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" . . . One of the conclusions which I reached soon after my appointment was that community antenna television systems should be directly regulated by the Commission. Their effect on broadcasting, and the public's interest therein, is obvious, extensive, and growing, I am confident that the Commission already has certain powers toward this end but that legislation would be desirable both to implement those powers and to serve as a guide in their exercise . . ."

Excerpt from a speech given by Commissioner E. William Henry before the Federal Communications Bar Association in Washington, D.C. on December 13, 1962.

The Professional Television Journal

IN THIS ISSUE

Will Pay TV Succeed?

Room At The Top

Tropospheric Interference

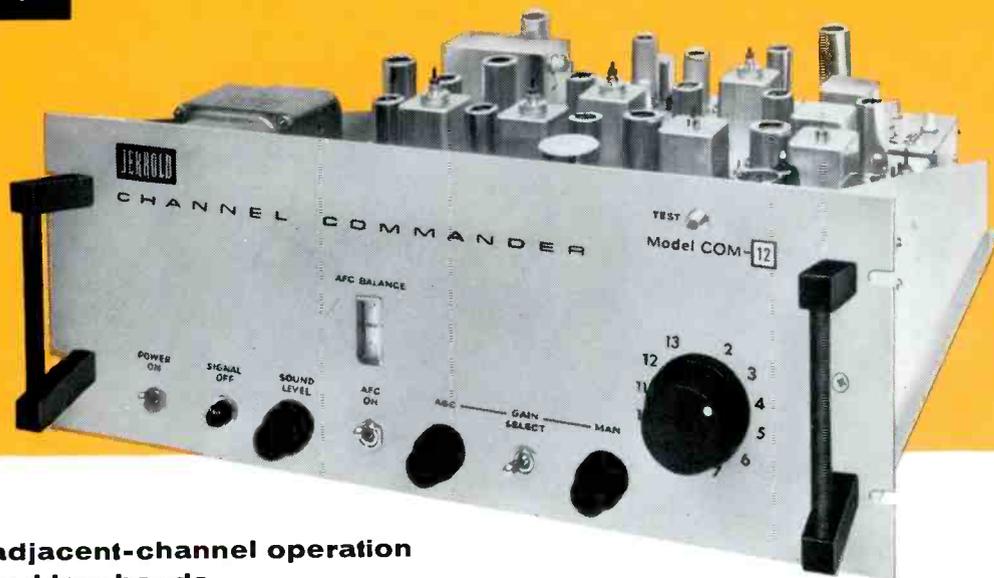
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WITH THE NEW

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You can now offer CATV reception on all twelve VHF channels with no adjacent-channel interference! By adding a Jerrold Channel Commander to your head end for each adjacent channel desired, you achieve 12-channel operation with minimum equipment.

The Channel Commander is a complete, compact unit which processes, controls, and delivers clear, interference-free signals on any desired VHF channel, including direct operation on the received frequency in both the high and the low bands.

In conjunction with Jerrold microwave and all-band-system equipment, the Channel Commander gives you command of the entire VHF band, lets you offer CATV subscribers the widest choice of entertainment possible over their present TV sets.

Channel Commander's compact modular design and compatibility with your present head-end equipment lets you "go 12 channels" immediately or in channel-at-a-time stages. Call your Jerrold factory representative or write for complete technical data.

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Channel

1

BURLINGTON, VT. CONVERTS TO ALL-BAND

Phil Lothrop, Manager of Green Mountain Television Corporation in Burlington, Vt., announced the conversion of their low band system to the All-Band concept in order to up-grade their present system. The conversion of the system is now well underway with eight months of pre-engineering and planning completed along with the addition of a new aluminum sheath cable trunkline.

The remaining part of the conversion is being completed now with the installation of new feeders on a street by street basis. When completed, Green Mountain Television Corporation will offer to Burlington residents a total of nine TV channels, seven FM stations, stereo FM background music, and a weather channel.

Telesystem Services Corporation of Glenside, Pennsylvania, has been responsible for planning, engineering and financing the entire \$300,000 project.

TIGER-FULLMER FIGHT RENEWS INTEREST

Lots of action plus satisfied customers has removed the bad impression left by the previous Floyd Patterson-Sonny Liston encounter. In a statement made regarding the Tiger-Fullmer fight, Mr. Irving B. Kahn, president of TelePrompter Corporation, said "the picture quality was excellent, and our reports indicate there were no outages such as nearly caused riots in some spots showing the Liston - Patterson fight."

The Fullmer-Tiger bout, in which Tiger won the World Boxing Association version of the middleweight championship, was seen in 53 locations in 48 cities, and on 71 CATV systems.

"I think that the general feeling was summed up by Dan Parker, Sports Editor of the New York Mirror," Kahn said. Parker, frequently an outspoken critic of the medium in the past, wrote that "closed - circuit theatre television scored a comeback after the knock-



out blow" apparently dealt by the Liston-Patterson bout.

TelePrompter supplied projection equipment and network cable facilities for Lester M. Malitz, Inc., owner of ancillary rights to the Tiger-Fullmer fight. The heavy-weight title event was handled by Graff, Reiner & Smith Enterprises, a closed-circuit TV newcomer.

TSC MOVING TO LARGER QUARTERS

For the second time in 2½ years, Telesystem Services Corporation has moved in order to enlarge their facilities. TSC's new offices will quadruple their floor space and will include a new test and equipment evaluation laboratory. The new address is 113 South Easton Road, Glenside, Pennsylvania.

REPORT ON NATIONWIDE CULTURAL TELECAST

Rick Bur, Manager of Iron Range Cable Corporation, reports that public interest in the two hour closed telecast of "The American Pageant of the Arts" was greater than anticipated.

Commenting on the response before and after the telecast, Mr. Bur said, "We placed a full page ad in the newspaper before the telecast and we were swamped

with people asking about the cable and how they could subscribe. After the show, people called us to tell us how much they enjoyed and appreciated the telecast."

Iron Range has 3800 subscribers and serves the communities of Marquette, Ishpeming, Negaunee, Munising and K. I. Sawyer AFB in Michigan.

ALL-CHANNEL RULES ADOPTED

The Federal Communications Commission has adopted the rules proposed September 12, 1962, regarding technical standard which will allow TV receiver manufacturers to convert to all-channel sets by April 30, 1964.

Also, the Commission is studying comments received, pertaining to a requested exemption from the all-channel requirement for receivers to be used in schools, hospitals, hotels and similar institutions where the signal is 'wired in'.

THEATRE INTERESTS LOSE IN COURT

A recent decision of the Arkansas State Supreme Court in favor of Midwest Video Corporation effectively eliminated the opposition to Pay TV provided by a group of theatre owners. The ruling made by the court upheld an earlier ruling by a lower court and by the Arkansas Public Service Commission that Southwestern Bell Telephone Company be required to provide lines for the Pay TV operation.

Midwest Video Corporation has proposed a Telemeter Pay TV system for the Little Rock area. Theatre owners have opposed the project on the grounds that the state authorities have no say-so in the matter and only the Federal government has the power to make the appropriate decisions.

ASCAP LOOKING FOR FEES FROM CATV

Informed sources reported recently that ASCAP is looking towards the CATV industry as a source of new revenue. Just exactly what type of license would be imposed upon CATV systems is not known at this time.

TELEVISION HORIZONS

PUBLISHED MONTHLY BY HORIZONS PUBLICATIONS
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EDITORIAL

Progress is not a separate entity of our American way of life, rather, it is entirely a part of it. Without progress, we could not have come as far in all aspects as we have. I particularly mentioned this in light of some developments that have occurred this past month.

One of the things that came to our attention is the Report on Receiver Installations, New York City UHF-TV Project as compiled by Mr. Jules Deitz. Contained in this report are a number of interesting and more important, proven facts. Probably the most outstanding thing we encountered was the statement that, "... on the basis of percentage of locations receiving Excellent or Fine (Grade 1 or 2) pictures indoors or Excellent, Fine or Passable (Grade 1, 2, or 3) pictures indoors, Channel 31 was inferior to Channels 2 and 7 by approximately 10%."

This would seem to disprove an existing fallacy that UHF nowhere compares to VHF. Those of us who have had close contact with the UHF television field know that this is a belief, frequently encountered. But, let us go on a little farther. In discussing this 10% difference, Mr. Deitz says, "This was primarily due to thermal noise caused by lower penetration of UHF signals. This difference almost disappears completely when outside antennas are employed." Thus, it would appear that UHF is a proven success. I am sure, also, that UHF will become more predominant in the future since many of the problems concerning receiving equipment have been resolved. Incidentally, the applications for Construction Permits for UHF TV stations have increased by leaps and bounds the past 90 days.

Progress has also become a part of Television Horizons. Starting this month we will begin the age of automation with the "turning on" of our new Remington-Rand Univac. Everything is now being transcribed to data cards so that Univac can take over the monumental task that our circulation department has had over the past year.

RLM

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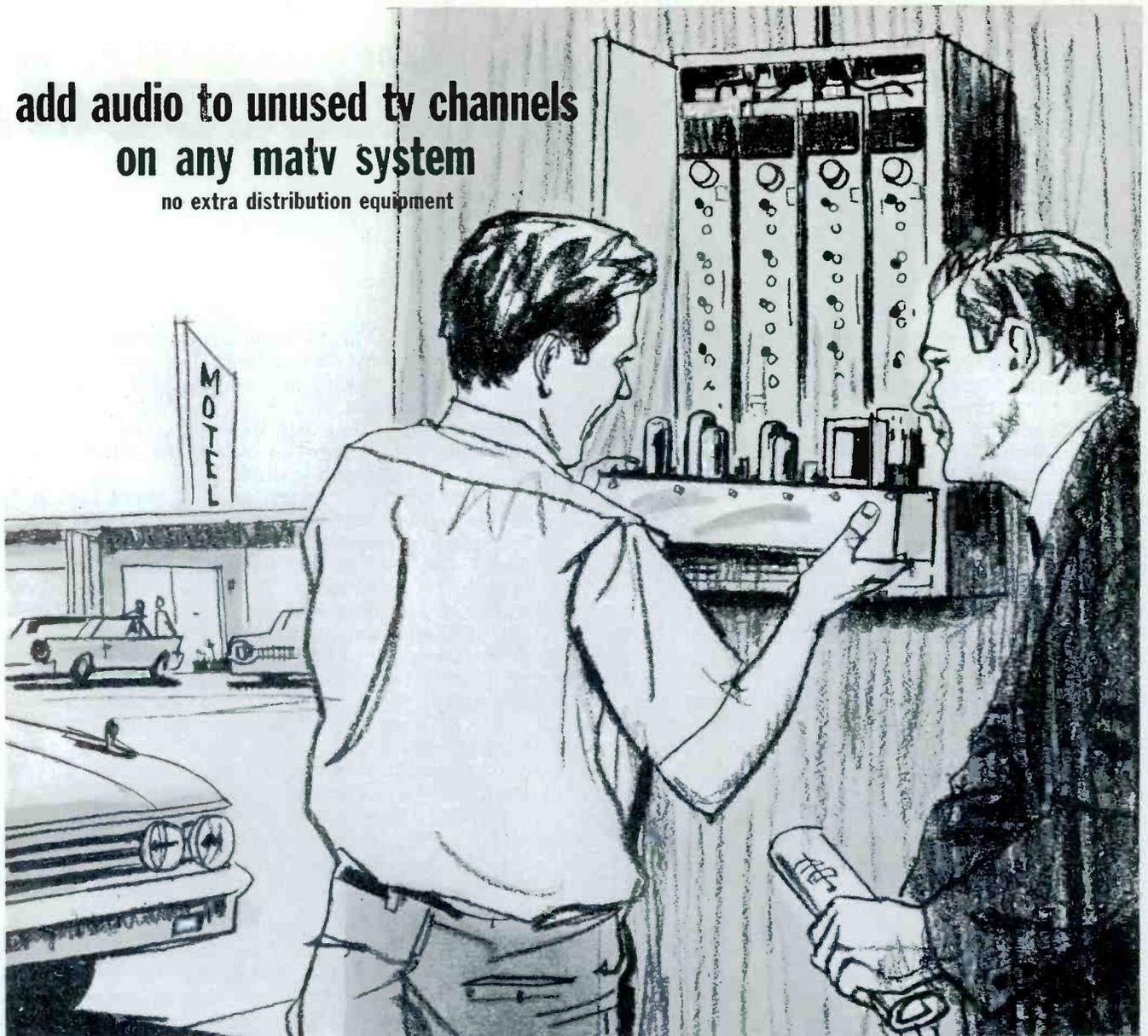
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add audio to unused tv channels on any matv system

no extra distribution equipment



NEW! BLONDER-TONGUE AUDIO MASTER

It's so easy to add sound to unused TV Channels on any MATV system with the Blonder-Tongue Audio Master. Its head-end design and compact size allow the installer to mount it in the same housing with other head-end equipment — right where it belongs! Simply add a sound source (FM Tuner, AM Radio, Record Changer, Tape Deck or Microphone) and TV listeners can immediately enjoy a new entertainment channel. No extra distribution equipment . . . No cables to install . . . No cabinet to buy.

EVERY MATV SYSTEM...A HOT PROSPECT The five or more unused channels in any MATV system are easily turned into audio channels with a Blonder-Tongue Audio Master. Every MATV system is a hot prospect: ■ Motels ■ Hotels ■ Apartment Buildings ■ Schools. Audio Master can bring the enjoyment of background music, radio broadcasts and original programs to all of them . . . quickly . . . immediately . . . and inexpensively.

TOP PERFORMANCE...BLONDER-TONGUE ENGINEERED The Audio Master reproduces high fidelity sound, too. It

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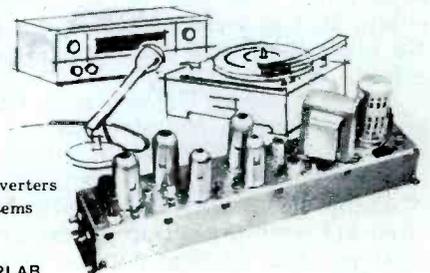
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Closed Circuit TV Systems

Canadian Division: Benco Television Assoc., Ltd., Toronto Export: Rocke Int'l, N. Y. 16, N. Y. Cable: ARLAB

originates a TV Signal for any specified VHF TV channel with a crystal-controlled video carrier and an FM sound carrier held precisely 4.5 Mc above the carrier. The video carrier output level is variable between 0.05V and 0.5V. The sound carrier output level is variable between 0 and 0.5V. For this reason the Audio Master is ideal for interference-free adjacent channel operation.

The new Audio Master rounds out the Blonder-Tongue line. With Blonder-Tongue, you can bid on new installations using products of only one manufacturer — matched and integrated for best performance. Write for free 30-page Installation Manual.



Will Pay TV Succeed?

by Charles Wigutow
TVH Contributing Editor

Pay-Television has finally reached the point where it is starting the long road uphill. After many various legal tests Pay-TV has won its day in court. Now it must prove that it deserves a place in our economic society.

To most, the idea of paying for programs is probably far from novel. For quite a period of time now, people have been paying to see the championship fights in movie houses. The answer as to why, lies in the desire that fans have in sharing the excitement of watching bouts take place, rather than wait to see them at a later time without charge.

However, the application of Pay-TV isn't going to be as easy as first indications might suggest. Perhaps the innovation of having the latest entertainment available for merely the flick of a switch will sway large numbers of people. In the long run, through, will there be enough various material available to keep subscribers tied to a Pay-TV system? Are there truly enough new motion pictures? What other forms of entertainment such as stage plays can be counted upon to draw the public interest? Well, a few of the answers have already been found in the many tests conducted. More answers will be necessary before the total worth of Pay-TV will be known.

Looking back to some of the first and subsequent later tests would tend to lend support to the theory that Pay TV will succeed. Admittedly, Pay-TV demonstrations on a somewhat limited basis cannot totally reflect the problems that are to be encountered. They can, rather, supply the stepping-stone basis necessary to proceed. What is the past history of Pay-TV? In 1951, Zenith tested its Phonovision on 300 families in Chicago. The experiment which transmitted scrambled pictures, and called for unscrambling and completion of the sound portion when the broadcast was combined with telephone line signals, was limited to only 90 days. Zenith said it was successful.

Palm Springs, California was the locale of the next experiment. Telemeter, the Paramount subsidiary, was responsible for this effort. It too was pronounced successful after having run for six months. Its offerings were mainly recent moving pictures.

Bartlesville, Oklahoma was next. This time the experiment was initiated by the owners of a theatre chain. Movies were offered for a flat fee per month. No one specifically claimed this to be a successful effort.

International Telemeter in Canada circulates its programs over a completely closed circuit system to the homes in Etobicoke, a Toronto suburb. Cable is strung through the streets on telephone poles. Nothing goes out via the ether. The substance of their subscriber paid programs are Broadway shows, first run movies, and popular sports events.

Other trials are on the way. Zenith has been

granted approval to conduct another Phonovision test in Hartford, Connecticut. Denver, Colorado will be the scene of still another Pay-TV trial, where a television station will work in conjunction with a wired arrangement into its customer's homes. More, undoubtedly, will prevail before the actual onslaught of Pay-TV on a nationwide basis.

For all the apparent success there is still much to be worked out and of course the ever present resistance. Whenever Pay-TV trials have been proposed, the theatre owners have banded together to oppose the experiment. Broadcast stations have also joined in opposing Pay-TV and have made extensive use of their own medium to stop it. But, behind the shouting, some of these same interests can be found providing the financial backing for subscription television.

ABC-Paramount, astride both the motion picture and the broadcasting industries, is the owner of the longest lasting Pay-TV operation. Its subsidiary, International Telemeter, began a subscription service some two years ago at Etobicoke. This is still in full swing and International Telemeter is doggedly seeking the formula that will tap the many millions of dollars promised by programs selected by paying customers.

Adolph Zukor, Chairman of the Board of Paramount Pictures, says that theatre men are overlooking the potential of Pay-TV when they fight it by legal and political means. But, to go farther, Little Rock, Arkansas is the present scene of a developing pay-television operation. Midwest Video Corporation in Little Rock holds a Paramount Telemeter Franchise. Who are Midwest Video's stockholders? A publisher of southwest newspapers and owner of a television station, several prominent Hollywood movie and television personalities, and the co-owner of a big league baseball club.

Actually, the idea of subscription television should not come as a shock to those who have been with broadcasting since the very early days. The original pioneers were severely concerned with the same problems, namely, who was going to foot the bill. The notion that advertisers would bear the expenses hardly occurred to anyone. David Sarnoff offered the suggestion that radio manufacturers contribute to the cost of constructing and maintaining stations. It was also suggested that public minded foundations and individuals might supplement the costs by contributions.

Advertising as the source of programming revenue first began in 1922 over station WEAJ in New York. At that time, so little thought was given to broadcasting as belonging in the category of private property that the conservative Herbert Hoover, when Secretary of Commerce in 1926 said, "It is inconceivable that we should allow so great a possibility for service . . . to be drowned in advertising



ATA-60
\$395.00*



ATM-60
\$295.00*

Announcing!

FULLY TRANSISTORIZED ALL-BAND TRUNKLINE AMPLIFIER with A.G.C.

Here's another Ameco first for CATV! A cascadable fully transistorized all-band trunk amplifier available with AGC or Manual Gain Control.

Two years in development, the remote cable powered ATA-60 and ATM-60 have operating specifications comparable to 12 and 13 tube all-band amplifiers currently on the market, and require no expensive external leveling devices.

Already operating in systems, Ameco's ATA-60 and ATM-60 amplifiers have run the gamut of adverse field conditions . . . from sub-zero temperatures in New England to 120 degree heat in the California desert.

Technicians are pleased with the stability of Ameco transistorized equipment under these rigorous conditions, and system owners are delighted with the economy of remote cable powered transistorized amplifier operation.

Used with companion ATB-10 bridging amplifiers and ATM-20 line extender amplifiers, the ATA-60 and ATM-60 make possible the ultimate in system design . . . the fully transistorized distribution system.

Here are the Advantages!

- ◆ You save up to 80% on power costs
- ◆ You save 100% on tube replacement costs
- ◆ You save \$ on maintenance costs
- ◆ You save \$ on construction costs
- ◆ You save \$ on equipment costs

*ALL PRICES ARE SUBJECT TO AMECO'S
LIBERAL DISCOUNT.

ATB-10-C
\$135.15*

ATM-20-C
\$69.50*



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matter." Following through on what developed into a general feeling, the National Association of Broadcasters barred the evening hours to all commercial announcements. This was accomplished as late as 1929. Now, we of course know that the evening time constitutes the main support of Television and Radio.

In trying to find a solution to the financial quandry, several proposed methods of extracting revenue were introduced. These included municipal or Federal government support, subscription by the public and ownership by radio manufacturers so that radio sets could be sold. England adopted a direct tax on each set. In the United States, the slow discovery that messages out of the loudspeaker could be harnessed to advertising determined the direction that broadcasting took toward business sponsorship.

The attention given programs via the ether became even more compulsive when television came into existence. A few people in the entertainment world saw possibilities of supplying programs of extreme popularity, such as championship events, for a fee. The rewards promised to be high because so many more people could be served on individual home receivers than could be seated in the largest stadium or theatre imaginable.

Following along these lines, Skiatron, in the mushrooming days shortly after the close of World War II, embarked into the field of Pay-TV and consequently met strong opposition. Telford Taylor, representing Skiatron, spoke of broadcasting's beginning. In a letter to the New York Times, he wrote, "Had the technical means existed in the late Twenties to exact a fee from the listener in order to meet the costs of programming, surely this would have been done . . . It was only for lack of any practical

way to collect the radio listener's dollar on a per program basis that advertising emerged as the sole economic base of broadcasting, and that Federal regulation developed within that framework."

Since the inception of advertising as the supporting means, the public has been educated to feel that it is receiving its programs free of charge; and that it makes no payment to the sponsor even though continuation of the program is dependent on how much sales are increased because of it. Broadcasters who live by this established pattern of earning their keep, join in the opposition by equating free TV with free economy, and pay-TV with captive audience and politics. The fight is carried on by lobby within and without legislative areas.

In the legislative area, just where does the Federal government stand? The Federal Communications Commission through its chairman, Newton Minow, has declared itself in favor of giving Pay-TV a fair test. They have backed this declaration up several times by granting approval for the past and present tests. In the case of the recently approved Denver test using the Teleglobe system, the Commission provided for a test period to extend for three years.

It could be said that Pay-TV has most of its problems and wounds cured. But, this isn't yet true. In the future to come, Pay-TV will be fighting for its life, not in the legislative halls, rather, it has reached an age when it must prove itself commercially by the numbers who will be its customers. Here, the ability to come up with a sufficient number of programs of quality and interest will mean more than its technical know how, or its political friends.

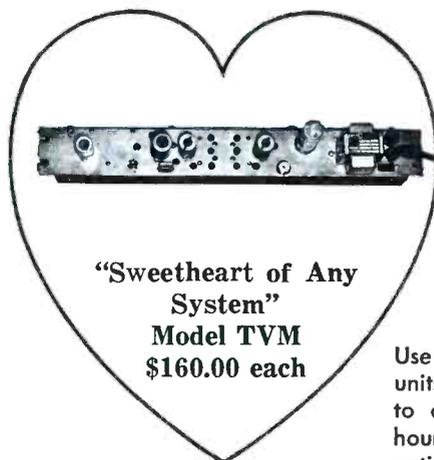
LOOKING FOR A "SWEETHEART" OF A TV HEAD-END?

CAS Manufacturing has the COMPLETE long-term reliability, low cost answer to DEMODULATING and RE-MODULATING system requirements. It's the brand new ECONOMY TV Head-End featuring the CAS-TV Modulator (model TVM) and a specially adapted Conrac AV12E TV 12 channel tuner.

Famous Conrac quality, field-proven CAS reliability team up to bring up a complete TV head-end for only \$480.00 per channel!

HEART OF THE SYSTEM IS CAS'S MODEL TVM MODULATOR, FEATURING —

- Composite modulation of video and 4.5 mc sound.
- Rack mounting — self-contained powering.
- Low-low maintenance costs with only 4 tubes, designed for long-long tube life.
- Vestigial side band filters and Rf amplifiers.



Model TVM plus the Conrac AV12E provides new system flexibility. Switch from off the air to local weatherboard or local slides or live presentations.

Use two Conrac tuners (SE-213 or crystal controlled units) and a time clock to switch from one signal to another at the head end at pre-determined hours of the day. Uses limited only by your imagination. Complete price—Conrac AV12E and CAS TVM — \$480.00.

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Pioneer Manufacturers of
Transistorized CATV Systems

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Room at the Top

by W. G. Pither
Systems Engineer
Fred Welsh Antenna Systems, Ltd.



An Easier Way to go Up

Once upon a time visits by our staff to CATV head ends meant gruelling climbs on foot, or jolting jeep rides, and on occasion pack-horses to remote mountain sites in the rugged British Columbia terrain. In the early cable television era, our firm engineered, furnished, and installed numerous systems for B.C. communities cut off from TV reception by up to 10,000-foot mountain ranges. Sometimes we were fortunate enough to have our equipment airlifted on to antenna sites by helicopter, but even at that we never had it so good as we have it now at the new antenna and master control location, which spearheads our sprawling Vancouver "Cablevision" system.

When our engineers visit the head end today, they are "lifted" ten stories to the top of a suburban luxury apartment block by a smooth automatic elevator, and in a business suit they service and adjust a neat, rack-mounted complexity of equipment in our "room at the top." The seven off-air channels and the five received FM stations (including three stereo) originate here to serve the 12,000 families of our expanding system, which covers portions of the "shadowed" north slopes and downtown areas of metropolitan Vancouver.

In addition to the traditional TV monitor, spare tubes, parts and telephone, our "penthouse" accommodates the 25-watt VHF radio transceiver by which we are in constant touch with four maintenance vehicles from our two offices. The terms of the roof lease state that we must supply signal to the 60 deluxe suites in the 8 floors below, so of course the apartment distribution amplifier is part of the rack equipment. Our "transportation" run is only 20 feet to the first subscriber and 12 cable miles from there to the last drop!

Plans, which we expect to have in operation by 1963, include the addition of a 24-hour weatherboard channel, and weather is the most important single item in Vancouver. Backing up this service will be non-commercial background music. This channel is, and will continue to be, available for special programme use, such as championship fights and public service. It is currently on lease in the downtown area to Travel-Ad Enterprises Ltd., serving hotel and apartment subscribers daily, with a fully-automatic, repeating 30-minute programme of forty slides and commentary specifically aimed at the traveller and the tourist. Travel-Ad changes the programme weekly and sells the advertising which is interspersed between scenic views in and around Vancouver.

Very shortly we will complete the addition of our local "good music" FM station as audio on

Channel 3, already in use on part of the system. When finished, our Cablevision Spectrum will look as follows. The signal readings are the micro-volt input levels to our head end from the antennas.

- Channel 2—CBUT (CBC) Vancouver (30,000) — carried on channel.
- Channel 3—CHQM-FM Vancouver—good music audio.
- Channel 4—KOMO (ABC) Seattle, Washington (2,000).
- Channel 5—KING (NBC) Seattle, Washington (2,200).
- Channel 6—CHEK (Ind.) Victoria, B.C. (30,000).
- Channel 7—KIRO (CBS) Seattle, Wash. (450)
- Channel 8—Local (cannot use on-channel because of intense direct pickup).
- Channel 9—Weatherboard and background music. Closed-circuit programmes.
- Channel 10—We have plans for this one!
- Channel 11—CHAN (CTV) Vancouver (30,000) converted from off-air 8.
- Channel 12—(some direct pickup problems.)
- Channel 13—KVOB (CBS) Bellingham, Wash. (30,000) converted from off-air 12.

- 88.5 mcs.—KETO-FM (stereo) Seattle — light popular.
- 98.5 mcs.—KMCS-FM Seattle — light popular.
- 90.5 mcs.—KLSN-FM (stereo) Seattle — variety.
- 91.5 mcs.—CHQM-FM (stereo) Vancouver — variety good music.
- 92.5 mcs.—KGMI-FM Bellingham, Washington classical.
- 93.5 mcs.—KGMG-FM Seattle, Washington — not on, but projected.
- 94.5 mcs.—Room for one more, and we're thinking about it!

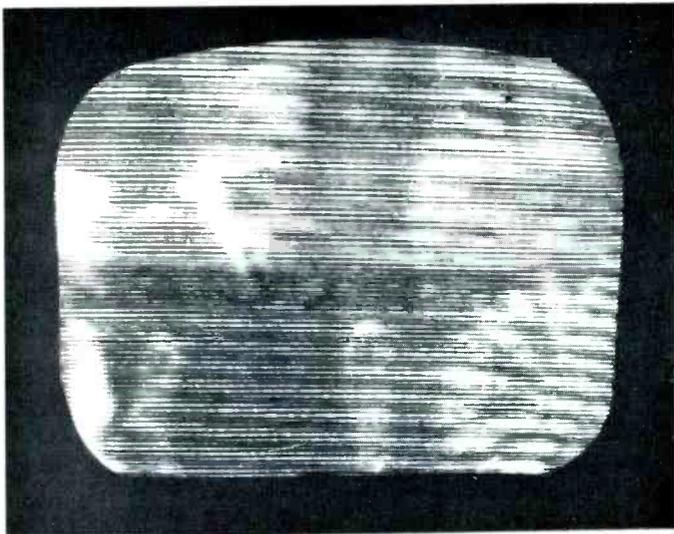
This November is the 10th anniversary of Fred Welsh Antenna Systems, and from a staff of two and one vehicle, we have grown to twenty-nine employees, ten vehicles, 125 miles of cable plant, hundreds of amplifiers, and we are far from stopping yet. In the meantime, although it's not so good for the waistline as mountain sites, we're enjoying our anniversary gift to ourselves — the Room at the Top!

Tropospheric Interference

— Russ Miller, Managing Editor, Television Horizons —

Having spent a very productive day and feeling that things are looking like they should, one is lulled into a false sense of security. In the CATV business anything can usually happen and most generally does. Take the case of a southern CATV operator who had just enjoyed such a day only to be disturbed by the ringing of the telephone. His cheery outlook proved to be very shortlived when a voice at the other end informed our friend that the television picture was "wavy, distorted, rolling" and at this point further description was unnecessary.

Once again the dilemma of that unknown interference had descended like a specter in the night. Had he forgotten something like perhaps this was the spring or fall of the year? He certainly had and when the thought did dawn upon him he immediately realized that a siege of interference was just about to begin.



Light Interference. Offending Station in this case was located 420 miles away.

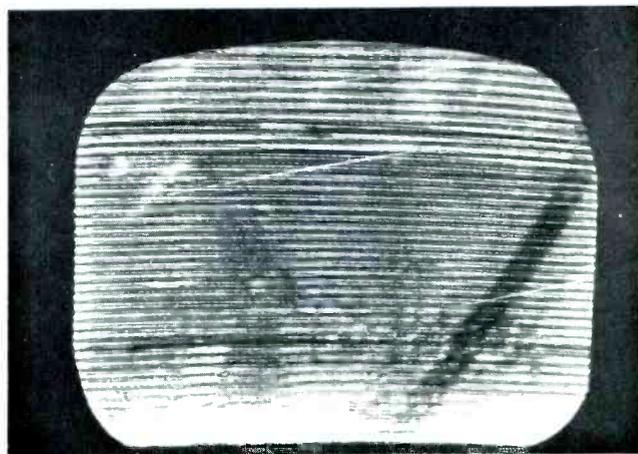
Perhaps the diagnosis of the interference is unfamiliar to some. It comes in all kinds of forms. Maybe even the symptoms don't sound familiar. This could be a possibility, dependent upon where you're located. In any event, the trouble is one that little can be done about. Engineers call it Tropospheric Ducting or Inversion, others call it by titles befitting the situation.

Man has had to live with tropospheric phenomenon ever since his migration to the very-high-frequency regions. Some people have been fortunate enough not to be in areas where it occurred but just as many others are annual victims. This problem of "tropo" interference is one where understanding is

the key to maintaining a system on an even keel. Even those people who enjoy direct television reception can be plagued by tropo interference. In fact, one midwestern city once had interference so strong that no portion of the local television stations signal could be discernably received.

A necessary part of system management is the ability to handle situations as they occur, strange or not. The best all around weapon is education, for with this endowment one can usually satisfy those who are being bothered or more simply, the system subscribers. One very good reason for having an answer at hand is to preclude the possibility of having the blame laid somewhere else. Generally, people are quick to grab at intangibles when they can not understand what is going on. All forms of interference fall in this category.

Mother nature can work some strange and wonderful miracles. One of them is her ability to blow holes in the line-of-sight theory pertaining to the VHF realm. She does this by creating specific upper air disturbances that ultimately "duct" or bend very-high-frequency signals in such a manner that a signal may travel several hundred miles before it is attenuated very much. Just exactly how the mechanics of this occur, no one knows for sure. There are many sound theories, which I might add, hold some answer to the question. Actually it is a simple matter of accepting the fact that tropo ducting exists and presents a problem.



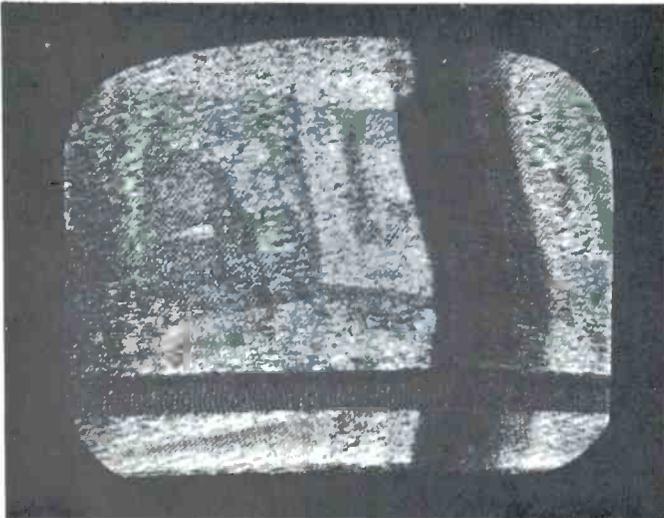
Interference of medium severity. This particular case existed for three days.

The occurrence of tropo interference is limited to specific areas, where it shows up at regular intervals. Such parts of the country like the Northwest, the states of North and South Dakota, portions of California and some other regions which it is not

necessary to name, all fall victim at one time or another. Areas in the southeast and southwest are the hardest hit. Here it can be such a problem that television reception can be bothered for days. Even the microwave links get occasionally wiped out or sufficiently degraded to cause troubles.

Almost always the spring and fall months are the times when a television station located many hundreds of miles off will come sailing into the picture. A little more than just literally, however, because the signal levels of the interfering station can be many times greater than the signal you are receiving from a scant 100 miles away. The result is disastrous and the phone will start ringing without fail as soon as television reception begins to be degraded.

In most cases, as was mentioned previously, interference attributed to tropo effect shows up in the spring and fall but it can occur during the winter months. Numerous incidents have been related to prove that there isn't an exact rule-of-thumb applicable to predicting the occurrences of tropo interference. Generally though, the most severe cases can be expected in the months of April, August, and September.



Severe Tropo Interference.

There isn't a magic key available nowadays that can beat the tropo interference problem. Most everything that can be done is related to what can be afforded, monetarily. Some relief can be realized if the interfering station lies in a known direction and not more than one station is the offender. In this special case, antennas can be so oriented sometimes or extra bays installed to help minimize the problem. However, this solution won't work if the interfering station lies anywhere within 30 to 40 degrees of the normally used station. It would be difficult to believe that this remedy would be used due to the costs involved unless the frequency of tropo interference justifies it. For on-channel interference no other method can be used.

Co-channel interference can be easily handled as would any normal co-channel problem. Filters, properly installed, will quickly and efficiently alleviate all of the co-channel interference. Other than these suggested methods, there is not much else that can be done. To be sure, tropo interference is a nuisance but if a simple explanation can be forwarded on to the subscribers, fewer complaints will be received.

FIVE (5) WAYS FOR THE CATV OPERATOR TO MAKE HIS SUBSCRIBERS HAPPY!

1. Give them all new TV sets
2. Cut the service rates in half
3. Take them to Bermuda for a week
4. Forget to send out bills
5. Install Tape-Athon background music

No matter which one you select you'll make everlasting friends with everyone on your cable. Of course, if you're frugal you can get these same results with a minimum of investment by picking number 5. Tape-Athon's Librarian Tape Player is custom made for CATV systems. It's com-



pletely automatic, professional quality all the way through, and when you match it up with Tape-Athon music you'll have more customers listening than watching. Write — right now — for details on how Tape-Athon can fill an open channel with profits for you.

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G.E.'s new "room for growth" educational television control console.

NEW ETV CONTROL CONSOLE

An educational television control console with "room for growth" has been developed by General Electric to meet an expected surge in demand from school systems and other educational institutions.

Designed especially for school districts which are just starting out with their own ETV setups, the new modular control console requires only one operator.

G.E.'s Technical Products Operation, developer of the modular package, believes it will be an ideal answer to rising demands for ETV resulting from recent passage of the federal \$32-million matching fund program. The package is adaptable to both closed-circuit and broadcast operation.

Two units make up the basic control console which can handle two cameras. As need increases and more funds become available, an additional unit can be added to the console providing control for another camera for movies and slides to be projected through the ETV system. Output quality of the system is high enough for it to be used by a local ETV station for broadcasts.

Operation of the console can be quickly learned by the non-technical personnel and its modular design lends flexibility to the layout of the equipment. Installation is also easy and quick, according to G.E.

The modular console provides a variety of audio, video and intercommunication circuits. For instance, a transistorized switcher-fader is designed for use with four cameras and three other composite video/audio inputs such as off-air broadcasts, video tape or remote

cameras, and, previewing of each picture as seen by the cameras, as well as the audio sound level, is possible before distributing an approved signal.

Tally lights are incorporated to designate which camera is providing the picture that is being distributed for viewing. Also, of the 11 audio signal sources which the console is capable of controlling, eight are handled by four adjustable-gain mixing amplifiers and three are relay-switched to the mixer output bus. The audio level of any one of 11 signals is through a master gain control, and is monitored by a VU meter.

Monitoring of the audio signals can be done by a monitor amplifier and speaker, or by a TV receiver. Split headset monitoring at the control console can be arranged by adding a monitoring amplifier. Split-headset communication between console operator and camera operators on the studio floor also is provided. A projector remote control panel for the film channel is included in the third cabinet of the console, for control of two film projectors and a slide projector.

OUR GROWING PACIFIC NORTHWEST

The developing Pacific Northwest region is one of the electronics industry's most fertile markets for expansion, according to one industry spokesman. "Production and consumption of electronics products should continue to grow through the Sixties, helping to enrich this region which once relied primarily on its timber and fishing industries," said Ben Tongue, president of Blonder-Tongue Laboratories, Inc., who recently returned from

that area after attending last month's Electronics Representatives Association conference in Victoria, British Columbia.

The Blonder-Tongue executive noted that most portions of the area — which includes Washington, Oregon, and the northern part of California — were experiencing a population increase that was more than double the national average.

"This growth is especially significant in that it stems from young families seeking jobs and income, rather than older, retirement families." Other factors in the region's growth arise from its vast power reserves, its position as a natural shipping gateway to Alaska, Hawaii, and the Orient, and its well-established aero-space industries.



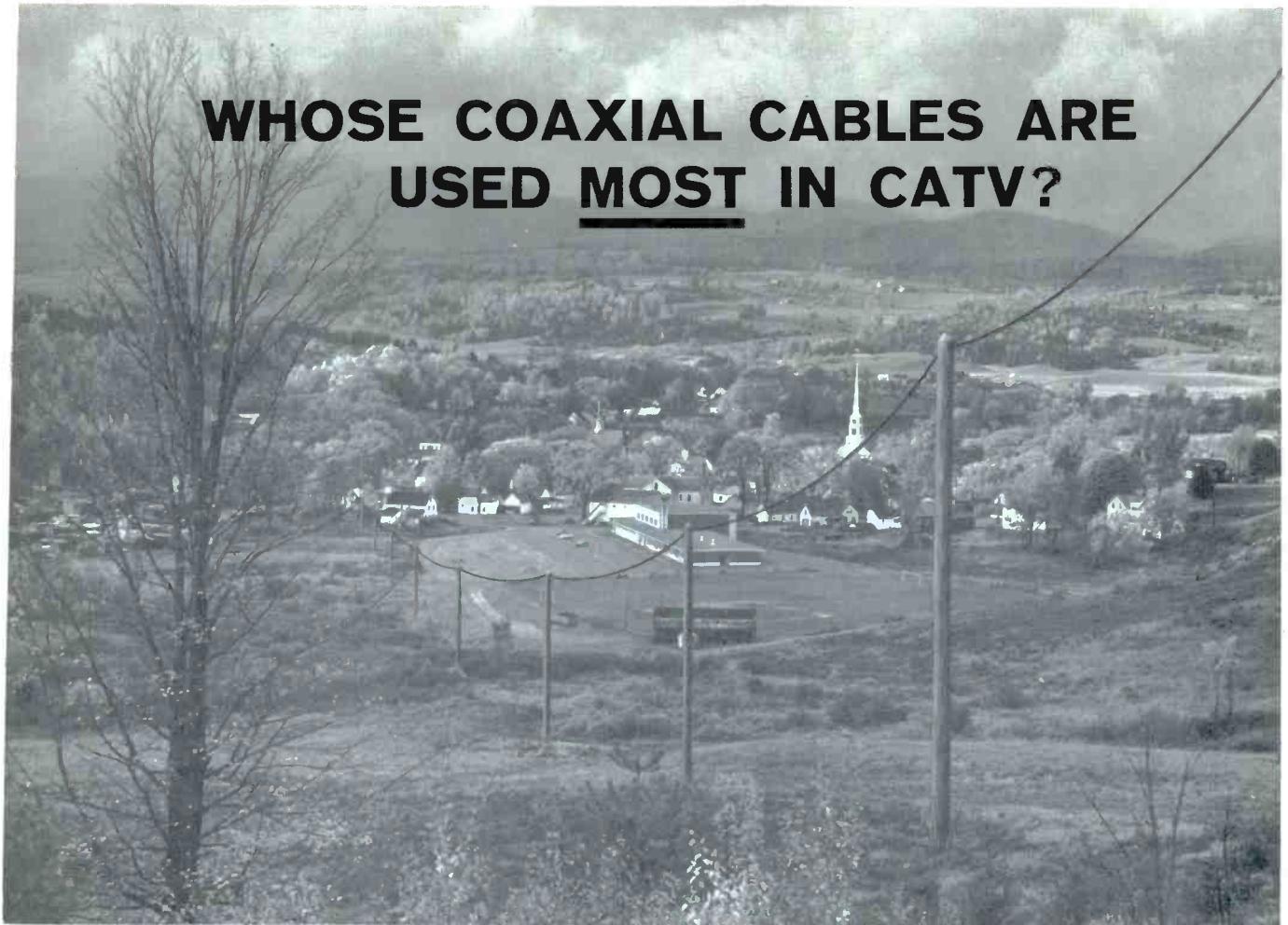
Ben Tongue, President of Blonder-Tongue Laboratories, Inc.

According to Mr. Tongue, this level of growth in the Northwest is destined to affect the electronics industry through an increase in demand for UHF broadcasting, and community antenna operations. "As the region continues to develop, there will be a rising need for closed circuit TV systems and other electronic communications aids in schools and industry," he added.

While attending the conference, sponsored by the Cascade chapter of E.R.A., Mr. Tongue and other leaders of the electronics industry met with northwestern region representatives and distributors. Marketing problems of warehousing, shipping and sales were aired at the conference in a series of round-robin 20-minute symposiums.

According to Mr. Tongue, the conference provided an informal setting for manufacturers to meet with local representatives on the inevitable problems of a growth industry.

WHOSE COAXIAL CABLES ARE USED MOST IN CATV?



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Today there are more than 400 million feet of Times' CATV cable in use throughout the nation—more than any other manufacturer's. Times has produced coaxial cable for CATV since the industry began. In addition, Times has pioneered *every* major cable improvement—and has set the industry's standards for TV transmission cables. This unequalled record makes Times the first choice for the newest, most advanced cables.

TIMES' NEW JT 400 SERIES GIVES BEST RESULTS

The latest Times cable to win industry acclaim is the JT 400 Series—the first proved "Strip-Braid" coaxial cable. Field tests on operating systems for over two years have proved the JT 400 Series cables to be the most economical cables in use today. There are now more than 8 million feet of JT 400 Series cables in operation giving the most efficient and reliable cable service for all-band systems. Exclusive JT 400 Series features include:

- Best attenuation uniformity (Cables sweep flat within 0.5 db in 40 db of cable).
- Best radiation characteristics.
- Best impedance uniformity.
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FCC PROPOSAL AFFECTS CATV SYSTEMS SEEKING ALLOCATIONS IN THE BUSINESS RADIO SERVICE

On December 12th, Commissioners Minow, Hyde, Lee, Craven, Ford and Henry took the following action as reported in an FCC Public Notice:

The Commission invites comments by February 15, 1963, and reply comments by March 1, 1963, to proposed rules which would govern the grant of authorizations in the Business Radio Service for microwave stations to relay TV programs to CATV systems.

In general, the proposals would handle such Business Radio Service applications as follows:

1. If the CATV system is to be served in an area having a local TV station (operating or authorized), the application would be granted on condition that the subject CATV would not duplicate programs of the local station, and also, on condition that if requested by the local station, the CATV system would carry its signal without material degradation in quality.

2. If there is no local TV station in the CATV's area to which a TV channel is assigned or subsequently assigned, applications to serve the CATV would be granted on the same conditions with respect to future establishment of a TV station there.

Pending applications, as well as others which may be filed during

this proceeding, will be held in pending status until its conclusion. Exceptions would be made in cases where applicants voluntarily accept the contemplated conditions. The initiative for indicating acceptance of these conditions rests with the applicants.

The problem of competition by CATV systems to TV stations in remote small communities has been of concern to the Commission for some time. It recommended legislation which would give it authority, with respect to the operation of CATV systems, to issue rules and regulations where local TV stations are operating under inequitable disadvantage in competition with CATV systems but covering bills (S. 1044 and H.R. 6849) were not enacted.

ANALAB ADDS MANUFACTURER REPRESENTATIVE FIRMS

Analab Instrument Corporation, Cedar Grove, New Jersey, has added six manufacturer representative firms to its present national marketing organization. According to an announcement made by Morton G. Scheraga, President, the six appointments reflect a program for intensifying Analab's market penetration in various areas of the country.

Analab, a subsidiary of The Jerrold Corporation, is a leading manufacturer of sophisticated precision oscilloscope main frames and plug-ins as well as a line of record-

ing cameras which include single frame continuous motion and electric pulse film advance systems.

Newly appointed manufacturer representative companies include:

- (1) Roy Attaway Company, Huntsville, Alabama — for Alabama, Florida, Georgia, North Carolina, South Carolina and Tennessee;
- (2) Bard Associates, Riverside, Illinois — for Northern Illinois, Indiana, Eastern Iowa, Western Kentucky and Wisconsin;
- (3) Central Associates, Englewood, New Jersey — for the state of New Jersey;
- (4) Holdsworth & Company, Lansdowne, Pennsylvania — for Eastern and Western Pennsylvania;
- (5) Instruments for Measurements, Hollywood, California — for Arizona;
- (6) The Jay Company, Arlington, Virginia — for the District of Columbia, Maryland and Virginia.

NEW FIELD STRENGTH METER BY B-T

A new ultra-rugged, light-weight field strength meter has been added to the line of Blonder-Tongue Laboratories, Inc., equipment. The professionally designed field strength meter, Model FSP-1, is useful for many applications ranging from the measurement of field intensities and the attenuation of different traps and filters to checks on amplifiers to determine gain.

One of the outstanding features of the instrument is its ability to measure both signal voltage and power. Another important feature is the relatively low power consumption and resultant long battery life of 180 hours — continuous operation. This is largely possible due to the use of transistors throughout.

Rugged construction is a keynote in the FSP-1, with aluminum castings being utilized to keep the instruments weight to 10 lbs. Frequency range is 52 to 220 Mcs in one range with a bandwidth of 0.5 db at the -3 db points. Feedback stabilized IF amplifiers and passive precision attenuators are used to insure a continued accuracy without frequent recalibration.

According to Blonder-Tongue, the unit is well suited for the most rigorous lab use, yet light and portable for work in the field. In addition, it is designed to be used to balance MATV and CATV systems, enabling the highest or lowest frequency outputs to be set at the proper levels. Manufacturer of the versatile instrument is B-T's subsidiary, Benco. Net price, \$405.00.

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ENTRON FEATURING NEW TAPOFF

A new advanced television cable tapoff, featuring fast, one-bolt installation, maximum reliability and achieving a new high for seepage elimination has been introduced by Entron, Inc., of Silver Spring, Md. The Entron-designed and produced Fasteer tapoff attains maximum reliability through use of a nylon-insulated tap pin, a Neoprene gasket which features the latest advance in water-proofing, vertical positioning of the tap which minimizes seepage, and rugged two-piece construction. Fast, efficient installation is assured through the new Entron push-on fitting for the drop line, built-in drop line messenger hook for strain relief, and double clamp to accommodate all standard messengers as well as single bolt assembly. The Fasteer tapoff completely eliminates disassembly, cable cutting and soldering. Entron Sales Manager Edward Shafer claims the Fasteer is the only tapoff to incorporate all these features.

ETV'S USE OF VIDEO TAPE REVIEWED IN NEW BOOKLET

Video tape is serving as a catalyst in an eruption of television teaching throughout the United States, according to a new booklet published by Minnesota Mining and Manufacturing Company (3M).

Called "Teaching with Video Tape," the 52-page publication describes the various ways video tape has teamed up with educational television (ETV) to open a new dimension to teaching.

"A revolution in communication has occurred when we can bring a rich, full-bodied event to the individual instead of taking him to the event," Edgar Dale, professor of education of Ohio State University, observes in the booklet. "Video tape provides a unique, revolutionary, new instrument for this purpose."

According to the booklet, video tape — the 2-inch wide magnetic tape that records both sight and sound for immediate playback without processing — reproduces with a "live" quality rather than a flat "filmed" look. Video tape can be spliced, edited and magnetically erased for re-use, the booklet points out.

"On tape, it is a simple matter to edit out the blunders or re-tape the sequence while the talent and crew are still assembled," points out R. LeRoy Lastinger, general manager of Tampa-St. Peters-



Moments after presenting a French lesson before the television cameras, Mrs. Lucile Turney-High of South Carolina's Educational Television Center views herself in action as the entire lesson is played back on a video tape recorder.

burg's ETV station, WEDU. Adds R. F. Schenkkan, director of Radio/Television at the University of Texas: "As new information becomes available it can be incorporated in a new version of the same lecture or demonstration on the same reel of tape."

As of January 1962, there were 85 educational installations (non-military) of video tape recorders in the United States, according to the booklet. Of these installations, 58 were in open circuit ETV stations which beam taped courses to an estimated 30 million viewers. Others were in closed circuit ETV systems, educational program production centers, and an "airborne" broadcasting project (involving the

transmission of taped lessons from an airplane to classrooms scattered throughout a six state area).

The airborne broadcasting system is one of nine case histories featured in the booklet. Illustrated with 106 photographs, the booklet also reviews video tape's role in NET (the TV network of education); Continental Classroom (NBC's nationally telecast program); open circuit systems in Florida and Los Angeles; and closed circuit systems in Maryland, South Carolina, Texas, and the U.S. Army.

A copy of the booklet may be obtained for 50 cents by writing Dept. E2-48, 3M Company, St. Paul, Minn.

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GE TO DESIGN EQUIPMENT FOR PAY TV

The General Electric Company has contracted to design several special controls for use with a pay television system developed by Home Entertainment Company of America, Inc., for use with existing TV sets.

The announcement was made jointly by W. H. Sargent, vice president of Home Entertainment Company of America, and J. H. Gauss, General Manager of G.E.'s Appliance Control Department.

Home Entertainment Company of America is launching a new and dramatic concept in TV programming which calls for the presentation of such attractions as current motion pictures, stage presentations, concerts, symphonies and sports events.

General Electric is designing the push-button remote control unit and a meter device. The viewer selects a program by pushing a button which signals the meter to switch to the program selected. The meter automatically keeps a record of the programs that have been viewed.

The first city to receive this new medium will be Santa Monica, Calif., where Home Entertainment Company of Los Angeles, franchised by HECA, has signed commitments with the General Telephone Company of California to install the cable system.

According to Sargent, the sys-

tem's inventor, Santa Monica was chosen for the initial installation because of its proximity to Hollywood, the nation's entertainment capital, and because of the uniqueness of its residents, who comprise an excellent cross section of families.

Present plans call for operation beginning early in 1964. One channel will broadcast approximately eighteen hours a day and another will concentrate on special events and sports and will operate when and for as long as the events warrant, Home Entertainment said.

Some shows may cost as little as fifteen cents. Others, like Broadway shows and championship boxing matches, may cost \$3.00. Motion pictures are expected to run between \$.75 and \$1.50, they added.

The push-button selector switch will have five buttons. One button is for the regularly scheduled commercial programs and simply switches the mechanism back to your original set. Another button will broadcast the program time schedules and prices which will appear on the two operating channels, A and B. The fifth button is a safety interlock switch to prevent accidental program selection.

When the studio control center changes programs a signal to the meter will automatically return the set to the free preview station so that the viewer cannot be

charged for a new program not selected. Viewers will be billed monthly according to which programs were watched.

Home Entertainment Company of America, jointly with their Los Angeles franchised company, will stage a gala opening presentation of this new TV system in their recently completed location in Santa Monica on December 5. Noted celebrities and state and local government officials will be on hand to witness and herald this event.

NEW HEAVY DUTY ANTENNA BY TACO

Technical Appliance Corporation (TACO) is marketing a new series of extra heavy-duty TV and FM antennas for MATV, according to the statement of Dan O'Connell, Manager of the Consumer Products Division of the company. The extremely rugged "J" series antennas are high-gain high-directivity cut-to-channel yagis which are directed to; delivering maximum signal strength to system head-end equipment in motels, hotels, hospitals, etc.; functioning at maximum efficiency even in conditions of severe snow and ice-loading; providing an antenna that will last as long as the system equipment.

The heavy duty construction of the "J" series, according to Dan O'Connell, answers the need for a maintenance-free antenna in MATV systems, where many TV viewers depend on one antenna.

The "J" series are available for every VHF channel (2-13) as well as for FM. The antennas, which provide a minimum 10.5 db gain in the high band, and an approximate 8 db gain in the low-band feature 75 ohm gamma match output. A built-on 75 ohm coaxial cable fitting, with cable connector and weather boot provides the highest possible degree of electronic continuity. Irridited aluminum is used in the overall manufacture of the antennas, except for the steel mast mounting bracket. Elements are composed of 1/2 inch, 0.062 seamless 6061T6 aluminum tube. All elements are reinforced by 5/8 inch sleeves and secured by double-bolted brackets to the 1 1/4 inch square boom. The longer low-band elements are sand-loaded to minimize the effects of vibration.

The high-band yagi has 10 elements. Low-band and FM models have five elements. All elements, as well as the boom, are sealed to prevent internal moisture build-up.

*bring your picture in
out of the snow with*

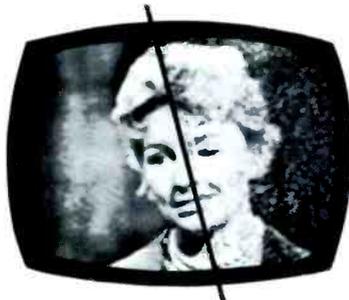
CECO'S UHF/VHF

PREAMPLIFIERS

Ceco's ultra-low noise UHF and VHF preamplifiers effectively double transmitter power at the receiver site, eliminating entirely or reducing significantly snowy TV reception. These rugged, compact, single channel units have self-contained power supplies . . . advanced tube types and other components for long, trouble-free life. They require no cooling devices, are housed in easily mounted, weatherproof aluminum enclosures.

Ceco manufactures complete equipment for TV cable systems.

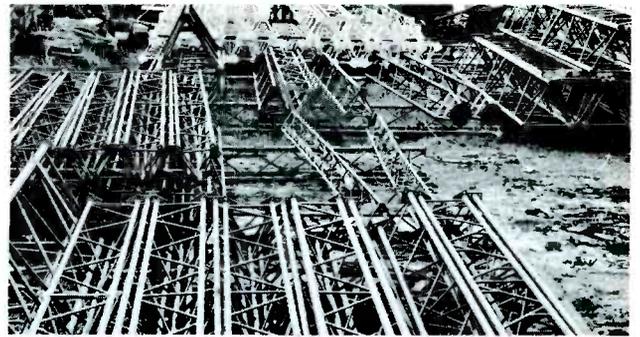
Write for complete information.



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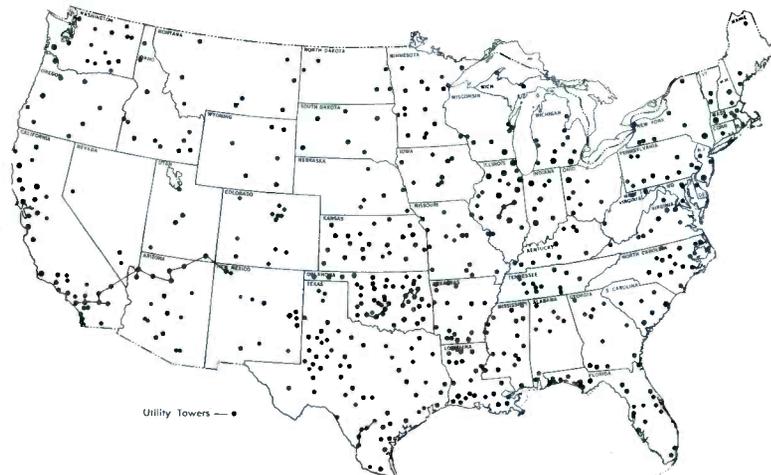


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**NEW BOOKLET ON CCTV
AVAILABLE FROM B-T**

A new booklet designed to stimulate management thinking on how closed circuit TV can save money or perform difficult jobs is currently available from Blonder-Tongue Laboratories, Inc. The booklet, available free, offers actual illustrations of CCTV installations now operating in steel and chemical plants, schools and even churches. A non-technical description of CC-TV, a list of basic equipment, and a glossary of terms are provided to acquaint management officials with this developing field.

According to Blonder-Tongue, CCTV can today operate virtually anywhere, overcoming the limitations imposed by distance, danger, inaccessibility, and the inability of personnel to be at several places at the same time.

The booklet, **Closed Circuit Guide for Business and Industry**, is available without charge from Blonder-Tongue Laboratories, Inc., 9 Alling Street, Newark 2, New Jersey.

**NEW VIDEO LINE DRIVING
AMPLIFIER**

The new CECO Model 1019 EQ, solid-state amplifier, will drive and equalize up to one and one-half miles of foam 11 or one mile of RG-11/U. Its output is over 8 volts p-p at 8 Mc. Response for amplifier and cable is $\pm .5$ db from 5 cps to 8 Mc, square wave is flat topped within 2% from 60 cps to 1

Mc. Amplifier gain is variable from 15 db to 40 db. The Model 1019F is a wide band flat amplifier, similar except with a flat response, 5 cps to 12 Mc, $\pm .5$ db.



CECO's new 1019 EQ amplifier.

For further information, contact: Community Engineering Corporation, 234 East College Avenue, State College, Pennsylvania. Price: Model 1019 EQ — \$600.00; Model 1019 F — \$550.00.

**TELEPROMPTER REPORTS THIRD-
QUARTER PROFIT**

TelePrompter Corporation reported to stockholders today that it earned \$47,696 in the third quarter of this year in contrast to a loss of \$215,126 for the same period in 1961.

An interim report signed by Irving B. Kahn, Chairman and president, said that the profitable quarter ending Sept. 30 culminated a "significant fiscal turnabout

since the beginning of this year."

For the first nine months, TelePrompter reported a loss of \$59,453 against a loss of \$184,764 for the corresponding period in 1961. Gross revenues of \$1,347,902 and \$3,616,442 for the third quarter and nine months, respectively, were up from last year's \$933,027 and \$3,604,500.

The third-quarter earnings represented six cents per share of common stock.

The report did not give effect to cash flow — earnings before large depreciation and amortization allowances characteristic of the community antenna television industry. Although carried as charges, such allowances represent substantial amounts of cash available for reinvestment and debt repayment.

Depreciation on TelePrompter's 15 CATV systems and four microwave relay companies was \$514,080 for the nine months' period.

Commenting on the interim figures, Kahn said:

"In marked contrast to last year's disappointing results, steadily diminishing losses during the first six months have culminated in the resumption of profitable operation in the third quarter. There is every reason to expect continuation of these improved operating results."

In 1961, TelePrompter incurred a net loss of \$599,341 before special charges, which amounted to \$285,263.

Kahn said that orders and contracts now on hand, together with the stability of revenues from CATV operations, indicate that the company is "succeeding in its program to attain better balance and diversification of its activities."

Since the beginning of the year, TelePrompter Corporation has disposed of its unprofitable television prompting service and has acquired Weathers Industries, a manufacturer of high fidelity components and stereo systems, and Conley Electronics Corporation, maker and distributor of broadcast automation and background music equipment.

Kahn said that CATV contributes almost half of TelePrompter's total revenues. He said the company's investment in CATV exceeds \$6 million and that its holdings "unquestionably have a considerably larger present value on the basis of sales prices now being commanded by such properties."

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TELEPROMPTER CORPORATION COMPLETES PURCHASE OF CONLEY

TelePrompter Corporation announced today that it has completed the purchase of Conley Electronics Corporation, Evanston, Ill., manufacturer and distributor of endless loop magnetic tape cartridges and background music equipment, for approximately \$1 million.

Irving B. Kahn, chairman and president of TelePrompter Corporation, said Conley Electronics will operate as a wholly owned subsidiary retaining its present management.

He said both companies will benefit by combining interests in the field of electronic communications, particularly in view of TelePrompter's interest in a radically new tape handling technique it has developed and expects to make the basis for consumer and industrial products.

In a related transaction, TelePrompter also completed refinancing of its long-term debt by means of a 6% six-year loan of \$2.4 million from the Continental Illinois National Bank and Trust Company of Chicago.

Conley Electronics, established in 1960, manufactures the Fidelipac automatic tape cartridge, a patented tape-in-magazine system providing continuous play without re-winding for such uses as broadcast automation, background music, language teaching, audio-visual systems, industrial training, data storage and message repeating.

VISUAL ELECTRONICS CORPORATION TO REPRESENT MICROMEGA

Micromega Corp., Venice, Calif., has appointed Visual Electronics Corporation as its exclusive national representative and distributor. Micromega produces solid-state microwave devices.

The sales firm will serve as representative in contacting original equipment manufacturers and will act as a distributor to Micromega customers in other fields. With headquarters at 356 West 40th St., New York City, and 15 branches throughout the United States and Canada, Visual Electronics will cover all areas except Southern California. The Southern California territory will be handled directly by Micromega.

NEW MEMBER OF TSC STAFF

Mr. Jerome "Jerry" Balash has recently become a new member of TSC's Technical Sales Division. Mr. Balash's appointment will provide



direct coverage and better service for CATV systems in the Northeast according to Jim Stillwell, Technical Vice President of TSC.

Mr. Balash was formerly General Manager of Austin Electronics of Philadelphia, and more recently was responsible for CATV and closed circuit sales for Blonder-Tongue Laboratories, Inc., through the 'rep' organization Land-C-Air Sales Company.

Jerry will headquarter at TSC's main office, 113 South Easton Road, Glenside, Pennsylvania. Currently, he, his family and two children are residing in Philadelphia.



Jerome "Jerry" Balash

ENTRON NAMES ANDREWS MID-ATLANTIC MANAGER

Entron, Inc., of Silver Spring, Md., has named Edgar D. Andrews Manager of the Mid-Atlantic region, it was announced by Sales Manager Ed Shafer. In this position, Mr. Andrews will supervise

Entron's TV systems and equipment field sales expansion in Virginia, West Virginia, Maryland, Delaware, and Southern Pennsylvania.

Mr. Andrews, who lives in Highland, Maryland, was formerly Application Engineer of U.S. Industries, Silver Spring, Md.

SEVEN AND ONE-HALF MILLION VIA DANIELS

Daniels and Associates is currently working on the sale of five different systems representing a total value of seven and one-half million dollars.

Full details on the transactions will be available when the final aspects are worked out. Right now, it looks like the months of January and February will find Bill Daniels very busy.

NEW FORMS FOR ALL NON- COMMERCIAL AM, FM, AND TV STATIONS

In a recent Broadcast Action, the Federal Communications Commission adopted new application forms for all non-commercial broadcast stations, AM as well as TV and FM. Also, TV and FM educational stations operating on non-reserved channels may use the new forms.

In commenting on the latter, the Commission stated that it is studying the non-reserved channel educational stations to determine which are truly both non-commercial and educational and entitled to use the new forms. Applicants and stations who believe that they fall within the educational category may use the new forms initially. If it should be determined that they do not belong in the educational category, they will be required to file on the regular forms, the Commission stated.

The new forms are: Form 340 for Construction Permit; Form 341 for licenses; Form 342 for renewals; and ownership report on Form 323E. The ownership report Form 323E was revised to permit the showing of a single cost price. Certain clarifying changes were made in the renewal form regarding program source and type. The new renewal form will permit a program showing for any week within the school year.

The new rules are effective December 3 and the forms will be distributed as soon as available. In event of delay, applicants who already did work on renewals due April 1, 1963 and ownership reports due January 2, 1963, may use the old forms.

MEET THE NEWEST FCC COMMISSIONER

Commissioner Henry was appointed by President Kennedy on August 30, 1962 for a seven year term to succeed John S. Cross, whose term expired on June 30th of that year. Commissioner Henry was confirmed by the Senate on September 28, 1962.

Only 33 years of age, E. William Henry is the second youngest person yet to serve as a member of the Federal Communication Commission.

Hailing from Memphis, Tennessee, he received his elementary education in the local public schools. After graduating (cum laude) from The Hill School, Pottstown, Pennsylvania, in 1947, he attended Yale University where he obtained a B.A. degree in 1951. Following service in the Korean campaign, he received his LL.B. degree from Vanderbilt School of Law, Nashville, Tennessee, in 1957.

Commissioner Henry was admitted to the Tennessee State bar in 1957, and has been admitted to practice in the Federal courts and the U.S. Supreme Court. He is a member of the Memphis and Shelby County Bar Association, the Tennessee Bar Association and the American Bar Association, and has served as a member of various committees of those organizations.

Prominent in civil rights activities, he recently held appointment as member of the Tennessee Advisory Committee to the United

States Commission of Civil Rights. He was associated in Washington with the Kennedy 1960 campaign organization as its representative to the Nationalities Division of the Democratic National Committee.

At the time of his appointment to the FCC, Commissioner Henry was a partner in the firm of Chandler, Manire and Chandler, where he engaged in general trial and appellate matters.

Commissioner Henry is married and has three children.

REPEATER-AMPLIFIER FROM HAMMARLUND

A line of solid-state wideband, coaxial cable repeater-amplifiers has been introduced by Hammarlund Manufacturing Company, A Giannini Scientific Company, 53 West 23rd Street, New York 10, New York. The repeater-amplifiers are intended for use in multi-channel coaxial cable communications and video and data transmission systems employing buried or aerial cable systems. They will be available in both uni-directional and bi-directional types. Band pass ranges from 100 kc. to 20 Mc., depending upon system requirements.

A source of local power is not required since DC for operation of the repeater-amplifiers is fed from a power supply at a terminal point through the cable.

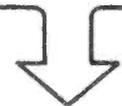
The solid-state units can be mounted in a pressurized weather-proof box on a pedestal, or can be installed in the ground.

CANADIAN GOVERNMENT ASKS FOR COMMENTS ON COLOR TV

A recent Notice of Public Hearing from the Board of Broadcast Governors is asking for comments from licensees and other interested persons with respect to the possible introduction and licensing of color television broadcasting in Canada.

The Board has scheduled January 15, 1963 as the date for the public hearing for the purpose of giving interested persons an opportunity to be heard.

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NEW... from Benco PACEMAKER JUNIOR



An entirely new and economical broadband amplifier with a gain of 10 DB on the high band and low band, and 8 DB on the F.M. band. This amplifier has 75 ohms input and output and is ideal for small apartment and motel installations.

Here are all the features you want

- ★ LOW NOISE 75 OHMS INPUT
- ★ SELF POWERED
- ★ EASY TO INSTALL
- ★ DIP SOLDERED
- ★ ULTRA-STABLE CIRCUITRY

PLUS PACEMAKER II



The same basic design as the well known Pacemaker amplifier, with the additional features of separate gain controls for both high and low bands. Gain may be varied over a range of 10 db on either band.

★ BROADBAND — Television channels 2 thru 13 and FM.	★ CONSERVATIVELY operated tubes and components, long trouble-free life expectancy, lowers maintenance cost.
★ COMPACT—well ventilated completely covered, tamper-proof.	★ DIP-SOLDERED—eliminates wiring errors and poor soldering.

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COLLINS REPORTS EARNINGS

First quarter sales of \$55,628,317 and net income of \$704,580, equivalent to \$.32 per common share, were reported Monday by Collins Radio Company.

"While both sales and earnings are below the level of the fourth quarter of last year, the comparable results for the quarter ended Oct. 31, 1961 were sales of \$44,961,118 and earnings of \$201,627, or \$.09 per common share," President Arthur A. Collins said.

The backlog of orders on Oct. 31, 1962, excluding those in the process of negotiation, was \$243,000,000 compared to \$138,000,000 at Oct. 31, 1961 and \$230,000,000 at the beginning of this fiscal year.

Consolidated Statement of Income

(Stated without audit and subject to year-end adjustments)

	Three-Months Ended	
	Oct. 31 '62	Oct. 31 '61
Net Sales	\$55,628,317	\$44,961,118
Income Before Tax	1,434,580	416,627
Income Taxes and Profit Limitation Refunds	730,000	215,000
Net Income	704,580	201,627
Preferred Dividends		
Per common share	\$.32	\$.09
Common shares outstanding	2,230,064	2,212,881

TIMES WIRE PARTICIPATES IN U.S. EXHIBITION

The Times Wire and Cable Division of Wallingford, Connecticut, supplied coaxial cable for a closed circuit television system used in the United States Exhibition at the Nigeria International Trade Fair, October 27 to November 18, 1962.

The closed circuit television system was part of a vocational training classroom which helped develop the U.S. Exhibition's theme: "New Skills — New Tools — New Markets." The cable was Times' new JT 400 Series, proved efficient and reliable for all-band systems in numerous U.S. installations.

The JT 400 Series incorporates several exclusive cable improvements pioneered by Times. These include: strip copper braid, outstanding attenuation uniformity (cables sweep flat within 0.5 db in 40 db of cable); good radiation characteristics; high impedance uniformity; lighter weight; Xelon jacketing for longer life; same OD measurement on single and double shielded versions.

The times Wire and Cable Division, The International Silver Company, also manufactures a wide variety of coaxial cable, multiconductor cable, and custom engineer-

ed cable systems for the electronic industries and the Government.

NEW PASSIVE REFLECTORS

Gabriel Electronics, Millis, Massachusetts, has just introduced a new type microwave passive reflector designed to provide maximum strength and stability while minimizing installation costs. Designated the KD series, these reflectors are available in sizes from 4' by 6' to 10' by 15'.

The excessive mass and weight problems usually inherent in high strength structures of this type have been eliminated by using a system of cross-plane reinforcement and an aluminum reflector sheet, plug-welded to a ruggedized corrugated aluminum back-structure. This assembly, rigid in one plane, is reinforced in the other plane by extruded "I" beam members running transversely.

The design allows for elevation adjustments of plus 4 degrees to minus 6 degrees. Also, steel stiff-arms with precision vernier adjustments allow accurate settings of the reflector in azimuth. The structure is designed to withstand more than 50PSF and will meet 12kMc face-flatness specifications.

NOW

A Book About CATV Design and Practice!

Here is the first reference manual ever prepared exclusively for the CATV-MATV industries. With particular emphasis on off-the-air distribution systems, Author Gordon J. King (European Editor for Television Horizons) takes the reader on a complete tour of the CATV circuit. Suprisingly enough, this English treatment of the CATV-MATV industry follows closely the problems of today's North America CATV-MATV installations. Everything from 'A' (aerials) to 'Z' (z matching networks) in this valuable reference work.

SPECIAL ORDER FORM FOR COMMUNAL AERIALS and COAXIAL RELAY PRACTICE

Horizons Publications has made special arrangements with the Author to make this book available to North American CATV-MATV enthusiasts. A limited supply is available presently. Please order promptly.



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INDONESIANS VIEW ETV AT U.S. EXHIBIT

Indonesians witnessed a dramatic demonstration of educational TV at the official U.S. National Exhibition held in Jakarta, October 1-31. The exhibit featured a model electronic teaching lab with closed circuit origination equipment by Blonder-Tongue Laboratories, Inc. The overall ETV exhibit was designed by Westinghouse Electric Corp.

The demonstration, successfully shown in Africa last month, was designed to convert a classroom and lab into a fully equipped TV studio.

A complete CCTV system was constructed, including cameras audio, monitor and lighting. To dramatize its operation, thousands of visitors were shown live instruction in the studio-classroom. Simultaneously, they were able to view and hear the teaching session on the studio TV monitor. Headphones were available to provide an on-the-spot explanation of ETV.

The theme of this year's show, "Technical Knowledge Brings Progress," was keyed to Indonesia's current Eight-Year Development Plan. The U. S. exhibit was designed to stress those technological advances that enhance ancient arts and ease human labor.

REMOTE ROTORS

Cornell-Dubilier, who for many years has been a manufacturer of television antenna rotors, has completed development on a remote

control unit designed for remote rotor operation.

The new unit can be used with the CDE standard antenna rotator control by plugging in the remote control accessory. Basically, remote operation is achieved in the same manner as applied to control of a television set's functions. A control box or "sonic transmitter" is used to produce the sonic sound necessary to actuate the remote control accessory, which in turn converts this sonic sound into actual rotor commands.

Operation of the unit is based on a four step digital system. One push of the button on the "sonic transmitter" will start the antenna turning in one direction. Pushing the button a second time will cease the rotor operation. Actuating it again will start the rotor but in an opposite direction and likewise a fourth impulse will stop the rotor.

The position of the rotor is displayed on lights in the remote control accessory thus providing a ready indication of which direction the antenna is pointing.

THE OTHER END OF TELEVISION

Did you know that the manufacture of an image orthicon TV camera tube requires a hospital-clean facility? It does and furthermore it requires air-tight pressurized rooms with controlled humidity and filtered air. Even the clothing of the personnel working in the special facilities must be of a particular type that is lint-free and has

the ability to attract dust floating in the air. This is necessary so that dust particles, not picked up in the filters, will not fall or cling to tube parts.

The reason for all this precaution centers around the super-thin magnesium oxide target which is about two inches in diameter but so thin that 1,500 of them in a stack would equal the thickness of a human hair. If this target should get loose from its mounting ring it would float endlessly on the minute currents of air caused by breathing and the motion of humans. The elimination of dust is highly necessary for if a speck of dust were to settle on the target assembly of an image orthicon, it might appear as a boulder to the home viewer.

HELP WANTED: Experienced bench man for repair and alignment of CATV equipment, assembly work, etc. Our employees know of this ad. Reply in confidence to Box 16 in care of TV Horizons.

HELP WANTED: Commission salesman to travel by car selling to retail TV shops, appliance dealers, etc. Reply in confidence to Box 17 in care of TV Horizons.

HELP WANTED: Commission salesman to travel by car selling CATV and other lines. Reply in confidence to Box 18 in care of TV Horizons.

B-T UPGRADES UHF CONVERTERS

Blonder - Tongue Laboratories, Inc., has just recently announced step-ups in styling and engineering on its line of UHF converters. The improvements will also entail price revisions.

Blonder - Tongue's Ultraverter, Model BTU-2T, now features a completely restyled cabinet, pilot light, convenience outlet, and a patented tuner. The all-channel device offers a stage of amplification that increases signal strength almost three-fold, providing added utility for fringe-area reception.

The all-channel BTC-99S, designed for prime signal areas, is now equipped with a vernier-fine tuning knob, along with its completely redesigned cabinet. Another important feature of the converter is its drift and distortion-free performance.

The electronics firm cited recent all-channel set legislation and Government ETV grants as a major impetus to the launching of new UHF channels across the country. To meet the demand arising from these developments, Blonder-Tongue is now putting greater emphasis on broad consumer appeal such as styling, in addition to the engineering requirements for quality reception of this additional band of TV channels 14-83.

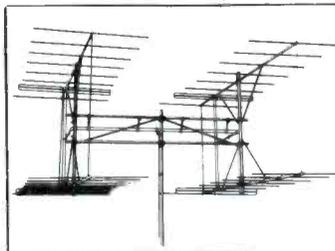
SITCO

Heavy Duty Quads and Yagis

Designed by SITCO for Translator off-the-air pickup, Community TV and extreme fringe area requirements.

The SITCO Models 94 and 102 Quad Mount Antenna Arrays are designed to produce high gain, high front-to-back ratio and large aperture to weak signals. A completely balanced system which reduces noise pick-up and greatly improves the signal-to-noise ratio.

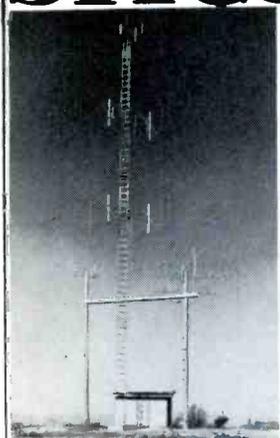
NOW, all SITCO element ends are machined to reduce static leakage. The signal-to-noise ratio is increased at sites where signal levels are low.



Model No. 94-HD 32-element Quad
Channels 5 or 6



Model No. 102-HD 48-element Quad
For all hi-band channels



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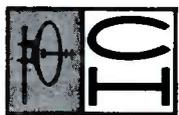
You know, there's just a chance that you might *not* know that we here at Horizons publish a number of other electronics specialty magazines. Just as TELEVISION HORIZONS covers the field of weak-signal television reception and the cable industry, our other magazines provide complete coverage of the non-broadcast communications field (including microwave), the history-making VHF/UHF ham radio area, and the fast-growing CB radio industry. Here's what's appearing in the current issue of each of our other magazines on other horizons:



CB Horizons for January reflects the changing times with the introduction of the first SSB receiving adapter for the CB market; a breakdown of the more important aspects of Part 19 revision currently out for comments; and information on weather-proofing mobile installations. In addition to all the technical talk, there are a number of interesting equipment reports, plus all the regular features such as CB Showcase, Ozzie's Column, and Channel 24.



January's issue of VHF Horizons features an enlightening story about Noise Generators and their application; simplified medium power 430 Mc equipment; a complete analysis of sporadic E propagation; specific data on 144 Mc sporadic E skip; the absolute value of Public Relations, and up-to-the-minute news. In addition there are all the usual features including Scanning the Literature, TVI and VHF, late word from Washington, Showcase, and Lab Reports.



The January issue of Communications Horizons talks about extensive Civil Defense operations and what coordinated planning will do towards having solid, effortless communications when you need it; a commercial report on a new piece of test equipment; Bob Brooking reviews public safety communications progress in 1962; and all the regular departments including Logbook, Milestones, and late word from Washington concerning Federal Communications Commission rule changes.

It's been our experience that many readers of one of our magazines also have special interests in a field covered by another Horizons publication — yet don't know that the other magazines exist. If you would like a sample copy of the latest issue of any of these publications, together with either subscription or advertising data, just drop a postcard to Promotion Department, Horizons Publications, P.O. Box 1557, Oklahoma City 1, Oklahoma. We'll take care of it from there.

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The pioneer in wide band systems more than a decade ago, SKL is today's leader. SKL has proved this leadership through its far-sighted engineering, its far-advanced equipment and the unparalleled performance of its wide band systems in many communities over many years.

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