law was passed, telephone company policies prevented any CATV activity in the state. Thus, it was *after* not *before* passage of the new law that operators applied for franchises. And it was the PUC that kept the communities waiting four years . . . from 1963 to 1967 . . . before parcelling out franchises. Second, it was a series of court challenges by unsuccessful applicants, who prized the franchise in spite of the prospect of "scrutiny and regulation" that kept construction in the deep freeze from 1967 onward. Just recently the state Supreme Court removed the legal impediments, and I can assure you that we (and I presume other franchisees) are moving as rapidly as possible to bring service to Connecticut.

Third, I wish Mr. Smith would tell me where those "elsewheres" are located in which profits are not scrutinized or regulated. If he doesn't think local government officials, not to mention the FCC, can add, subtract, multiply and divide, he ought to sit in on a few franchise hearings.

All in all, it seems to me that any logician would be bound to reach an exactly opposite conclusion to Mr. Smith's. That is, the Connecticut experience proved the importance of *not* adopting public utility regulation in all the states.


This is just the sort of "don't confuse me with the facts" attitude that poses a very real and continuing public relations challenge.

We are part of an industry where "change" is a byword. But change is not innately desirable, unless it also represents progress. Columnist Russell Baker of the New York Times wrote an essay on the subject awhile back. I'd like to quote from Mr. Baker, because it illustrates my point so aptly.

"Progress," he wrote, "is what people who are planning to do something really terrible almost always justify themselves on the grounds of. Usually, terrible things that are done with the excuse that progress requires them are not really progress at all, but just terrible things."

Among such things, Mr. Baker lists "monstrously dehumanizing" supersonic jets, frozen foods and "receiving in the mail from a gasoline company a plastic credit card which you have not requested"—followed shortly by a dunning letter.

"True progress," maintains Mr. Baker, "is extremely rare. Thus, mankind still awaits the invention of an alarm clock that will make humanity look forward to waking up."

I suggest that this is the essence of our public relations challenge—can we deliver progress . . . or merely change? If we cannot, our rears will be more than exposed. They will be bruised and bloody. 



## There's more gold in them thar hills.

You've gone to a lot of expense and effort to provide your tv picture improving service. Wouldn't you like to put that time and money into improving your own profit picture at the same time? You can do it, *with film*.

Film can put all those extra channels in your cables to work. Film can get you local advertising money. Film produced locally can make you a program originator (which will make the FCC happy). Film can make you money. Film can get you more subscribers.

There are lots of companies ready to sell you top-notch filmed entertainment—full-length feature movies, television series, documentaries, travelogues, sports, and many more. Then you'll need a 16mm tv projector, a slide projector, a multiplexer, and a small television camera. Space? It will fit into a closet. Cost? Not as much as you'd think.

Sound good to you? Then sound out one of the Kodak offices listed below for all the dollars-and-cents information you'll need to know

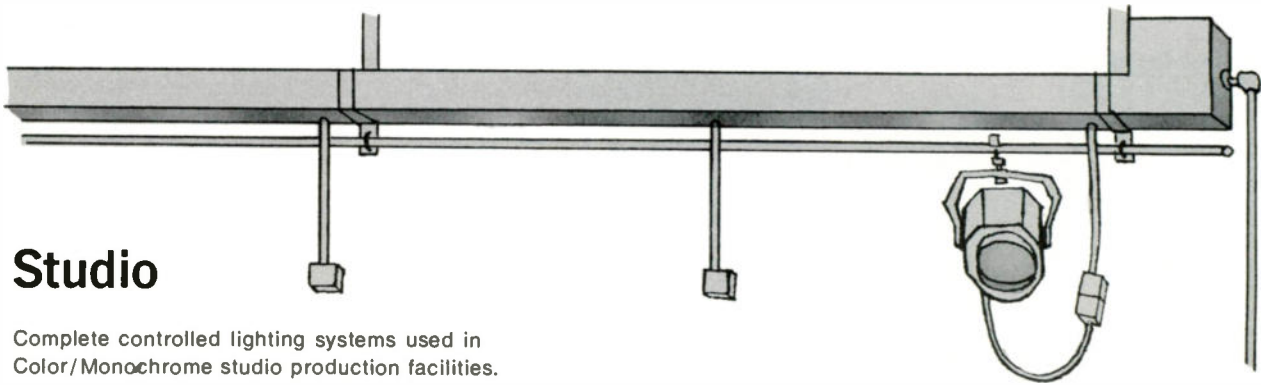
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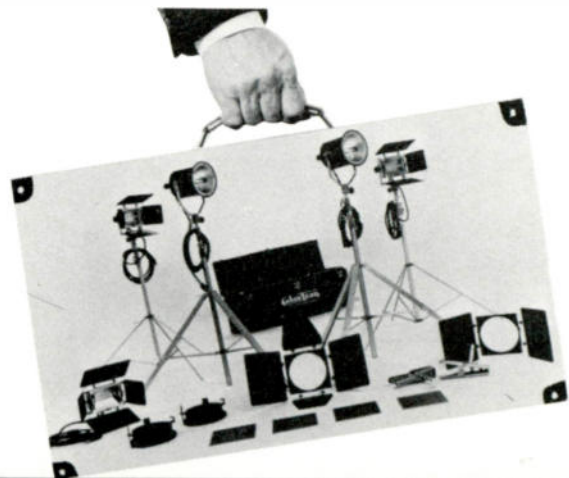
A complete portable lighting system designed for ease of transport and set-up for semi-permanent studio lighting.



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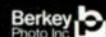
## Remotes

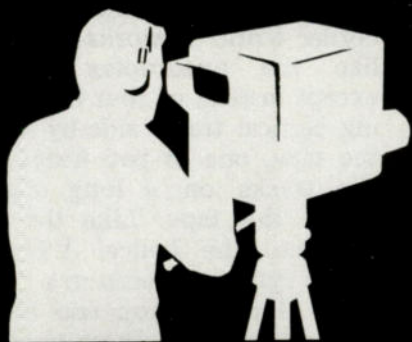
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# STUDIO

*Technology*

A special monthly section devoted to TV programming operations in small studios

## Video Recording Equipment What's Best for Your System?

A multiple-part review of various VTRs. This month, a look at the limitations and advantages of helical scan equipment.

*By Jack A. Rickel*

Last month we discussed the expensive quadruplex video tape recorder used by most broadcast television stations. This month's article examines the VTR most favored by the CATV system operator — the helical scan video tape recorder.

While the quadruplex video tape was unquestionably the standard for quality and flexibility, its costs were prohibitive for most non-broadcast users. Schools, colleges, medical schools, industrial users and the CATV operator simply couldn't afford the luxury of a quadruplex recorder. The initial purchase price was too high, head costs were too high, and per-hour tape costs were too high.

Probably the first of the helical scan recorders was the Ampex

660A which used 2" wide tape and could playback or record for up to five hours on a standard reel of tape. Its cost was about half of that of the lowest price quadruplex recorder and it found quick acceptance by non-broadcast users. Its time base stability wasn't considered good enough for professional use although some of the smaller stations did use it. The basic machine still exists today in an updated version called the 660-C which is color compatible and features electronic editing.

Shortly thereafter, Sony Corporation also developed a 2" VTR, the model PV-120. Both the Sony and the Ampex 2" recorders have the same basic drawback. Although they will record and playback for several hours on a roll of

tape, it is still expensive to buy and store 2" video tape.

When it became evident that the helical scan video tape recorder was here to stay, there was a flurry of activity by manufacturers all over the world to develop their own machine and it would be difficult today to list all those who have done so. Many of them have since quietly gone out of the video tape recorder business. One thing all these companies had in common — possibly to avoid patent infringements (or to avoid being accused of copying each other) each company built their recorder to different standards as far as tape speed and writing speed. They did agree on one thing, that 1" tape gave the happiest combination of cost

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How does a helical scan recorder work? It works very much like the quadruplex recorder, except instead of four heads placing vertical tracks side by side on the tape, one or two heads place the tracks on a long diagonal across the tape. Like the quad machine, the helical VTR also places sync and audio in a narrow band along the top and bottom edge of the tape. These tracks are generated by fixed heads located before or after the rotating video heads. Some recorders have two independent audio tracks. One may be used for audio signals while the other is used for queuing tones or both may be used for separate audio tracks, such as recording the sound in two different languages.

### The Video Head Rotates

The single or dual video recording head is mounted on a disc configuration to rotate in a horizontal plane, this disc assembly is mounted inside a machine drum with a slit in it to allow the heads to protrude and make contact with the tape. The tape itself is wrapped around the outside of the drum in a long spiral so that it presents the maximum length of tape in a long diagonal to the horizontally rotating record head. If two heads are used, they are alternately switched in and out of the record or playback circuit.

Most of the 1" helical scan recorders are designed to play for an hour on a roll of tape, but the length of that roll of tape will vary depending on the tape speed and writing speed. For example, the Sony 310 will record or play back for an hour on 2,400 feet of tape, Ampex on 3,000 feet of tape, and International Video (or IVC) on 2,150 feet of tape.

The performance of today's 1" video tape recorder is quite good. Video bandwidth is pretty flat from 30 Hz to 4.2 or 5.0 MHz, signal-to-noise of 42 dB to 45 dB is not uncommon and horizontal resolutions of 300 to 400 lines is not unusual. Audio is usually 600 ohms input and output with a response of  $\pm 3$  or 4 dB from 75

Hz to 10,000 Hz.

Most of today's recorder manufacturers offer models that will record and playback in monochrome and models that record and playback in color... and they offer a number of optional features such as second audio track, stop motion or slow motion and electronic editing.

Record and playback head life seems to be superior to that of the quad machine and carry warranties of 500 to 1,000 hours head life. The heads are not nearly as expensive to replace.

While there is still no compatibility between 1" VTRs built by different manufacturers, there is now compatibility between various machines made by the same manufacturer. For example, a tape made on any machine in the IVC line can be played back on any other IVC machine. Likewise any Ampex machine will play back a tape made on any other Ampex machine.

### Options Determine Prices

What does a helical scan video tape recorder cost? It almost depends on how much money you want to spend. There are low cost playback-only machines like the IVC 600-PB or the Ampex 4900 for as low as \$1,150. These machines would be used if the system operator had a full recorder on which he could make tapes and needed several low cost machines that could be used on several channels at the same time. The low cost playback-only units can also be had in color versions with prices ranging from \$1,950 to \$2,300. Want to do low cost recording also? The Ampex 5100 or IVC 600 will both record and playback. They are priced at \$1,750 and \$1,980 respectively. The IVC 600 will record in color and the price is \$2,480.

If you want a little more quality, more features and time base stability these are choices like the Sony 310, the Ampex 7500 and the IVC 800 or 820. Prices range from \$3,700 to \$4,700. Color can be had in any of these units with an increase in price from the Sony 310 at \$4,700, and

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The Sony EV-310 VTR.



The IVC-600 series VTR.

the Ampex 7500C at \$5,000, to the IVC 820C at \$5,200 (including monitor amplifier and speaker).

Electronic editing brings the price of the Sony 310 to \$4,900 in monochrome and \$5,900 in color. The IVC 860 is \$7,300 for monochrome and \$7,800 in color. Ampex offers one model with editing capability (the VR-5100E) at \$2,350.

If you want a top quality, professional helical scan 1" recorder, choose the Ampex 7800 at a \$10,000 basic price or the IVC 900 at a \$12,000 basic price.

We say basic because both machines have plug-in options that can raise the price to \$18,000. Both units have time base stability and signal processing adequate to meet FCC requirements for broadcast station use.

The big advantage of the helical scan recorder is its operating costs. Head life on a quad machine may be 600 hours and it may cost \$2,400 to have the heads refurbished. Head life on a helical scan machine can be 1,000 hours with a replacement cost of \$600. An hour of tape for a quad machine costs \$200 or more, for a helical

scan machine, it costs approximately \$45. Most of the machines are rugged and will perform admirably in day-by-day operation. They are small enough that they can be carried into the field, as long as there is electric power available with sufficient frequency stability, and as long as they are protected from dust and dirt. Dust is murder on video heads and tape! At their high operating speeds it grinds down surfaces as sandpaper would.

Next month we'll look at 1/2" video tape recorders and their possible applications to CATV. **TV**

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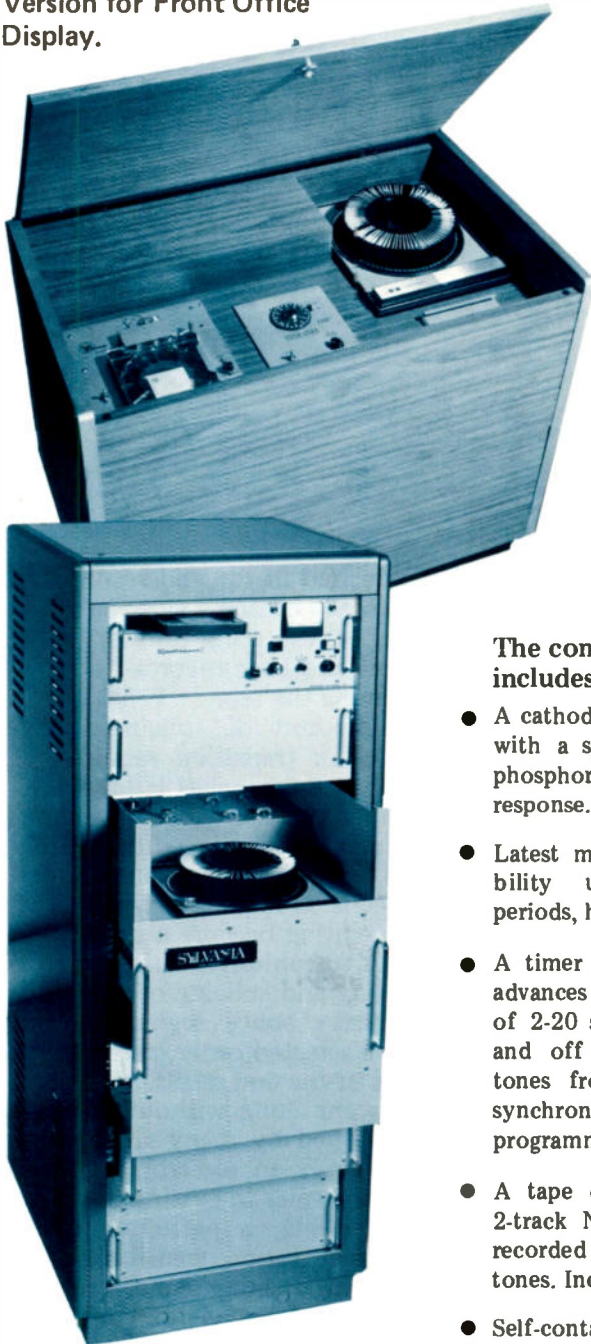
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- RF modulator for desired cable channel.
- Packaged in either a cabinet, finished in blue or teakwood plastic laminate, or standard 19" vertical rack.

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# SYLVANIA

# Simple Techniques For Electronic Editing

The electronic editing feature available on various VTRs is a very useful tool. This step-by-step guide shows how to edit in a typical production situation.

The unavoidable question in the early days on one-inch single-head video recording demanded to know how videotape might be edited. It was answered repeatedly with a one word statement: "Carefully!" The statement was the only logical answer, no humor intended.

Unlike broken audio tape, where loose ends could be sandwiched in a low cost splicer, cut at an angle, taped and trimmed; one-inch video tape recorded by helical scan principles required precision splicing. Repairing torn tape or assembling various prerecorded scenes by physically splicing the tape, generally left

something more to be desired in the end result. The transition from scene to scene caused a video breakup which eventually developed the slang phrase, "dirty edit." Where video signals had been recorded on tape by a revolving head scanning the tape at 1,000 inches per second, the only method of splicing scenes together to produce a clean transition required an unpractical physical splice 16.60 inches long, involving precise, time-consuming tape handling.

The advent of one-inch electronic editing eliminated the frustrations, the time-consumption of physical editing, and the visual effects derived from a "dirty edit." Electronic editing became a method of butting scenes together electronically without visual breakup or physical cutting and splicing of tape. It is the ability to electronically splice segments from various video sources in a selected order, presenting a smooth flowing playback of the end result.

Another attempt at scene edits without physical tape cutting is still employed by many firms using recorders not equipped with an electronic editing capability. The results are similar to cutting the tape: visual breakup, vertical rolling, a patterned effect passing through the scene during transition. The method involves recording an opening scene, stopping the recorder, changing the camera angle or framing. The next scene is then recorded as close to the opening recorded scene as possible. The process does not meet TV production standards at any level. If the final presentation contains thirty individual scenes, the audience is subjected to thirty individual, annoying visual breakups. The professional approach lies with true electronic editing.

Cost for the editing capability is no longer a

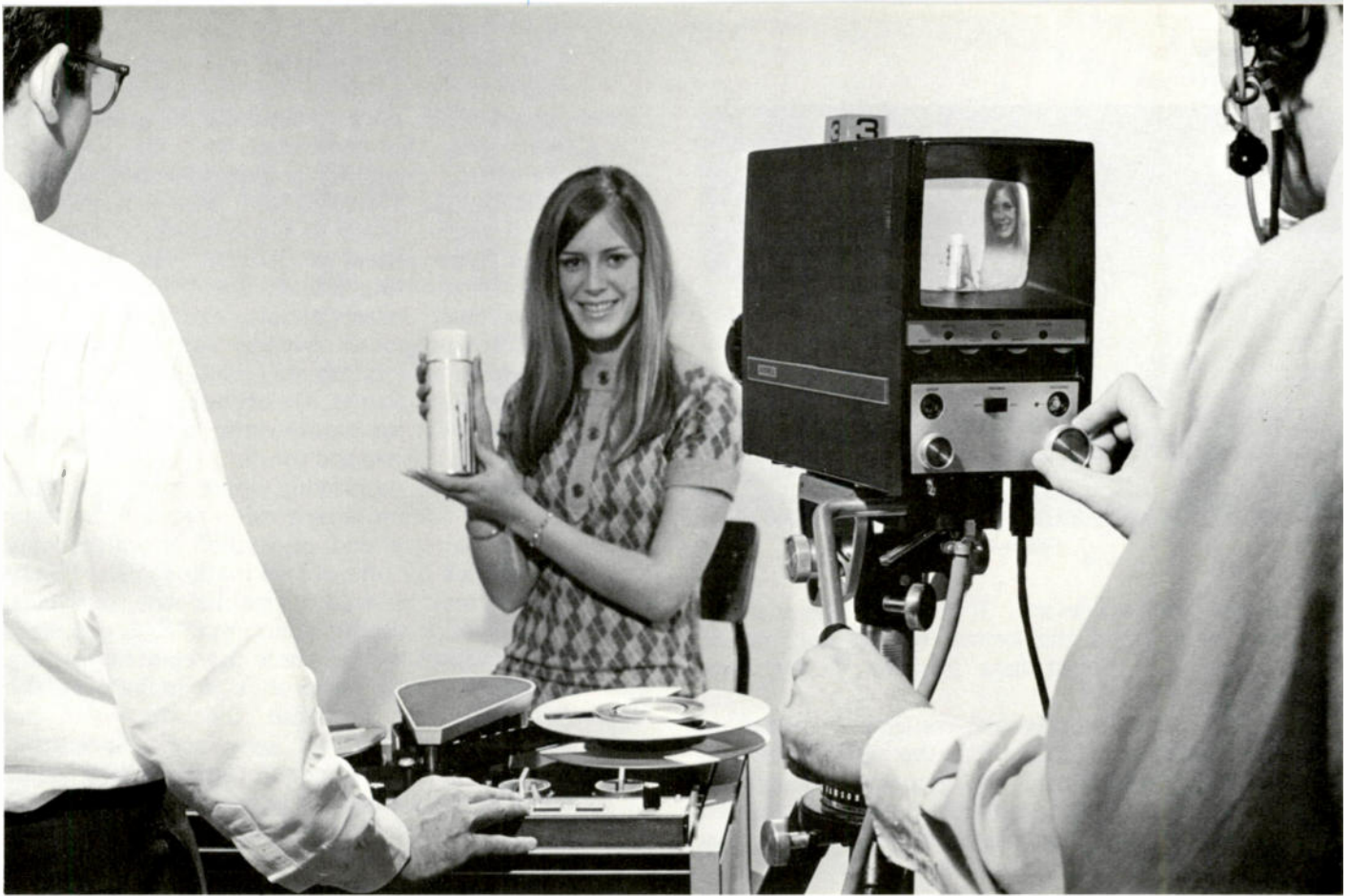
## ABOUT THE AUTHOR



Matt P. Spinello is Manager of Teleproductions for the Ampex Video Institute. His background includes fourteen years of television production experience. Matt has written more than 100 published articles for various electronics and trade journals. As a lecturer, he has made television production presentations in more

than 20 U.S. cities. He has participated in numerous workshops and has presented papers at the last three NCTA conventions. In addition to his writing, lecturing and TV production, he is a production consultant.





*Electronic editing is particularly helpful when preparing CATV commercial announcements and local "specials."*

limiting factor to the small system operator who may be pressed under a budgetary thumb. The editing function is included, for example, in the recently announced Ampex VR-5100E portable videotape recorder, a package offered for under \$2,500 (see Figure 1). Scenes may be assembled with the unit in a professional manner, with as much time as necessary between scenes to change camera angle, lighting, subjects or props. The editing function is easy to operate and results in a finished production far superior to those made on recorders without the feature.

To edit scenes with the Ampex model VR-5100E, the operator records the first scene of the production in the usual manner, allowing a ten-second overlap of material to be recorded. The extra footage will be erased when the next scene is recorded. The overlap enables the recorder to "lock up" on the previously recorded signal when the new material is laid down on the video track.

Example: The first scene calls for 30 seconds of video and audio information; 40 seconds of material are recorded before the recorder is stopped. When the second scene has been readied for recording, the first scene has played back to the 30 second point on the tape. While in a playback mode, without stopping tape movement, the recorder is placed in an editing mode. The point on the tape where the edit is made is usually determined by a visual cue on the tape, an audio cue, or by a preset number on the digital counter of the recorder.

To make the first edit following the opening and subsequent scenes (see Figure 2) the recorder is first placed in a normal playback mode with individual

audio and video levers to the extreme right. The levers may be operated independently to allow the assembly of video material with audio added later, or to enable the audio to be changed on any portion of the recorded video material without disturbing the recorded video signals.

Figure 3 shows the operator's movements as the end of the first scene appears. The red record button is depressed with the left hand while the right moves both levers to the record position. The edit switch has been placed in the "on" position while the machine



Figure 1

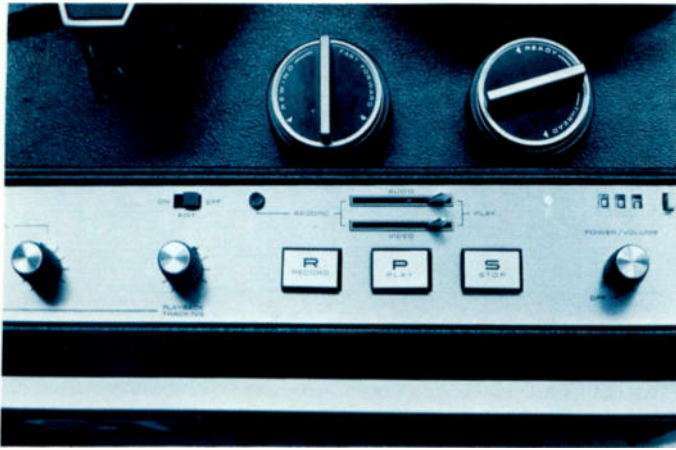


Figure 2

was in the playback mode. The actual edit is made however, only when the record button and audio/video levers are moved into position during tape playback.

Locked in, the recorder will continue to assemble the scene long or short, until the stop button is depressed or the tape gates are opened to the right in a "thread" position. Subsequent scenes are assembled in the same manner. Each scene may be screened as many times as necessary to determine whether it is acceptable or must be retaped. When a scene is finalized, the procedure for editing any number of additional scenes is repeated.

The editing features of the Ampex VR-7800, a

higher priced VTR, operate similarly to those of the VR-5100E, with the exception that the VR-7800 recorder's editing capability is expanded beyond that of the VR-5100E. The VR-7800 recorder will edit low or high carrier, color or black & white material.

Staging a hypothetical production: The telephone rings in an office setting furnished additionally with a desk, lamp, chair, miscellaneous furniture and file cabinets. The proposed outline for the segment dictates that 1): a secretary will walk into the office; 2): answer the telephone; 3): exchange information with the caller; 4): jot a note on a pad; 5): hang up the phone; and 6): leave the room.

A simple system employing one camera equipped with a standard 25mm lens, a video recorder *without* an editing capability and one video monitor, may tape the segment by one of two methods. The "dirty edit" method may be used to establish the six scenes, with the end result totally unacceptable, as outlined. The second method would force the camera position into an extreme wide angle shot to include all the elements that must establish the scene for the audience. Without a zoom lens nor the editing capability (or the use of a second camera which might be switched in for medium or extreme close up shots) the single camera is locked in a static position for the entire segment.

The production is taped under limited circumstances. The videotaping crew knows the reason and accepts it as being the only way to get a clean production on tape. The final audience accepts the playback, but to a limited degree. The static shot becomes monotonous. No real message is conveyed under the circumstances.

Because of the wide shot for the entire length of the segment, the various objects in the room become distractions to the viewing audience, which has time to peruse each portion of the scene at great length. The live subject is never brought up front on a close up scene to hold the audience's attention and is thereby dwarfed within the scene. There is no impact to the segment; no real suggestion of where the audience's visual attention should be drawn. The production was simply videotaped with the available elements.

Employing the VR-5100E with the mode of assemble editing and with a camera equipped with only a 25mm lens, the production can be turned around to meet professional TV production standards. The scene is first preset with the telephone and desk in the foreground; other elements are appropriately placed in logical order around the room. The camera is positioned on an extreme closeup of the telephone, filling the screen. As originally outlined, the ringing telephone established the opening scene, and called our attention to the action that is to follow.




SCENE ONE: A telephone fills the screen; it rings twice, three times. EDIT. (Camera position is changed to an extreme wide angle of the room, establishing the scene and action to follow.)


SCENE TWO: Secretary walks into scene from upper right corner of screen to telephone at left foreground (to establish depth in the picture), picks

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up telephone. EDIT. (Change camera position to medium close up of secretary, head and shoulders).

SCENE THREE: Secretary exchanges verbal information with caller for predetermined length. EDIT. (Camera positioned to wide angle shot to include secretary, telephone, desk top).

SCENE FOUR: Secretary opens desk drawer, pulls out pad of paper and pen; jots note. EDIT. (Camera changed to extreme wide angle of entire office area.)

SCENE FIVE: Secretary places pad and pen on desk, exchanges goodbyes with caller, hangs up phone, leaves office area. EDIT. (Camera changed to extreme closeup of pad and pen on desk top).

SCENE SIX: Close up of pad is held on screen long enough for audience to read written message twice at normal reading speed; scene fades black.


The taped sequence now contains the elements of standard TV production practice. Areas that should be brought to the audience's attention are portrayed full screen, without surrounding distractions. In the opening scene we are aware that the presentation has something to do with a telephone message. The wide shot establishes the location of the telephone and brings our subject into the picture. We eliminate further distractions with a medium shot of the subject as she speaks with the caller, drawing full attention to her. We cut to the medium-wide shot to bring the pad and pen into the segment; then back to the extreme wide shot as our subject completes her mission and leaves the room. The extreme close up on the pad, the final shot, brings the final bit of



Figure 3

importance up close to our audience. This action emphasizes that the message to be conveyed from the caller to the audience is defined in the note.

In this manner, impact is created, drawing the audience's attention and conveying a message. This presentation is the type of quality and content TV audiences are used to watching through the eyes of the broadcast teleproduction.

Call it "show biz," "Hollywoodish," or "network practice." The fact remains in this instance and many similar situations, "six scenes are better than one!" 

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## Studio Notebook

answers to program problems



By Ken Lawson

**QUESTION:** What are some helpful but inexpensive techniques for the CATV newscaster?

**ANSWER:** This is the second of three columns on newscasting. Last month we considered "staging." This month the topic is "delivery."

I am not a newscaster, but I would like to relate some of the things I have learned in my association with the professional news team at KUTV in Salt Lake City.

Good preparation is the key to delivering news with accuracy and meaning. Prepare your own material... even if it is only retyping what others may have helped you to develop as a news script. This will help you get a "sense" for the news stories you are telling. Think of *what* you say, not so much *how* you say it. The *how* will come more naturally if you understand each story.

It is helpful to use a structured script. A local advertising agency should be able to supply you with "copy paper" which are sheets divided for audio script on the right and video instructions on the left. Your control room operator can follow this script easily and have visuals such as slides, glossies, films, or video or audio tapes switched right on cue.

You benefit from the script because it makes you organize the news show properly, and it gives you a built-in time planner. For example, you may find with practice that each line of one-

half page copy takes you two and one-half seconds to read.

Your personal preparation will keep you from stumbling over (or even worse, mis-interpreting) a story. If stories don't come out the way you meant... or the way they happened... you will destroy the formal, reliable quality of the news show.

Deliver your news in a relaxed, friendly, humble manner. You are reporting... not entertaining. By knowing your copy you can get that relaxed "eye contact."

Master the art of keeping your voice at an even volume. Change pace and inflections, but don't blast and whisper. Most microphone and mixing systems react badly to this.

With regard to camera techniques which assist in making your delivery effective, minimize camera movement. The viewer is concentrating on the details of your story. Pans, zooms, dissolves and special effects generally distract from this process of concentration. The obvious exception is weather reporting where the newscaster uses props. Another exception is the news show that uses only one camera.

You might open your show with a medium long shot (table-top to above the head). After the opening statements or the first story, you could cut to a closer shot which catches the shoulders and head. These are the two standard shots and cuts to them should only be made between stories or other video sources.

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# Television Graphics: Some Tips for the Artist

Dress up local originations with eye-pleasing visuals. Avoid headaches and costly mistakes by training your local artist to the distinctives of TV graphics.

By Dr. Harold Livingston, Director  
Kidder Hall TV Center  
Oregon State University

In some communities, the local cablecaster may wish to employ a part-time artist to prepare visual materials. Both time and money may be saved by making certain that the artist is familiar with the requirements of art work for television. The basic principles discussed here are applicable to both monochrome and color television.

The artist should first become familiar with the term "aspect ratio" as applied to the viewer's TV screen. In simple terms, the TV picture is rectangular in shape and is seen in a ratio of 3 units high and 4 units wide. If the artist is not familiar with this ratio, he may create visual materials that cannot be used. He should work with rectangular cards. The most common size comfortable for most artists is one with over-all dimensions of 14 x 17 inches. Other sizes either smaller or up to 16 x 20

inches may be used.

A second characteristic of television which may trouble the artist is the fact that although his title card or other visual material is in the proper rectangular ratio, he must leave plenty of white space or blank area around all four sides of the card to compensate for space lost in transmission. The factors in transmission coupled with the variable factors of home set alignment will usually result in a picture loss of one-eighth to one-tenth of what the studio camera or film chain camera actually sees.

There must be sufficient blank space on all four sides of the message for the camera to include enough of this blank area to compensate for picture shrinkage. If the artist is using a card cut to 14 x 17 inches, he should use another card with the same outer dimensions to mask out all but the *essen-*

*tial area* (approximately 6 and 3/4" by 9 and 3/4") in which he should do all his drawing.

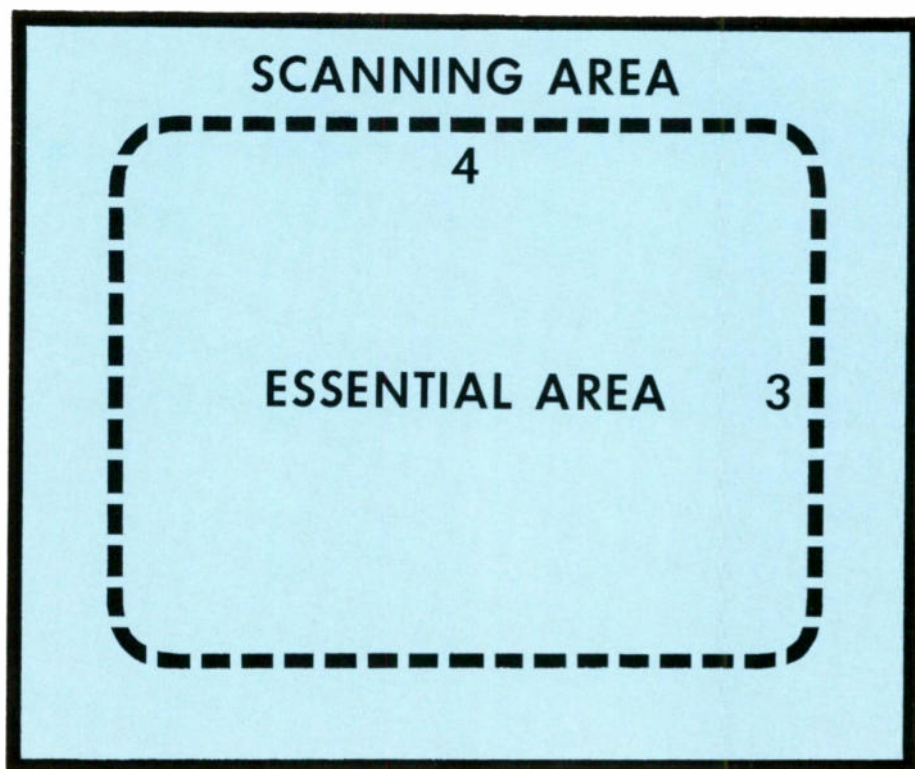
The aspect ratio and picture shrinkage problem apply also in the making of slides from title cards and related visual materials. Make sure that your film developer leaves plenty of white space around the card message he is developing on his slide or part of the message may be cropped out by the time it reaches your home viewer.

Train your artist to standardize the size of the art card he uses. Also insist that he use strong cardboard material that will support itself on an easel without center bending. The other side of the card may also be used for another graphics assignment. This is often overlooked in cutting costs of art work.

In monochrome television, the



When preparing art work for TV, the artist should work with rectangular cards that are 3 units high and 4 units wide. Because of TV picture "shrinkage," the actual art must be limited to the "essential area."



TV system can handle only a limited contrast range of color shown on the screen as shades of gray. While your eye may handle a contrast range of 100 to 1; television cameras are limited to an approximate range of 20 to 1. The middle ranges with good sharp contrasting shades of the gray scale are most effective for television. Avoid using black letters on white cards because the ultra-sharp contrast may cause a problem for your camera.

Many experts regard the ideal TV visual to be dark-green lettering on a light-gray card. However, your card stock may be pastel shades of gray, pink, yellow, green, lavender, etc. so long as you avoid pure white. These pastel colors then contrast nicely with black letters without technical problems.

If you have a problem of reflection from the card stock or the let-

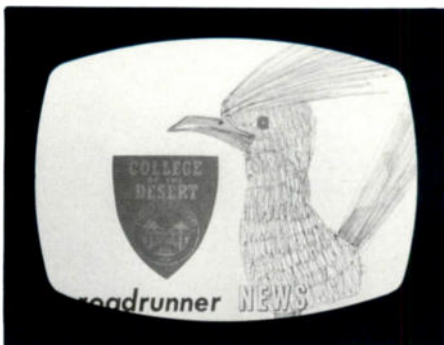
tering ink or paints used, there are several sprays available at low cost to cut down glare.

Regardless of your objective, the artist must think in terms of color contrasts that are sharp enough to register clearly on television. Subtle color blends may look beautiful to the eye but may be completely lost by the TV camera. The artist will find that his contrast ranges for color TV will be even more limited than for monochrome television, particularly where the color TV equipment is not of the highest

There are a few suggestions on lettering methods. The artist should keep his lettering clean and simple so it can be easily read. He should also leave slightly more space between his letters than is commonly done for most commercial art assignments. The resolution power of the TV screen is quite limited compared to maga-

zine print. Make each letter sharp and clear and avoid letters that are too thin or too heavy. Fancy script may be useful for special purposes, but is not effective in direct visual communication via television. Avoid hyphenating words in a visual message; if there is not room for the full word, move it to the next line.

If you are designing your visual card for school classroom reception, limit each card to no more than seven lines of print, using print as large as your space can handle. Avoid wide variations in lettering size for television; standardize the height of your letters. For example, you may wish to make a commercial, setting off the product name from the rest of the message. You may double the size of the letters and perhaps use heavier letters (providing they are spaced well) and have no problem.







# GUARDSMAN

SERIES

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What's more the highly conductive back treatment reduces the static attraction of airborne contaminants that cause dropouts and damage to tape and VTR heads.

Make your next video tape investment in “Scotch” Brand's Guardsman — the ideal tape for CATV originations.

For more information, call collect to Mr. Jack Bondus (612) 733-7627.



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TYPE OF VTR EQUIPMENT \_\_\_\_\_

TVCI



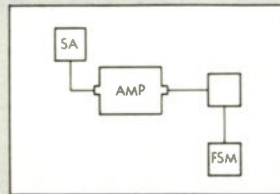
“Scotch” is a registered trademark of 3M Co.



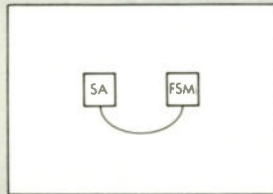
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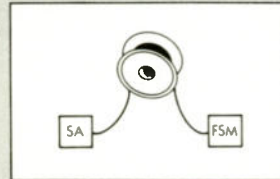
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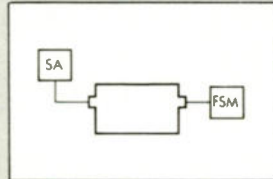
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Since the SYSTEMS ANALYST weighs only six pounds and operates from a rechargeable battery, you can take it anywhere in your system. It is the second generation of CATV test equipment.



Model 7500

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CATV OPERATOR'S PRICE

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(Use It With Or Without The System Analyst)



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**JFD** / JFD ELECTRONICS CORP. / SYSTEMS DIVISION

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When you go beyond this, use extreme caution. Extreme variances in letter size annoy viewers, because it becomes harder for the eye to get the message. This is an even greater problem for the viewer watching a message in color.

The artist should also become familiar with the preparation of a "super card" where the cablecaster is moving into more sophisticated production techniques. A super card is cut from black illustration board in the same dimensions as standard art work but all lettering and art work is done in white. If you have a slide chain, supers are easier to handle this way without tying up a studio camera.

Since the black surface reflects almost no light, the TV camera will transmit only the white letters or white art work. Super slides or super cards are useful in superimposing the name of a speaker or an event for identification.



Typical "super card" effect

Lettering should be simple and clear. If you must include other art work in addition to letters, limit the pictures to white line drawings. Large white areas do not "super" well. Limit the amount of information to one or two lines if possible. Keep in mind that these white letters are superimposed over another picture, usually a picture in motion, and if the background behind the supered material is not dark, the supered information may be hard to read.

One method of moving into the sale of commercial visual announcements is to use your automated weather channel and run these announcements at the hour and half-hour. If the artist uses the proper aspect ratio, it is possi-



**GENE SCHNEIDER, TULSA, OKLAHOMA**

## **“We brought CATV to Casper, Wyoming ...Collins helped make the picture profitable.”**

Gene Schneider, president of United Video, Inc. and LVO Cable, Inc., Tulsa, Oklahoma, comments on the selection of microwave equipment for his company's CATV operation in Casper, Wyoming.

“Casper depends on a community antenna operation for its television viewing. Look at its location on a map and you'll see why.

“We wanted to bring the best possible CATV reception to Wyoming. We chose Collins equipment for its high reliability and its low cost of ownership.

“Collins equipment helps keep our subscribers happy with a quality color picture; and it keeps us happy because it's economical.”

Throughout the nation, Collins CATV microwave radio relay equipment is on the job . . . for Mr. Schneider's microwave firms and other CATV operations.

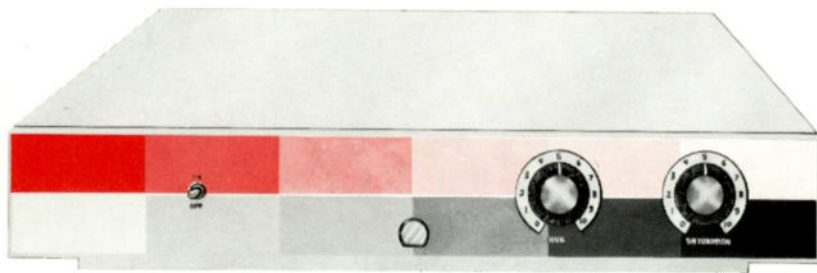
This microwave equipment is another example of the engineering and manufacturing excellence achieved at Collins through use of the C-System, a computer-controlled system which integrates design and production—as well as other management control functions—into a single network.

For complete details on how to keep the profit in your CATV picture, write Collins Radio Company, Dept. 400, Dallas, Texas 75207. Phone: (214) 235-9511.



COMMUNICATION/COMPUTATION/CONTROL

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The Colorizer is the least expensive way you can cablecast in color. Of course, it can't be used to convert live scenes, tapes or films to color, but it is great for slides, flip charts and animation.

We sell the Colorizer with complete instructions on how to prepare black and white artwork for best results. This makes it very easy for you to offer advertisers **COLOR COMMERCIALS!**

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Input: Composite video, EIA, 2:1, Random Interlace

Video Input Level: 1 volt peak-to-peak

Outputs (2): NTSC Color, 1.0 volts peak-to-peak

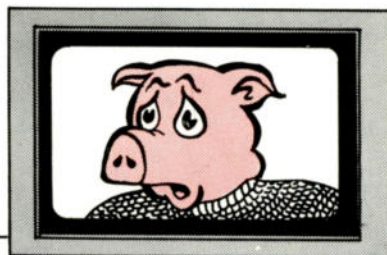
Signal-to-Noise Ratio: 50 db

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Hue Range: 270°

Saturation Range: 120 units peak-to-peak

For more information, or a free, no obligation demonstration, call or write.



**STUDIO**

Technology

ble to use a sequence of nine rack-mounted cards without any other adjustments except the construction of a simple frame to hold the cards.

If you are now using a portion of your weather channel for card announcements, have your artist work out a set of instructions based upon this article for organizations constructing their own card announcements. The results can be attractive and effective.



As your artist becomes familiar with the basic principles of planning TV graphics, his studio cards will also be readily adaptable to make into slides.

If you have a color studio or color film chain, or plan to install color in the near future, it would be wise to have your artist work with color contrasts that are effective for both color and monochrome transmission. While the basic principles covered here are applicable to both monochrome and color transmission, the artist will find that his contrast ranges for color will be more critical.

The artist who understands these basic requirements for televised art will save you money and will produce eye-pleasing work. Your locally-originated programs, announcements and sales messages can have that professional touch if you take the time to train your artist. RVC

*Editor's Note: Sample program identification cards (except the "super card" example) used with this article are from Cable 10 . . . the local origination channel of the CATV system in Coachella Valley, California. See the article beginning on page 46, this month.*




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**STUDIO**  
*Equipment*

A special monthly section devoted to TV programming operations in small studios

## Televise Color Slides Without Using a Camera

Sylvania has developed a color slide programming device which substitutes a color flying spot scanner for a camera. The main purposes of this approach are to eliminate daily set-up and color registration adjustments associated with color cameras, and reduce the cost of equipment used for slide presentations... especially automatic 24-hour program applications.

The principal application of interest to cable people is the presentation of automated spot ads with 24-hour time, weather, and news services.

Another potential CATV application involves prerecorded advertising spots, using slides synchronized with taped narrative for live shows.

The basic system, priced at \$2,750, includes a flying spot scanner, slide tray, slide changer, and all circuitry to produce an encoded NTSC type video signal, if driven by an external color synchronizing generator. The system mounts in a standard 19" rack, requiring 24½" of vertical space.

Sylvania offers several options to expand the system's capabilities. The full system including the options is priced at \$4,500. The color sync generator provides all required pulses and interleaved color sub-carrier.

A timer module includes a 24-hour timer which will cycle the equipment on and off for any

preselected period. The slide interval timer will advance the slide tray to the next position at a selectable interval of 2 to 20 seconds.

A tape deck is available as a continuous loop, two-track cartridge system that accepts standard cartridges. Prerecorded narrative or other audio is carried on one track while the other track carries 150 Hz tone cueing signals to change slides.

Simulated motion from color slides is produced from a rotating polarized disc. Special slides will produce flashing and/or motion from a single slide.

To integrate other automatic services such as time and weather systems, a sustained 1 kHz tone on the slide cueing track will switch to the external source. If an external screen splitter is used, a continuous display of changing color ads can be shown in a part of the screen with automatic weather and news services.

The system is designed for continuous, unattended operation with preventative maintenance performed at 1,000 hour intervals. It has been dubbed "the money-maker"... and it probably will help the enterprising cableman generate some advertising dollars. If you want more information, call (716) 343-3470 ext. 527, or write Sylvania Entertainment Products, Special Products Department, 700 Ellicott Street, Batavia, New York 14020.

TVC

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# A Prepared TV Host Means Good Interviews

As a veteran TV entertainer, this author has a rich background from which to draw. His practical tips can turn an ordinary, dull interview into a meaningful, entertaining program.

By Frank J. Herman  
CATV Program Consultant

The backbone of local, live CATV origination is, undoubtedly, the interview format. The success of these programs depends on the skill and know-how of the host-producer. With a little thought and planning these "sit and talk" sessions will develop into viewer-pleasing shows.

In most cases the guests will be making their first TV appearance. It is up to the host to bring it off. An interesting interview show starts with the pre-production. Keep in mind that this is television not radio. Contact the guest well in advance and ask them to bring plenty of visuals. If the subject is a special event remind them to bring posters, pictures of last year's action, implements or tools of the sport or trade discussed. Have politicians bring maps, models and pictures of public works. Encourage little theatre people to bring exotic props, sound effects or make-up items to enliven their stint.

Remember, television is your game, not the guests'. You have to

do the TV thinking and planning. When you first contact the interviewee, they may tell you they have no items pertinent to the discussion. It is up to you to do the probing and suggesting. Once the guest starts to understand, you will be amazed at the quantity of visuals that may come to light.

It is risky to rehearse or dry-run an interview. People never respond the same way twice. It is okay to talk over the elements to be discussed. Be sure that you are aware of the important points desired by the guest. Use simple cue cards to insure that you cover these areas of discussion.

The following is a handy "reminder" list of rules. I have these typed on light card stock and see that they are issued to every program emcee.

1. Always keep the home viewer in mind. At best, he is only mildly interested in what you are doing. To capture and hold his attention, he must be able to see and hear what you are presenting. This requires attention to mike tech-

nique and assurance that the camera always has a clean shot at the subject.

2. Prior to starting the show be sure that your guests are familiar with the simple hand-cues . . . mysterious wig-wags can often render a guest speechless.

3. Have your moves, personalities, props and show elements plotted firmly in your own mind.

4. Avoid long opening discussions. Simply state the subject at hand, *briefly* introduce the guest and get going. If the guest is a VIP, bring this out in the body of the show . . . bit by bit. A long two-shot at the opening of a show is deadly.

5. Ask only ONE question at a time.

6. Make all questions simple, short and direct.

7. LOOK at and LISTEN to the guest.

8. Beware of phoney adjectives. EVERYTHING is not stupendous, gigantic and colossal.



Author Frank Herman (center) illustrates rule number seven as he interviews a local bookstore operator.

9. It is bad manners to TOP a guest. Viewers resent a host who asks a question and then goes on to prove that he has superior knowledge.

10. Do not refer to "inside" jokes or events unless you are prepared to share the whole story with the home viewer.

11. If a guest is going to hand-hold something for the camera to see . . . warn them to hold it on one plane and make no fast moves. Be aware of where the cameras are and do not hesitate to hold a guest's wrist or shoulder in order to get a clean camera shot.

12. When working with black and white do not extoll, "How great this would look in color."

13. Throughout the show, remind your home viewers of who, what and where. Some people tune in late.

14. Thoroughly rehearse your closing material for every show. A good show can be destroyed by a rambling, ad-lib, awkward sign-off.

Read that list of fourteen rules again . . . and then review them later, again. Agree or disagree . . . mentally tear them apart if you like . . . but please think about them. For fun and education, keep this list handy while watching interview shows on the other channels. See how they score.

For your own safety and comfort it is wise to have a stock of interesting general questions tucked away in your noggin. Here are some examples that will help to bring you through your allotted time, liven a technical discussion and humanize a stilted guest.

*What do you think is your greatest asset?*

*What is or has been your greatest liability?*

*What individual (in guest's area of interest) has made the greatest contribution in this field?*

*Is there one author or book that has had a great influence on your life or career?*

*Do you enjoy the company of other people in this field?*

*What was the most delightful place you have ever visited?*

*Do you have any close personal friends who are your exact opposite?*

*How do you handle bores?*

*What misconceptions do most people have about your profession?*

*What do you consider the turning point in your life?*

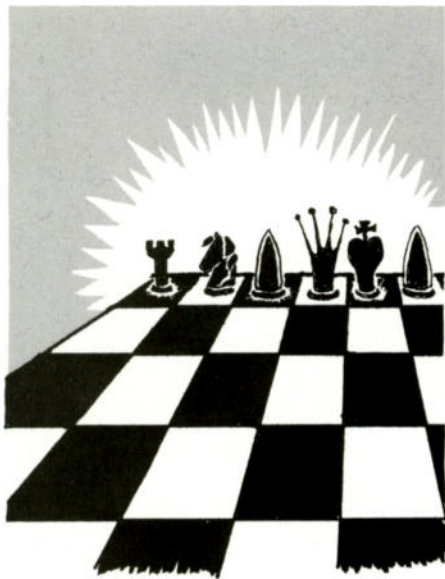
*What is your next project?*

*Have we covered everything that you wanted to share with our viewers?*

Naturally, you will have to tailor the foregoing list to the subject at hand. Remember, the surest way to bring a guest out of his shell is to get him talking about himself and his interests. Once this starts to happen, the camera is forgotten and the result is an enjoyable exchange.

Television is the most intimate form of *showbiz* ever devised. Once you develop the knack of these "neighbor to neighbor" interviews you will have a steady source of low-cost, high impact programming.

TVC



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is to...



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## ESSA Weather Wire May Be "Program" Source

Did you know the federal government is offering something that may be a boon to cablemen? The Environmental Science Services Administration (ESSA) . . . formally known most commonly as the Weather Bureau . . . now offers a free weather wire. The wire carries 75 word-per-minute "clear text teletype" print-outs of (1) severe local storm watches and warnings and hurricane advisories, (2) hourly radar weather reports, (3) hourly reports of current weather at various major points, (4) four state and national weather roundups per day, (5) agricultural weather reports, and (6) four local, zone and state weather forecasts daily. The only cost to the cablecaster is for a telegraph-grade line-extension from the local telephone company central office, and the rental of a teleprinter. Don Rozak of Data Technology is working with ESSA people in an effort to program the weather wire (or a second weather wire) for continuous CATV weather channel display via an alphanumeric message generator such as Data Technology's Data Vox. Contact Mr. Rozak at 1050 East Meadow Circle, Palo Alto, California 94303, (415) 321-0551 for more information about ESSA weather wire applications for CATV.

TCI Programs, a new division of Tele-Communications, Inc., has

entered into a distribution and production agreement with producer-host Jack Douglas. The agreement gives TCI the CATV distribution rights to 65 half-hour segments of Douglas' AMERICA! series, and 78 half-hours of THE GOLDEN VOYAGE, 39 half-hours of ACROSS THE SEVEN SEAS. All of the shows are in color. Bob Magness, President of TCI, announced that Douglas will also produce and narrate a new series of 260 five-minute programs slanted at women. TCI operates 57 CATV systems and its microwave division produces video feeds to 22 TV stations and 108 CATV systems in the west. TCI Programs, Inc., can be reached at Suite 205, 245 Columbine, Denver, Colo. 80206, (303) 399-8302.

National Telesystems Corporation recently announced the formation of a new division for cable subscriber marketing. NTC was formed early this year as a combination venture of Dick Clark Enterprises and International Video Corporation for the primary purpose of creating and distributing programming for the CATV industry. The new subscriber marketing division will be headed by Robert Stice, formerly with CATV Marketing Incorporated. NTC's release on this development explained that the move further emphasizes "the NTC supermarket approach to the cable industry. . . ." TVC



# Programming Profile: Green Valley Nursery School

Educational entertainment. That's the aim of this participation-type program being developed for the children of CATV subscribers.

**G**reen Valley Cable Nursery School, a new exclusive program for cable television, is the product of research and development by a group of educators. Dr. Rudolph C. Flothow, whose organization, Learning Achievement Corporation, was instrumental in the program's concept, describes it as a combination of "well developed teaching principles with wholesome entertainment."

Through the use of materials and methods used to teach basic skills to children of all ages, the program allows the child to interact directly with the televised presentations using response materials delivered to his home. The educational objectives of the first nine months' programming are to qualify the learner for successful entry into the first grade, with concentration on reading and mathematics. The program is designed to appeal to children through age 8, beginning with a lower age limit established by the child's own ability to indicate a choice by marking a response sheet.

The emphasis of Green Valley Cable Nursery School is on entertainment with the resulting "happy learner." Animated learning sequences are interspaced and highlighted by the live characters who live in Green Valley. The live portions are being produced primarily out-of-doors in pleasant woodland settings. "Outside and natural settings represent freedom

for small children, especially since small children are more apt to be confined 'inside' to a greater degree due to their age," Dr. Flothow stresses.

In the Green Valley community are such interesting people as "Lifeguard," a rather whimsical and sometimes forgetful-on-purpose man who might best be thought of as the unofficial mayor of Green Valley. Then there's the nice policeman in charge of game-rules and fairness. These two main characters interplay with "Kelly," a little girl who loves flowers, animals, and nature; "Shortcut," a mischievous boy who would much rather win the game than follow the rules; "Do and Don't" who have the obvious

function of presenting both sides; and several other inanimate characters such as "Computer" and the twin "Bags."

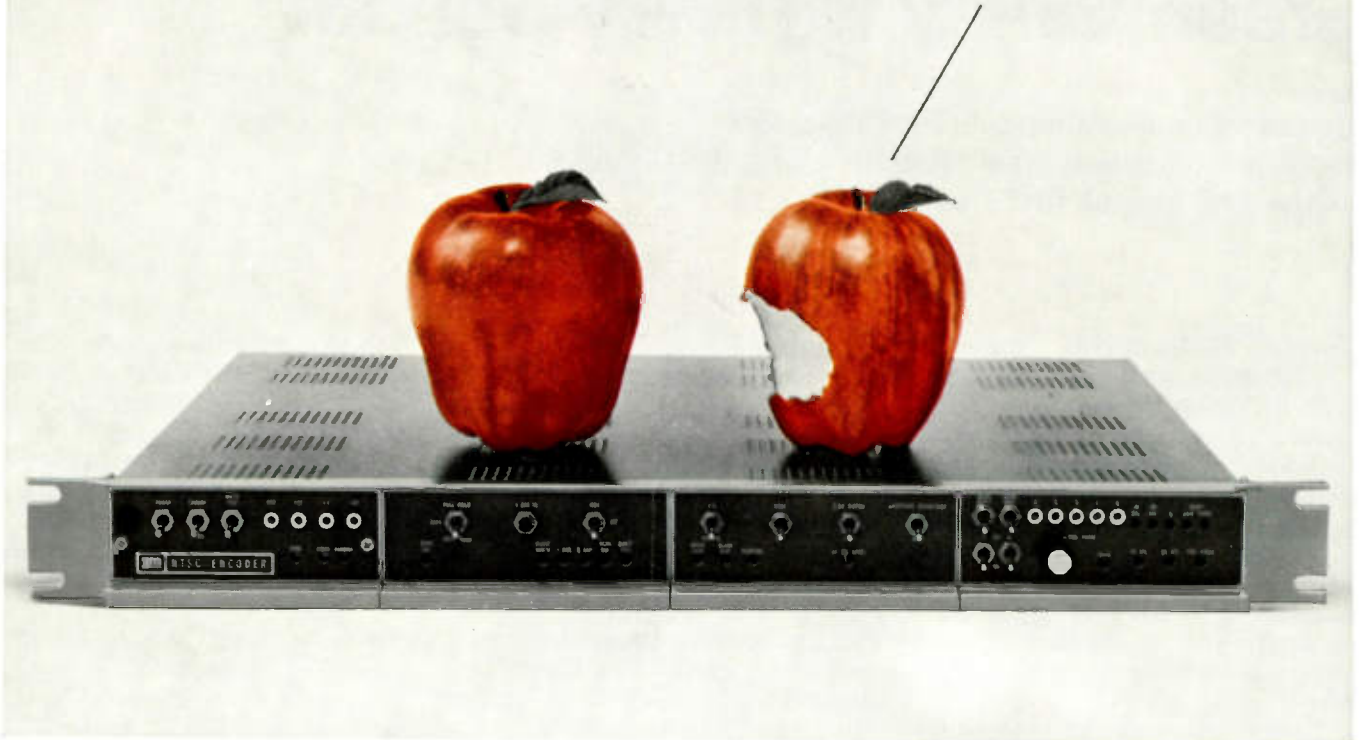
Green Valley School will be a five-day-per-week series with each program consisting of a half-hour, color video tape plus an additional, optional half-hour format for the cable systems wanting their own live studio children's program. Each month, the participating child is to receive his or her Green Valley Kit consisting of the learning workbooks and learning games to be played during the following month.

The series, being offered by National Telesystems Corporation, is now in full production on the West Coast. TVC



*TV Director Jim Reisinger blocks action for "Kelly" and "Lifeguard" during a typical outdoor scene from Green Valley Cable Nursery School.*

IT ALWAYS SEEMS THAT 3M PROVIDES  
A COUPLE OF FEATURES  
THAT OTHER PRODUCTS DON'T



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Another unique fact is that the 3M Color Encoder considers smaller, lower cost cameras as well as the big expensive ones. A method of input clamping is used on video signals that eliminates low frequency hum and noise and other unwanted effects on the matrix. If you have access to an SMPTE color test film (hand test over colored bolts of cloth) you can determine whether your camera needs clamping. If it does, you're in clover with this 3M Encoder.

The 3M Color Encoder is compatible with all 3-tube and 4-tube cameras, meets all applicable FCC and EIA specs. There's also a 2F notch filter in the horizontal aperture equalizer to prevent noise beyond camera frequency response.

Luminance enhancement at the flick of a switch assures a sharp picture even if registration is not perfect. With a 4-tube camera, enhancement is from the luminance tube. The green channel is used for enhancement in 3-tube cameras. Switching is on the front panel, as are all operation and setup controls, including notch filter.

Overall, you'll find that the 3M Brand Color Encoder is equal or superior to anything on the market yet costs somewhat less. Could we send a brochure?

Mincom Division **3M**  
COMPANY  
300 SOUTH LEWIS ROAD • CAMARILLO, CALIFORNIA 93010

October, 1970

*TV Communications*

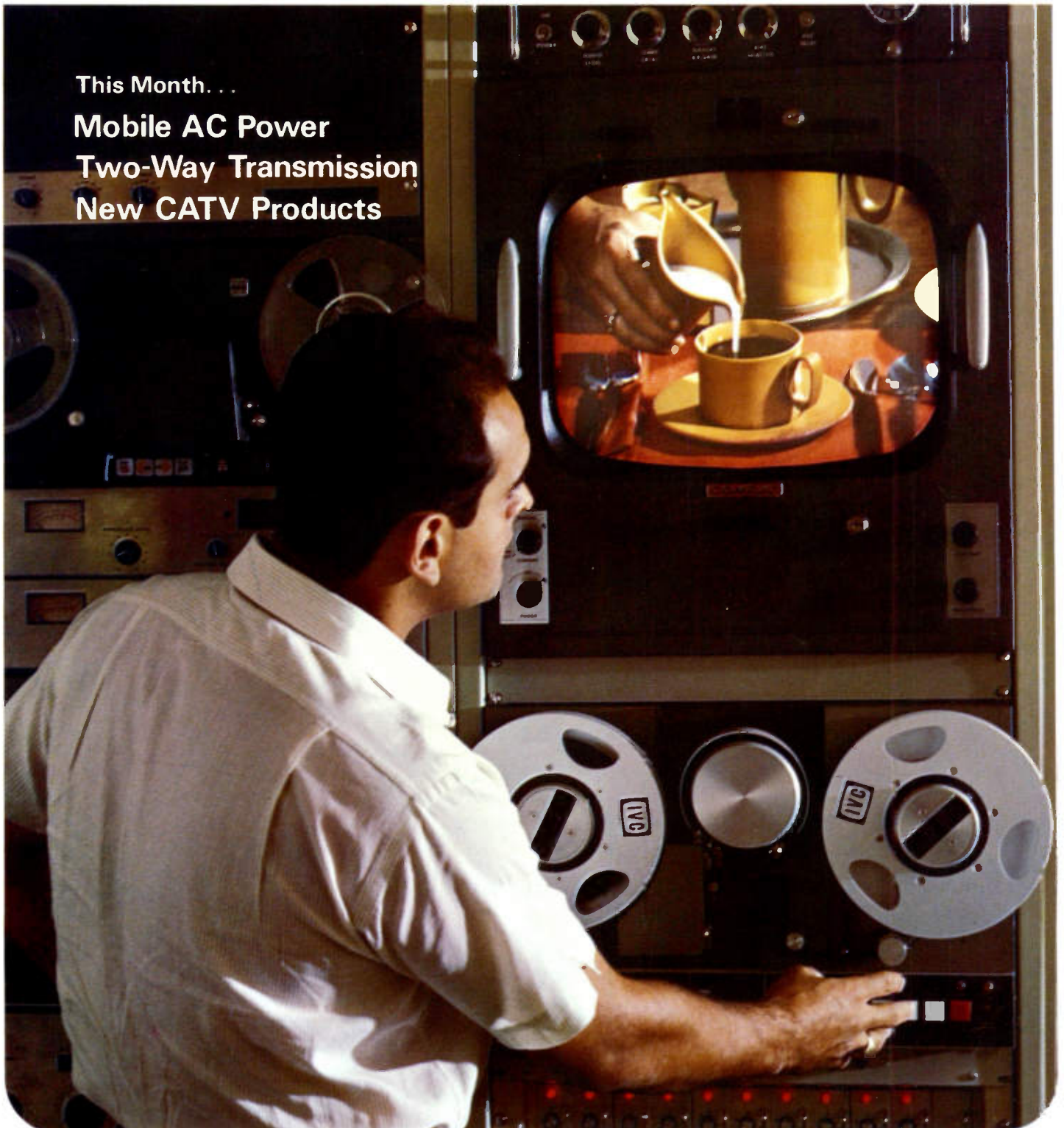
# *CATV Technician*

This Month . . .

**Mobile AC Power**

**Two-Way Transmission**

**New CATV Products**



*The technician above is adjusting an IVC VTR. Turn to page 59 for part two of the three-part review of video recording equipment. (Photo courtesy of International Video Corporation.)*



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# Design Considerations For Two-Way Transmission

This paper was presented at the national convention of the Canadian Cable Television Association last May. A detailed look at bi-directional transmission, it has been divided into three consecutive monthly parts. Part 1.

**F**or some time now, the trend in the design of CATV amplifiers has been towards achieving ever increasing channel capacity. This has allowed system designers to more fully utilize the inherently wide bandwidth capability of coaxial cable. This has led to the speculation that a cable system can be used for the transmission of more information than "I Love Lucy," etc.

Some of the considered uses for the cable system include: (1) merchandising, (2) security services, (3) utility meter reading services, (4) pay television, (5) educational services, (6) facsimile, and (7) data communications.

These newly proposed types of services will be successful, however, only if the cable systems are also modified to achieve bi-directional transmission.

In bi-directional transmission, communication is permitted in both directions of the cable. This type of scheme permits the CATV system to operate as a communications medium similar to that of a telephone system. Any type of communications which requires a

reply or answer signal (such as in dissemination or burglar and fire alarm information or program origination from schools, etc.)

## ABOUT THE AUTHOR



Michael J. Rodriguez is the Executive Director of Engineering for Vikoa, Inc. He received his Bachelor of Electrical Engineering and Master of Electrical Engineering degrees from New York University, and has done advanced studies at Rensselaer Polytechnic Institute. Rodriguez is a member of I.E.E.E.

... necessitates use of a bi-directional transmission system.

The CATV system utilizing this concept becomes a wideband communications link providing a multitude of communications services operating at fixed fees to subscribers or on a leased basis to communications users. The search for channels to fill already vacant frequency space in the cable system for the newly developed extended channel amplifiers would no longer pose problems, since the request of new communication links for data transmission could probably, by itself, fill these vacant channels. The anticipated revenues from a performing system would add to existing revenues, and thus the CATV industry would definitely enter into a new era.

## Transmission Problems Limit Bi-directional Potential

The basis of a bi-directional transmission system can readily be stated. Channels of one type are originated at one end of the system, and received at the other

end, while other channels are originated at the latter end and received at the former. Although the channels contain different information, channel characteristics in one direction can be similar to channel characteristics in the other direction, i.e., they can either be of the same frequency, can share common amplifiers, or can totally share a common transmission medium.

Factors which could limit the potential of a particular system must be analyzed in order to evaluate the merits of a bi-directional system.

**CROSS-TALK:** Signals of channels transmitted in one direction can couple to signals of channels being transmitted in the other direction, thereby providing disturbing signals to the latter channels.

**SINGING:** If cross-talk occurs so that the cross-talked signal returns to its original transmission path, a condition called "singing" can occur. In this condition, the channel can interfere with itself either by distorting its own signal

information or by providing unwarranted effects (such as ghosting, etc.) to its own transmission.

**ECHO:** If discontinuity arises in the transmission medium or improper terminations are used, signal reflections can occur. These reflections then appear in the opposing signal path and can result in conditions similar to those which result from "singing" or cross-talk.

**REDUCED SPECTRUM UTILIZATION:** Some bi-directional transmission schemes can retain full use of available spectrum. In other words, channels in one direction can be of the same frequency as channels in the opposing direction. In most schemes, however, the total available bandwidth must be divided between the two directions of transmission. The extent of this reduction in spectrum utilization must be weighed against advantages (such as cost reduction) which result from the particular scheme.

Design of a bi-directional system requires particular atten-

tion to the factors described above. It is important that these factors be controlled in order that the quality of transmission is not degraded.

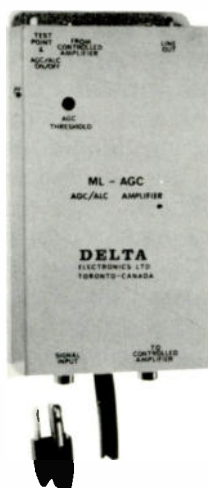
## Requirements of A Bi-directional System

Bi-directional transmission is not easily achieved without some penalty. These may be financial penalties (when additions to existing plant are required) or penalties resulting in compromise of system design objectives. Trade-offs between additional costs and specification compromises become necessary when a communications system is readapted for bi-directional transmission. Therefore, requirements of the bi-directional system for achieving specific design objectives must be carefully defined before a particular method can be considered.

The design objectives of a two-way system are essentially to: (1) provide two-way communication between certain points in the system (ideally between subscrib-

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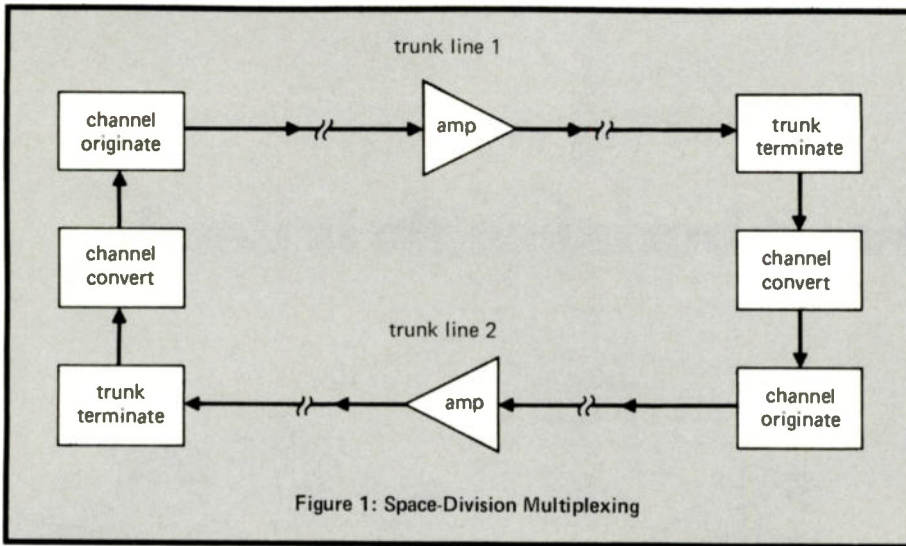


Figure 1: Space-Division Multiplexing

ers), (2) allow program origination at points remote from the head-end, and (3) permit correspondence between trunk points and the CATV head-end.

While accomplishing these objectives, the bi-directional system is required to: (1) maintain the minimum acceptable specifications for distortion, signal-to-noise ratio, interference, echo effects, etc. on all communi-

cation channels including those of television, (2) prevent excessive cross-talk or "singing" between the separate path directions of the systems, (3) permit access to the system at any point of the trunk line, (4) not decrease appreciably the number of channels which the system could normally handle according to its bandwidth limitation, (5) not degrade appreciably the reliability of the communi-

tions networks, and (6) not be prohibitive in cost.

Several bi-directional transmission methods are available which could meet these requirements. These methods will be examined in detail in this article.

### Potential Methods Of Bi-directional Transmission

**SPACE-DIVISION MULTIPLEXING:** This arrangement is shown in Figure 1. Each transmission direction has its own cables and amplifiers so that transmission isolation between opposing directions is almost totally achieved. The extent of this isolation depends upon the radiation and leakage characteristics of the physically separated systems and the distance between the systems. Extremely low cross-talk can thus be achieved by this method. In addition, "singing" is minimized, and echo effects do not appear on opposing transmission paths.

This type of scheme obviously minimizes the problems of a bi-directional system. It also allows

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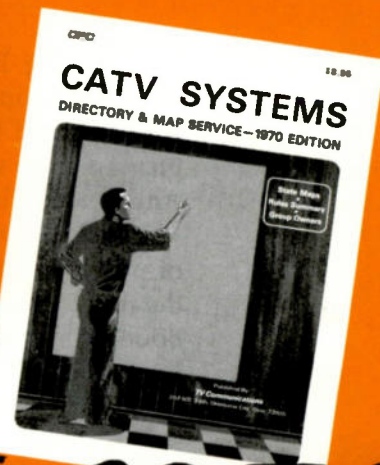
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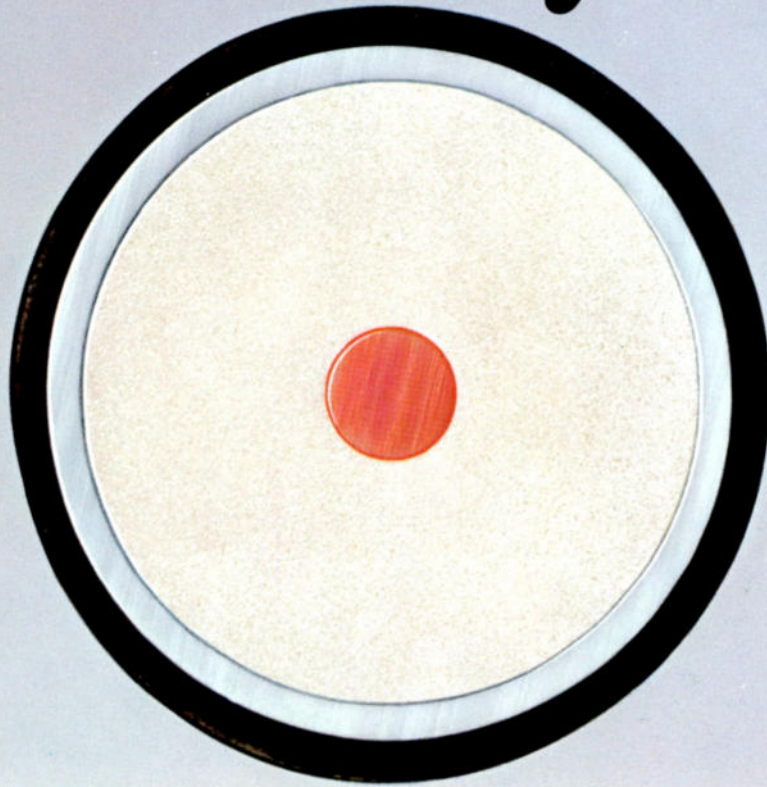
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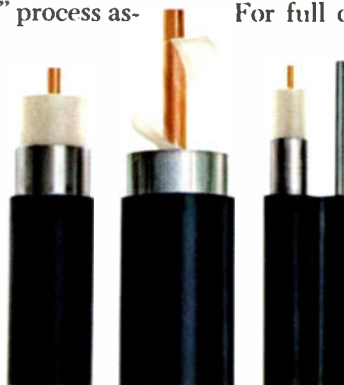
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the separate paths to contain the same frequency allocations, thereby maximizing use of total available spectrum capacity. It also can allow for full-duplex communication between subscribers.

From a technical standpoint, space-division multiplexing is the most desirable method. Its limitations are those of size and cost. Since no sharing of common facilities occurs in this arrangement, the cost of the system and additions to its cable plant (when adapted to bi-directional use) become double that of a one-way system.

**TIME-DIVISION MULTIPLEXING:** This arrangement, which is essentially a sampled data modulation process, is shown in Figure 2. Although it is a theoretically possible system, its use at the high frequencies of the cable system is limited by present state-of-the-art techniques of time sampling. It is described here only as a hypothetical case of its application to bi-directional cable systems.

Referring to Figure 2, at time  $t_1$ , transmitting and receiving equipment of one direction of transmission is sampled for period interval  $T$ . Transmission, therefore, occurs during a stated interval from origin 1, along the trunk line to destination 1. At time  $t_2$ , which is slightly delayed from time  $t_1 + T$ , equipment being used for the opposite direction of transmission is sampled for a different period interval  $T$ . The result is that transmission can occur in two directions in common facilities, with these transmissions occurring at different times. Cross-talk and "singing" can be somewhat prevented if the sampling intervals do not overlap. However, echo effects are still common since the signal can appear as a delayed signal whose time appearance could then coincide with the sampling interval of its new direction.

Time-division multiplexing thus has the advantage of permitting common facilities to be used for both directions of transmission. However, for use at VHF frequencies such a system would require: (1) sampling rates in the order of about 1 gigahertz, which is beyond the present state-of-the-

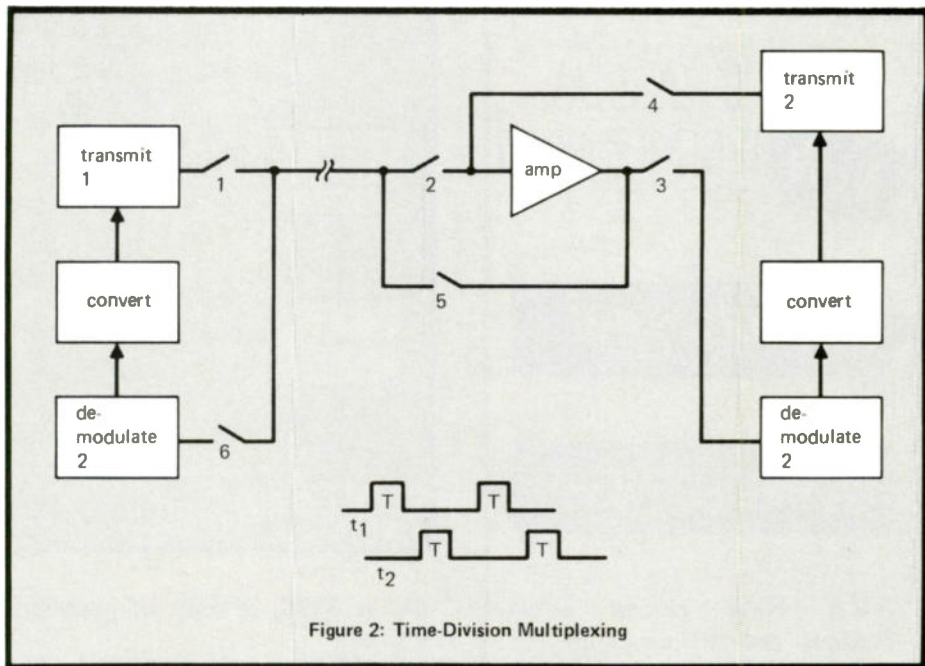


Figure 2: Time-Division Multiplexing

art, (2) trunk amplifiers operating at the sampling frequency since signals are effectively modulated by the sampling frequency, (3) demodulation of the sampled spectrum before operation on it by terminal equipments, (4) a stable clock to serve as a central

timing source for sampling pulses, and (5) a method of distributing sampling pulses correctly synchronized through the cable. This could require an additional line.

From the above considerations, it is obvious that a time-division multiplexer scheme, adapted for



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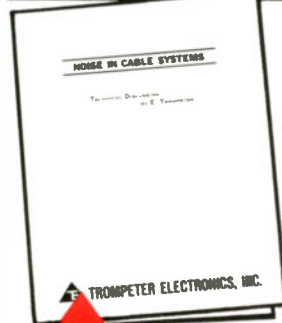
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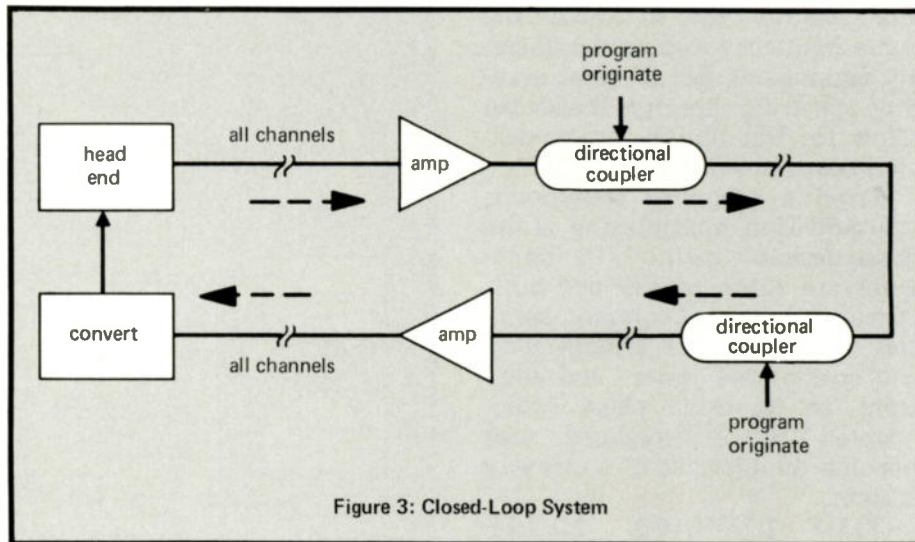


Figure 3: Closed-Loop System

use at VHF, is only of academic interest.

**CLOSED-LOOP SYSTEM:** This arrangement is shown in Figure 3. It is not truly a bi-directional system but can serve the same purpose. It is a compromise arrangement which combines some features of space-division multiplexing, and those of frequency-division multiplexing. It utilizes all of the existing equipment and cable plant, and adds at a convenient position, additional cable and amplifiers which allow for return of the system to the head-end.

It could yield a cost saving when compared to the space-division system. This is especially true in urban areas where the run to the head-end is never too great in distance. This arrangement allows insertion of new channels through directional couplers at many convenient tap points in the system instead of at one basic location. It is, however, required that these inserted channels be at different frequencies than those which are derived from the head-end.

If these channels are returned to the head-end, they must be translated to unused frequencies for complete transmission throughout the cable system so that problems of regeneration and ghosting do not occur.

Therefore, available spectrum is compromised. The great advantage is that directional isolation is no longer a problem, since transmission is essentially in one direction, which is around a closed loop.

Therefore, cross-talk, "singing," and echo are not inherent problems of this system.

If the very last amplifier of one of the trunk lines is returned to the head-end, communication between any two points on that trunk line becomes possible. The trunk then becomes a frequency-separated, two-way communication system. Programs can also be originated at any point on the trunk line and be redistributed (after frequency translation at the head-end) to any point in the system.

The closed-loop system has definite advantages, especially in an urban environment. The advantages come from the fact that this system: (1) does not require additional equipment for directional isolation, (2) permits simple two-way communication on one trunk line, and (3) permits program origination at many points in the system.

Its principal disadvantages are: (1) the requirement of additional cable plant for return of trunk to head-end, and (2) the requirement of separate frequency allocations for line inserted channels.

A fourth method of achieving bi-directional transmission will be discussed in part two of this article. That method, frequency division multiplexing, will be covered next month, along with a review of the equipment necessary for such a system. The final portion of this article, in December, will consider design criteria... and will look at a practical experimental system. TVG

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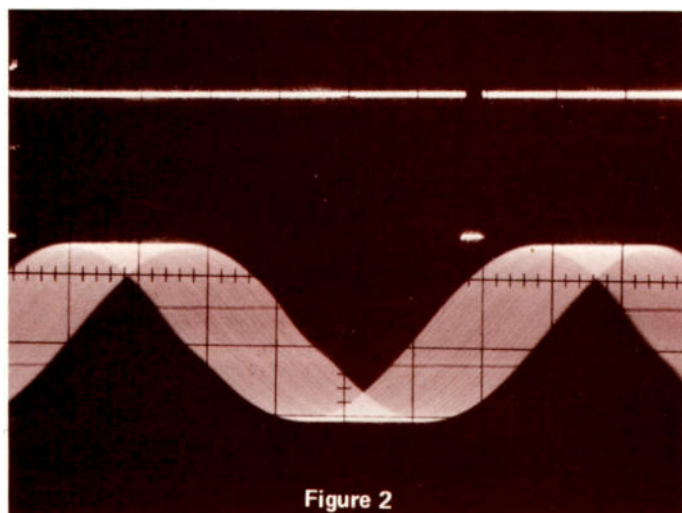
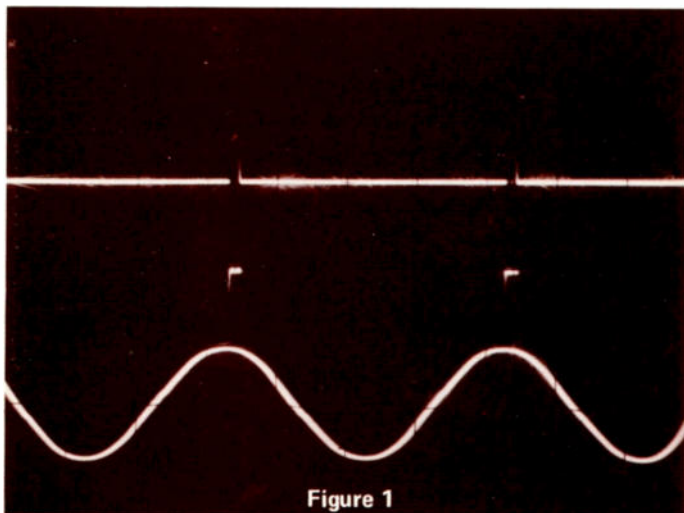
*By I. Switzer, Chief Engineer  
Maclean-Hunter Cable TV Limited*

**A** mobile unit for cablecasting cannot be called truly mobile unless it is capable of operating completely independently of power line connections. Such independence requires the use of some sort of power generator to produce power for cablecasting equipment. The usual sources of power for operations of this kind are inverters and motor driven generators.

Inverter systems are usually severely limited in the amount of power which they can supply. Inverters draw power from a storage battery or other DC source and electronically convert this power to 115 volt AC power. A 500 watt inverter operating at 70% conversion efficiency will require about 720 watts of input power. When used with a 12 volt automotive battery system, this translates into a 60 ampere drain

on the DC power system. This is a substantial DC current drain but it can be sustained for moderate periods of time.

Supplemental storage batteries to run the inverter system can be used and these can be connected to the truck charging system for recharging. Such supplemental batteries should always be considered if inverter systems are used, since prolonged use of inverter power can discharge the truck battery to a point where it will no longer start the engine . . . an embarrassing situation. Very few truck alternators have a 60 ampere charging capability. So, even when the truck engine is running, it will not keep up with the DC power requirement of the inverter, and the battery will gradually run down.



Inverter systems of good quality tend to be expensive. Low cost inverters tend to suffer from low reliability, lack of voltage regulation and, particularly, poor control of AC frequency. Low cost inverters generally have square wave output which may be undesirable for some kinds of cablecast loads.

Most cablecasters will choose to provide some kind of engine driven generator (alternator) for their mobile power needs. Alternators providing 115 volt AC and up to 6,000 watts output power are available for mounting right on the engines of station wagons and small trucks. Alternators of 3,000 watt capacity are common in such installations. This capacity is adequate for most cablecasting equipment and will even drive some supplementary loads such as a moderate amount of lighting equipment.

More elaborate mobile production units will usually use a larger alternator driven by a separate engine. Such installations can range in output from 5,000 to 10,000 watts, providing enough power to drive equipment, air conditioners and lights. Such alternators should be carefully installed so as to minimize noise and vibration.

The frequency of the AC produced by motor driven alternators depends on the engine RPM. Many installations have voltage regulators which accurately control output voltage over a wide range of engine speeds, but output frequency will still vary with engine speed. A properly designed alternator provides proper output voltage *and* frequency when driven at a specified RPM (usually 1800 RPM). Most cablecast equipment, but not all, will operate over a wide range of AC power frequencies, but some effort should be made to hold frequency accurately at 60 Hz.

Alternators with their own engines are usually fitted with governors that control engine speed, but alternators mounted on truck engines depend on manual adjustment of engine RPM. It is a good idea to provide a frequency monitor for all mobile power installations. Vibrating reed type power frequency meters are commonly used for this purpose. They are compact, low in cost and reliable. They read frequency to the nearest cycle per second and consist of a row of resonant reeds tuned to a range of frequencies around 60 Hz.

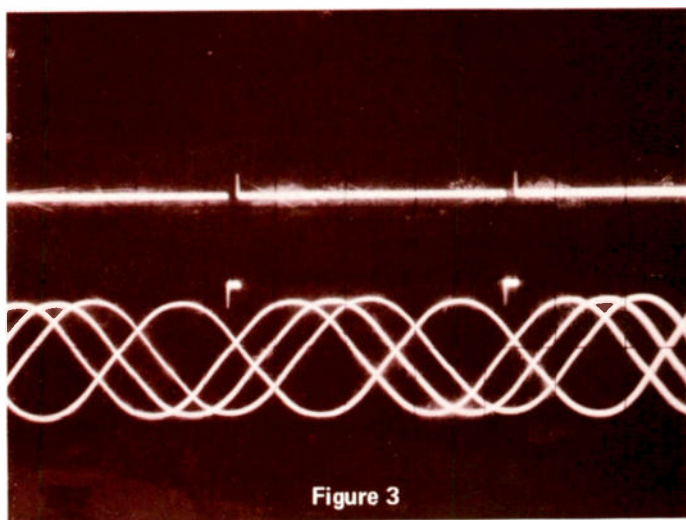


Figure 3

Video tape recorders are particularly sensitive to power frequency variations. More expensive models usually have elaborate servo systems that make them virtually independent of line frequency variations; but, lower cost models tend to be sensitive to line frequency changes.

We have found it virtually impossible to obtain satisfactory performance with some popular VTR machines on any of the common sources of mobile power. No matter how carefully we regulated engine speeds we found a horizontal jitter in recordings made using mobile power. We obtained a "precision frequency power source." This is a high power audio frequency amplifier which is designed to provide 115 volt output when driven from a low level drive signal. The input signal can be obtained from almost any kind of oscillator, the output being an amplified, high power reproduction of the input signal. If the input is a precision 60 Hz sine wave the output will be an amplified 115 volt sine wave reproducing the frequency characteristics of the input signal.

Such amplifiers are commonly used in laboratories to provide 400 Hz power for testing military electronics or for providing power at a variety of frequencies. The power supply to this amplifier can vary considerably in voltage and frequency since internal rectifiers, filters and regulators convert it to DC which is then used to power the amplifier section.

Our first amplifier was supplied with a 60 Hz oscillator specified to 0.01% accuracy. Video tape recordings made with this supply still had horizontal

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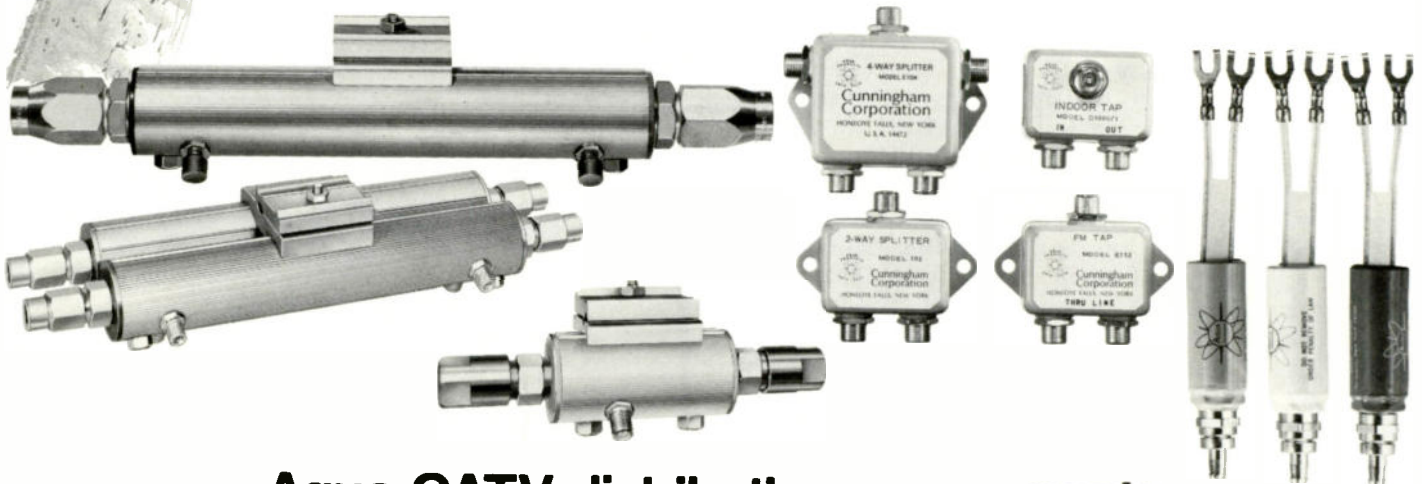
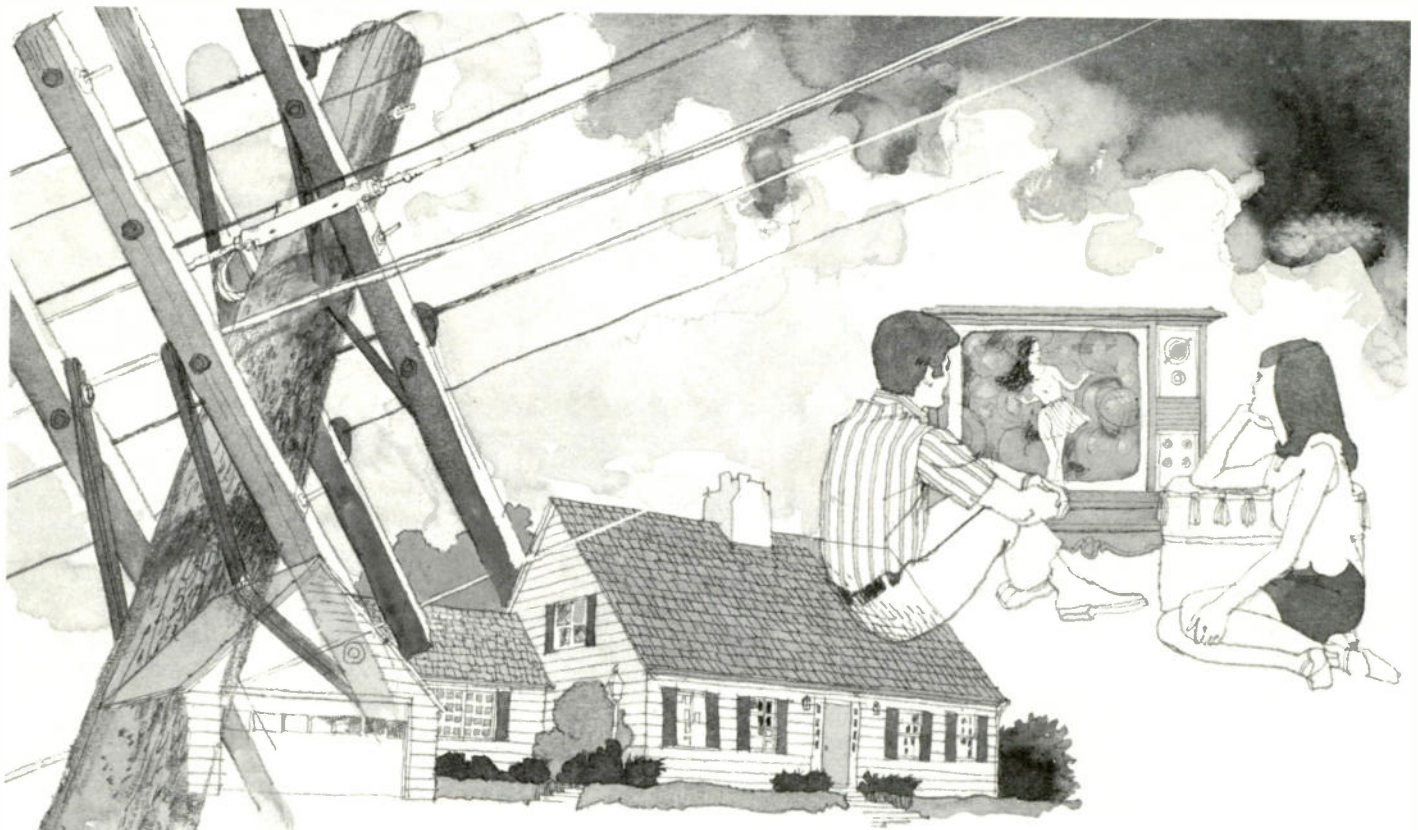
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jitter! We decided to have the oscillator modified so as to lock it firmly to the mobile TV sync generator since this was the most stable and accurate 60 Hz source available to us. Sync generators in such applications are run on internal crystal oscillators. The company that supplied our power amplifier, Vector Engineering, supplied a modified oscillator which accepted a synchronizing signal from the vertical drive output of our sync generator. This cured the problem completely. We now have 500 watts of precision power whose frequency and phase is firmly locked to the system TV sync generator. This power source is used to drive our mobile VTR. The engine driven alternator system is monitored with a reed type frequency meter and is satisfactory for all other power uses in our cablecasting mobile.

Power supplies of this type are available from a number of manufacturers and in power sizes up to 2,000 watts or more. A 500 watt system can be expected to cost about \$1,500. Inverter type systems are available with precision frequency drives and these could presumably also be modified to be synchronized to the system TV sync generator. We prefer this type of sync lock since it assures us that our cameras and VTR power will always be in perfect synchronization. Once the decision is made to go to precision frequency control in either inverters or power amplifiers, it is little more trouble to provide lock to the TV sync generator. Sync generators in mobile work using portable power sources should always be used in the "crystal" mode, never in "line lock."

A series of oscilloscope photographs using a twin beam oscilloscope were made to illustrate the variation in power frequency which can be experienced, even in presumably well regulated power systems.

In Figure 1, the top trace shows the vertical drive pulse from a TV sync generator. Horizontal sweep in triggered by the top trace in each illustration. This is a two-second time exposure showing precision power supply output on the lower trace staying in phase with the vertical drive pulse in top trace.

Figure 2 is a two-second time exposure. The sweep trigger is locked to the top trace (vertical drive pulses from sync generator). The lower trace is AC power from an engine driven alternator showing a shift during the two-second time exposure. The shift is about 40% of a cycle in 2 seconds, indicating that the alternator frequency was in error by about  $40/120 = 0.3\%$ .

Figure 3 illustrates the comparison between a TV sync generator and the local utility power line. The top trace is a vertical drive pulse from a TV sync generator in "crystal" mode. Sweep is triggered by this signal. The lower trace is local power utility (part of a major utilities grid). Phase shifted so slowly that it required multiple exposures at one-minute intervals to illustrate the shift. Four exposures were made at one-minute intervals. Assuming the crystal oscillator in the sync generator was more stable than the power line frequency, it shows that the instantaneous frequency of the power line, over a four minute interval, varies somewhat since the four traces do not have a uniform spacing. TVC

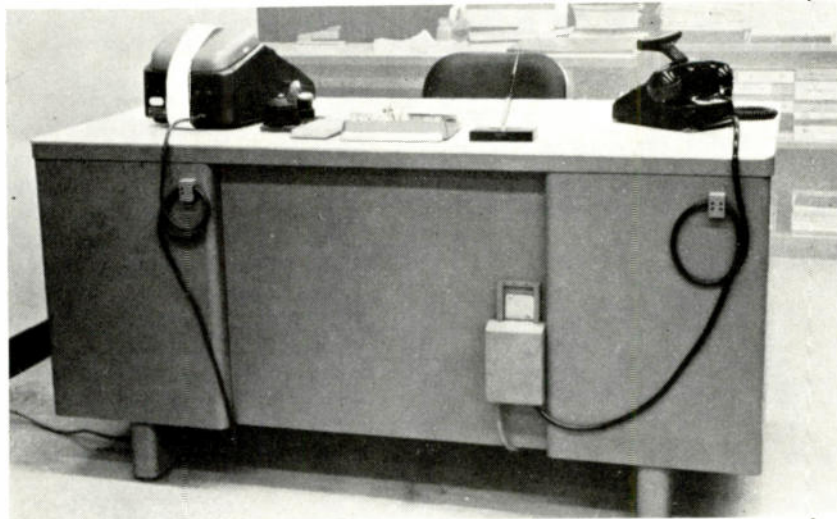
## Stop Costly, Personal-Injury Accidents. Save Furniture. Speed Installation.

One large company counted costs of accidents from loose telephone and business machine cords on office floors . . . \$25,000 in 5 years! Small wonder they got Tele-Clamp Magnetic Holders as shown here — keeping cords off floors, coiled neatly where feet, mops and polishing machines can't get tangled — instantly changeable when furniture must be rearranged, and with no unsightly holes left.

With Tele-Clamps there's no hole drilling, no lugging drills, no searching for electrical outlets, no broken bits. Just position the magnetically-powerful Tele-Clamp clamp or mounting unit on the metal furniture. (That's time and money saved!)

There are Tele-Clamp Magnetic Holders for connector blocks, amphenol plugs, key systems, buzzers, wiring cables and cords — also mechanical clamps for wood furniture.

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Illustrated are 1700 Cord Clamps and 1505 Mounting Unit



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# PRODUCT REVIEW

NEW COMPONENTS FOR CABLE TELEVISION SYSTEMS

## MICROWAVE SPECTRUM ANALYZER FEATURES BATTERY OPERATION

The Microwave Division of Systron-Donner Corp., 14844 Oxnard Street, Van Nuys, California, has introduced a new, fully portable microwave Spectrum Analyzer, the model 761, covering the frequency range from 10 MHz to 40 GHz. This wideband analyzer, composed of the model 751 spectrum analyzer and the model 855 microwave converter, is a fully calibrated instrument that features battery operation and fundamental mixing at X and KU bands. Through the use of two special broadband multiplier-mixers, sensitivities of greater than -100 dBm are achieved in the 8.5 to 9.6 GHz and 15.5 to 17.0 GHz microwave radar bands. The manufacturer reports that this high sensitivity performance is at least 20 to 30 dB greater than that achievable with conventional harmonic mixers. As a result, the model 761's full 60 dB display dynamic range can be obtained up to 17.5 GHz with an IF bandwidth setting 100 KHz.

Price of the model 761 is \$5,950, excluding mixers.

## INVERTON OFFERS STABLE AC POWER

California Instruments Corporation, 3511 Midway Drive, San Diego, California, announces an all silicon, solid-state 100 VA power source for \$495 (model 101T). Not a true inverter, it requires an AC power input. The manu-



facturer notes that rotating generators, which tend to exhibit frequency instability, can be used to drive the Inverton. With selection of the proper oscillator, the manufacturer claims frequency accuracy and stabilities to .0001%, and voltage regulation to better than 0.5%. Model 501T, built on the same specifications, but generating 500 VA is offered for \$1,495 in the rack-mounted model.

## NEW POLY COAXIAL RELAY BY DOW-KEY

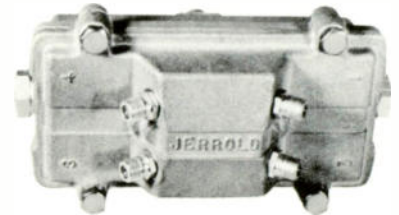
Dow-Key Company, 2260 Industrial Way, Broomfield, Colorado has announced the availability of a new special plug-in poly coaxial relay which offers unique capabilities in switching between antennas, addition of a receiver pre-amplifier, and switching between receivers. It will handle 125 watts of RF power at 100 MHz and 100 watts at 400 MHz. The new model 198-201 relay, which is intended to be used with two antennas, a transceiver, and an auxiliary



receiver, measures approximately 5 x 2 x 2½ inches. It is arranged to allow the user to install a solid-state pre-amplifier within the relay case, if desired. Normal coil operating voltage is 26 volts DC. Other voltages between 6 and 110 volts DC are available on special order. The list price is \$250 per unit.

## JERROLD ANNOUNCES NEW TWO-WAY TAP

Jerrold Electronics Corporation, 401 Walnut Street, Philadelphia, Pa. 19105, has announced a new two-way tap. The broad-band model FFB-series flexitaps serve to introduce locally-originated programming into the main trunk cable for two-way CATV systems. It is a part



of its new Starline Data Line CATV equipment. Together with the model SDV-30/60 pushpull line extender amplifier, it will provide two-way capability in either a new or an existing cable system.

## JFD MARKETS CATV SYSTEMS ANALYST

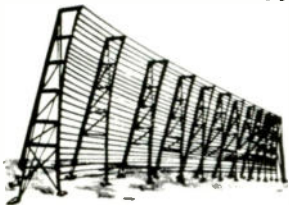
JFD Electronics Corp./Systems Division, 15th Avenue at 62nd Street, Brooklyn, N.Y. 11219, has introduced a new method in systems measurement technology. Called model 7500 Systems Analyst, the unit is said to have the following applications: sweeping cables



for return loss and frequency response; trouble-shooting trunklines; checking amplifiers for gain; splitters, directionals and taps for loss and VSWR; measuring bandpass of filters and single channel amplifiers; and calibrating field strength meters. Manufacturer says because the Systems Analyst provides data directly in dB, it is easier to operate than conventional test equipment and the chance of human error is reduced. The unit is designed to emit a continuous,



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Beaver Log Antennas  
A Complete Line of  
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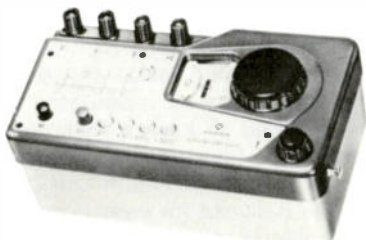
**BEAVER TELEVISION ASSOCIATES**  
95 NORFINCH DRIVE  
DOWNSVIEW, ONT. CANADA  
TELEPHONE 416-635-0320

flat signal from 50 to 220 MHz, with an accuracy of plus or minus 1 dB. It also is said to provide a narrow band crystal controlled reference signal at 73.5 MHz. The amplitude of the reference signal is monitored on a panel meter and calibrated to within plus or minus 0.5 dB.

The unit includes a built-in 75 ohm comparison bridge, and weighs six pounds, including a rechargeable battery.

### EARTH RESISTANCE TESTER AVAILABLE

Freed Transformer Company, Inc., 1718 Weirfield Street, Brooklyn, New York, has announced the availability of the Norma earth resistance tester. The type 1805-30303 tester is a transistorized battery operated instrument for measuring soil resistance to provide for the effective grounding of equipment which must be protected against lightning. The tester is housed in a moisture and dust-proof combination plastic and steel case. Four terminals are provided for either three or four point measure-



ments. Type 1805-30303 is operable within four resistance ranges: 0 to 5 ohms, 5 to 50 ohms, 50 to 500 ohms, and 500 to 5000 ohms. Selection of range is by pushbutton switch, and the unit is accurate within plus or minus 1%. Operating frequency of the earth resistance tester is 135 Hz variable to plus or minus 10 Hz. The unit measures 8 3/4" x 4 1/2" x 5 1/8" and weighs 5 lbs. It is priced at \$245. A leather carrying case is available at a slight additional charge.

### GMP OFFERS NEW CLAMP FOR DROP INSTALLATION

Two new tools which permit the installation of subscriber drop wire from the ground have been made available by General Machine Products Company, Inc., Trevoise, Pa. 19047. GMP's new F span clamp is designed for attaching drop wire to suspension strand, including the jacketed strand of self-supporting cable. The hook and screw of the clamp are zinc coated while the rest of the unit is galvanized steel.

GMP's B clamp wrench, when used with extension handles, is used to attach the F span clamp to support strand when placing drop wire in mid-span.

20—80mm f/2.5

15—90mm f/2.5

15—150mm f/2.8

12—120mm f/2.8

15—300mm f/4.5

3 FUNCTION REMOTE CONTROL

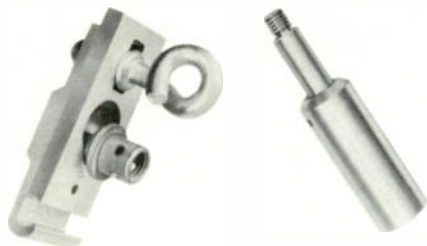
# angēnieux

**angēnieux** now offers the most complete selection of zoom lenses for vidicon television. From the compact 20—80mm f/2.5, less than five inches long to the extreme range (20X) of the 15—300mm f/4.5. Available in manual and motorized models on quality cameras and at leading dealers throughout the world.

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440 merrick road, oceanside, n.y. 11572 • (516) 678-3520

The wrench comprises a hardened steel stud fastened to an aluminum holder. This holder fits into the ferrule in the top (female) section of the extension handles and is locked in place by the spring-actuated pin of the ferrule.



Wooden extension handles are six ft. long by 1 1/4" or 1 3/4" dia., or tapered 1 3/4" to 1 1/4" dia. These handles accept the B clamp wrench as well as other aerial construction tools. Additional extension sections may be attached to achieve the desired length.

### ENTRON OFFERS NEW CATV SPLICE BOX

Entron, Inc., 2141 Industrial Parkway, Silver Springs, Md. 20904, is offering a new CATV splice box designed for systems requiring a dedicated plant. The unit is designed for



installation during construction at points where new subscribers will be connected. Available in models SMT-0 and SMT-1, the unit is a multitap with 0 dB or 1 dB modules without outlets. For conversion to a multi-tap, manufacturer says the module is replaced by one having the necessary attenuation and four outlets for feeding subscribers. Or, the unit can remain as a seized-center conductor splice, in trunk or distribution. The housing is never removed from the cable. The unit is equipped with input and output test points which enable signal levels to be monitored throughout the cable system. Standard 5/8-24 entrance ports and a new universal seizing device provide for underground or aerial mounting. The unit is specified to have a waterproof, pressure-tight housing of die-cast, corrosion-resistant aluminum and snap-in modules designed for ease of installation and maintenance.



WHAT AMPLIFIER permits sending local origination signals to head end, carrying CCTV for schools, banks, surveillance systems and other broadband communications, on the same cable that's carrying your CATV signals?

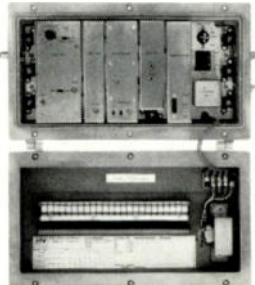
### THE HTV L-20-L...

### THE AMPLIFIER THAT PIONEERED 2-WAY USE OF CABLE!

Filters and separate amplifier for the 6-30 MHz spectrum are housed in the same case as the CATV Trunk Amplifier. Proved in service! Available for immediate delivery.

THE L-20-L, one of the complete HTV line of Trunk-line, Bridging, Distribution and Line Extender Amplifiers, featuring advanced design and highest quality at competitive prices.

For complete information call or write

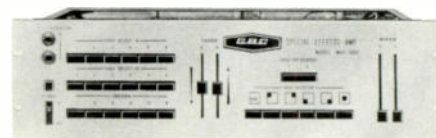


### HTV SYSTEMS INC.

10 MONROE STREET  
EAST ROCHESTER, N. Y. 14445  
TEL: (716) 385-1200

### GBC INTRODUCES NEW SPECIAL EFFECTS UNIT

A new solid state switcher-fader/special effects generator has been developed by GBC Closed Circuit TV Corp., 74 Fifth Avenue, New York, N.Y. Designated model MEA-1002, the



new unit enables the director to select any of six camera inputs, fade-in, fade-out, lap dissolve, and wipe. Eleven different wipes are provided. The MEA-1002 is made to accept plug-in internal IC sync generator modules, such as the GBC SG-101 or SG-202, as optional features. It is made for 19" rack or cabinet mounting.

### RIKER DEVELOPS 8MM FILM CHAIN

A professional quality 8mm film chain, with TV shutter and synchronous motor, has been developed by The Riker Corporation, 142 Central Avenue,

# Cable TV used to be the best-kept secret in America.

...then two (2) big mouths went into business and started passing the secret from door to door, town to town, city to city.

...and in the towns where they've been yapping away, the big secret ain't no secret anymore.

...and what's more, ocean-to-ocean cable TV is going to be a great, big, beautiful reality in this country.

...and if you want to find out what these two lousy secret-keepers can do for you and your business, send the coupon on the right.

...or if you like to write letters, and we love to read 'em, send them to either Big Mouth\*, Markit Communications, Inc., 1801 Avenue of the Stars, Los Angeles, California 90067, or call (213) 277-3414.



**Markit  
Communications, Inc.**

1801 Ave. of the Stars,  
Los Angeles, Cal. 90067  
Phone no. 213-277-3414

Name \_\_\_\_\_

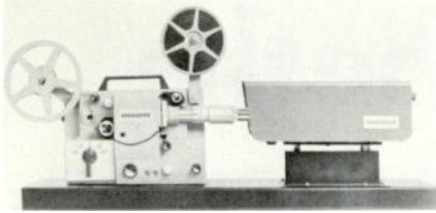
Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

\*Code Breaker:  
Big Mouth Burt Kittay  
Big Mouth Jeff Marcus





Clark, N.J. It handles both Super-8 and standard 8mm films, translating them into video and audio signals. The model 709 8mm film chain sound projector features synchronous motor, TV shutter and ASA magnetic sound. Three signal lights simplify audio mixing: green for playback, red for recording and white for sound on sound superimposition. The 709 sells for \$795, including lens, bulb, 400' reel, microphone, earphone and sound test film.

Complementing the model 709 projector are a model 710 uniplex, which sells for \$250 including base and lens shield; and a model 177 solid-state 1" vidicon camera, priced at \$995. The model 711, a complete 8mm film chain including the projector, the uniplexer and the vidicon camera, sells for \$1950.

### SONY OFFERS NEW STUDIO VIDEO CAMERA

Sony Corporation of America, 47-47 Van Dam Street, Long Island City, New

York, has announced its first large-viewfinder camera for monochrome video tape recording. The camera, model AVC-4000A, has a 7-inch electronic viewfinder, which also serves as a playback monitor, and a single-rod zoom control positioned at the rear. A special rack adjustment moves the entire vidicon yoke assembly for extreme close-ups and for sharp focusing in zoom shots. Features also include 2/3" separate-mesh vidicon, head phone jack, tally light, C-mount, internal/external sync, RF output, AGC and completely solid-state circuitry. Three versions of the new camera are available: model AVC-4000A, without lens; model AVC-4000A/V-5, with 5:1 zoom lens; and model AVC-4000A/V-10, with 10:1 zoom lens. Manufacturer's suggested list prices are \$1,110, \$1,550 and \$2,200, respectively.

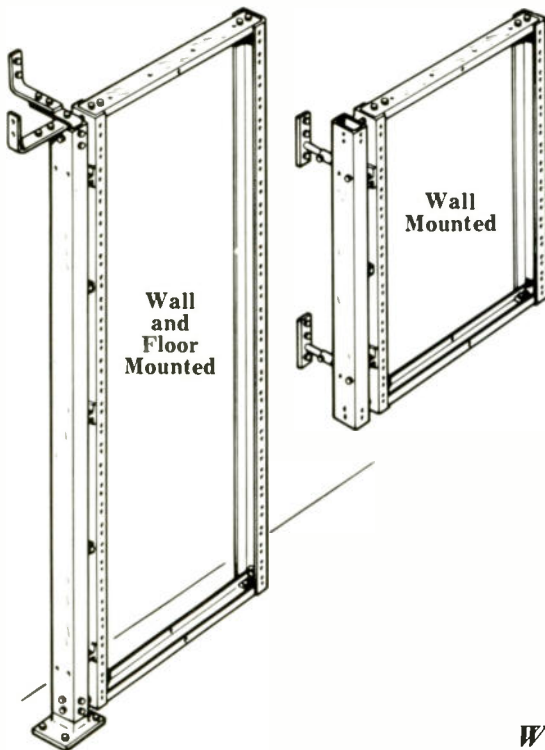


### U.S. MAGNETIC TAPE ADDS VIDEO TAPE

U.S. Magnetic Tape Company, Huntley, Illinois 60142, an established manufacturer of magnetic tape for digital computers, has entered the video tape field. Two different video tape product lines are available for use on 1/2" video tape recorders, the Video 900TV series and the Video A100 series. One



video tape product line is available for use on 1" video tape recorders, the Durachrome 100TV series. The 1/2" and 1" video tapes are designed to be compatible with any helical scan video tape recorder. TVC



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## Save now! Add on later! with DRACON TELE-RACKS

These are swinging-gate relay racks so designed that you can install basic units to meet present needs, expand them with modular add-ons when more capacity is called for. Made of aircraft-quality aluminum, they may be wall or wall-and-floor mounted. Gated part of wall-and-floor mounted units may be raised 3" to clear obstructions. Equipment may be installed to face front or back of the racks. Series 3000 Racks are 23 1/2" wide, not including gate post, and 73 1/2" or 74" high. Series 3100 Racks ("half racks") are 23 1/2" wide, not including gate post, and 38" or 38 1/2" high. Extensions for expanding "half racks" at top or bottom are available in 5", 8", 12" and 36" heights — permit increasing rack capacity in exact proportion to need — for real economy, for great flexibility! Both series are available with 1/2"-1 1/4" or 1/2" hole spacing in their frames.



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THE CATV

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DROPS**

Type 59GB

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Complete black and white TV system for sale. Examples: General Electric Transistorized Vidicon Studio Camera, Model No. 4PC14A1 with pan head and dolly-\$995.00. Ampex VR-1000 Video Tape Recorder with latest Allen solid-state mod-demod-\$750.00. Complete Film Chain-\$900.00. Also have General Electric 8x2 Dissolve Bank Switcher, Telemet No. 3507 Transistor Sync Generator and Gen-Lock. TelePrompTer Rear-Screen Projector No. 6000, RCA Special Effects, General Electric 3-inch Image Orthicon Studio Camera, and much more. Write or call for complete list and description, M.D. Smith, IV, c/o WAAY-TV, 1000 Monte Sano Blvd., Huntsville, Alabama 35801. Call 205/539-1783.



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## What is CATV?

This question and many others are answered in the new book published by The National Cable Television Institute.

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- History and development of CATV
- Future prospects of the Industry
- Complete description of each component from antennas and headend to connection at the subscriber's set all described in layman's terms.

It is excellent in explaining the concepts of CATV to:

- The new employee
- The clerical or non-technical employee
- The City Official, banker, or other professional person
- The manager of a multiple-subscriber installation, hospital, apartment house, hotel or rest home

This new book entitled "Introduction to CATV" is available for a limited time only at \$9.95 per copy. Marked down from its original price of \$14.95 to \$9.95 as an introductory offer, this book is designed to give a complete picture of the total CATV industry to the non-technical person. Write today for your copy and send your check or money order to:

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3022 Northwest Expressway, Suite 305  
Oklahoma City, Oklahoma-73112

## Literature For CATV

"Dialing for Subscribers," a sales manual for marketing cable television by telephone, is now available at \$25 per copy according to The TM Communications Co. The manual, authored by Del. P. Henry, Jr., director of marketing for TM Communications, includes detailed explanations of basic telephone sales techniques, media strategy, budgeting for the campaign, forms, cost per sale analyses and follow-up research procedures. Copies are available by writing The TM Communications Co., 1375 Sunflower Ave., Costa Mesa, Cal. 92626.

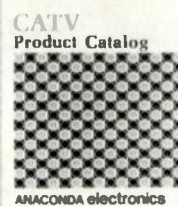
C-Cor Electronics is offering reprints of three technical papers. The two papers The Use of Modulated Pilots in ALC Systems by George P. Dixon and Laser Links for CATV by Derald O. Cummings were



presented at the recent NCTA convention in Chicago. A third paper, High Performance CATV by Dixon, was presented at the 18th Annual Broadcast Symposium, IEEE Group on Broadcasting in September of 1968. C-COR also has a new catalog for CATV. The technical papers and/or new catalog may be obtained by writing C-COR Electronics Inc., 60 Decibel Road, State College, Pennsylvania 16801.

Texscan Corporation announces a new 72 page product catalog outlining complete specifications of all its sweep generators, RF attenuators and other related RF components. Also included is an 8 page technical section which explains flatness, linearity, isolation and how these sweep generator specifications can effect measurements. For a copy, write to 2446 N. Shadeland Ave., Indianapolis, Ind. 46219.

Anaconda Electronics' complete line catalog is available, featuring their head-end, active and passive CATV products and associated equipment. It describes design features and performance characteristics with complete technical specifi-



cations. Price information is included. Write Anaconda Electronics Company, 305 N. Muller Street, Anaheim, California 92801.

Rack and panel connectors are the subject of a new 32-page fully-illustrated catalog, RP-70, from the Burndy Corporation. Power, signal and coaxial connectors, with either crimp or solder contacts are included. Both metal shelled and general purpose shell-less connectors are shown along with modular frame connectors, hood and latch hardware and hand and semi-automatic installation tooling. Write to Burndy Corporation, Norwalk, Conn. 06852.



"Systems and Products for TV Distribution" is a recent catalog published by Jerrold Electronics Corporation. Including numerous specification tables and application notes, the 32 page catalog covers systems antennas and accessories, head-end equipment, distribution equipment and components, and installation aids. Order catalog S, Jerrold Electronics Corporation, Distributor Sales Division, 401 Walnut St., Philadelphia, Pa. 19105.

Scientific-Atlanta, Inc., recently announced the publication of a 600 page text, Microwave Antenna Measurements. Edited by J.S. Hollis, T.J. Lyon, and L. Clayton, Jr., and written by the staff of Scientific-Atlanta, the text treats the theory and practice of microwave antenna measurements with chapters on radome and reflectivity measurements. Copies are available at \$17.50 each. Write to Scientific-Atlanta, Inc., P.O. Box 13654, Atlanta, Georgia 30324.

An illustrated brochure has been published by the Smith Company Division of Preformed Line Products Company, describing the Smith line of sub-surface terminals for cable use. The brochure describes advantages of all-buried construction and presents a summary of test data on buried performance of the Preformed Mono-Seal and "SST" terminals. For a free copy write Preformed Line Products Company, 5349 St. Clair Avenue, Cleveland, Ohio 44103.



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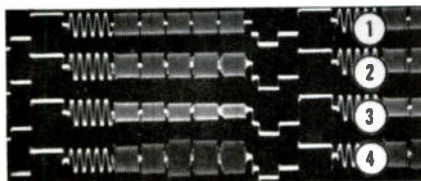
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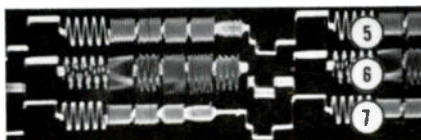
## COMPARATIVE TESTS

The unique color compensation function of the DYNA-TUNE is evident in waveforms 1 through 4. The test set-up for these waveforms consisted of an off-the-shelf DYNA-MOD modulator supplying a modulated 4.2-MHz multiburst signal to the DYNA-TUNE. Waveform 1 is the output of

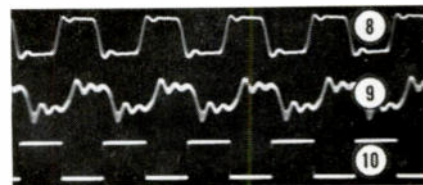
the multiburst generator. Waveforms 2 through 4 are the demodulated outputs of the DYNA-TUNE with (2) proper compensation, (3) no compensation (note the inherent roll-off in the higher frequencies) and (4) overcompensation, such as might be desirable to compensate for remodulation. All waveform photographs were taken with the tuner oscillator set for maximum aural rejection.

Waveforms 5 through 7 show the results of a conventional CATV demodulator tuned for the best overall picture (note the roll-off in the color region). Waveform 6 was taken with the demodulator tuned for the best 4.2-MHz response (note overall distortion, including degradation of sync pedestal) and waveform 7 was taken with the demodulator tuned for best overall sync. Remodulation of this output would result in even further degradation.

Another significant indication of the superior overall frequency-response characteristics of the DYNA-TUNE can be seen in waveforms 8 through 10. In this test set-up, the multiburst signal was replaced with a 500-kHz square-wave. Waveform 8 was taken at the output of the DYNA-MOD/DYNA-TUNE combination and waveform 9



was taken at the output of a conventional CATV demodulator driven by the same DYNA-MOD. Waveform 10 is the squarewave source. (Note the overall improvement in ringing and overshoot in waveform 8.) No external envelope-delay correction equipment or filters were used when performing any of the above tests.



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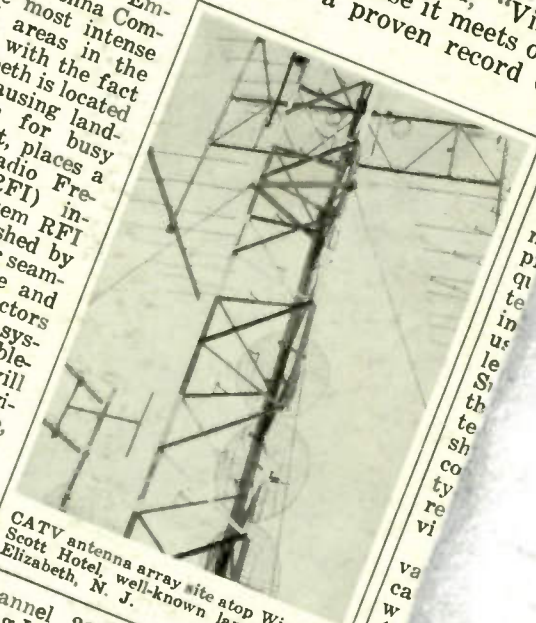
# First in New Jersey Vikoa Constructing 99 Mile Futura 21 Channel System for CATV of Elizabeth

Elizabeth, N. J. . . . Mr. Edmund Abramson, President of CATV of Elizabeth, Inc., has announced the start of construction of a Futura 21 Channel Antenna Television system, in Elizabeth, New Jersey. The system is being built by Vikoa Construction Company, utilizing Vikoa cable and equipment throughout the state of New Jersey. Mr. Abramson in making this announcement stated, "Vikoa the first 21 channel system in the state of New Jersey. Mr. Abramson will be used in this system because it meets our high technical requirements and has a proven record of reliable operation".

The Elizabeth system, located just thirteen miles from the Empire State Building Antenna Complex, is one of the most intense "off-the-air" signal areas in the world. This, coupled with the fact that the city of Elizabeth is located below the reflection-causing land-nearby Newark Airport, places a premium on system RFI integrity. The required system RFI integrity will be accomplished by using Vikoa's solid-dielectric seamless aluminum coaxial cable throughout the distribution system. The use of Vikoa's double-shielded coaxial cable will continue the required RFI integrity into each subscriber's home, resulting in interference free television reception.

Using a high degree of advanced planning, the Elizabeth cable system will be overlaid with a second coaxial cable (Vikoa's 412 jacketed aluminum) which will be used for future expansion of services, including bi-directional signal transmission. CATV of Elizabeth will institute service with fifteen channels for their subscribers, including three channels of local programming origination. The "off-the-air" channels carried will be New York VHF Channels 2, 4, 5, 7, 9, 11, and Educational Television Channel 13. UHF Channels carried will be

Channel 21 from Garden City, Long Island, Channel 25 from New York (both Educational), New York City's Municipal Channel 31, Channel 47 from New York N. J. The local origination channels will include: a full-time weather channel (using Vikoa's Weather-caster), one channel to carry local events and news of Elizabeth, and a channel for the use of the Elizabeth Public School system.



CATV antenna array site atop Winfield Scott Hotel, well-known landmark in Elizabeth, N. J.

  
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