

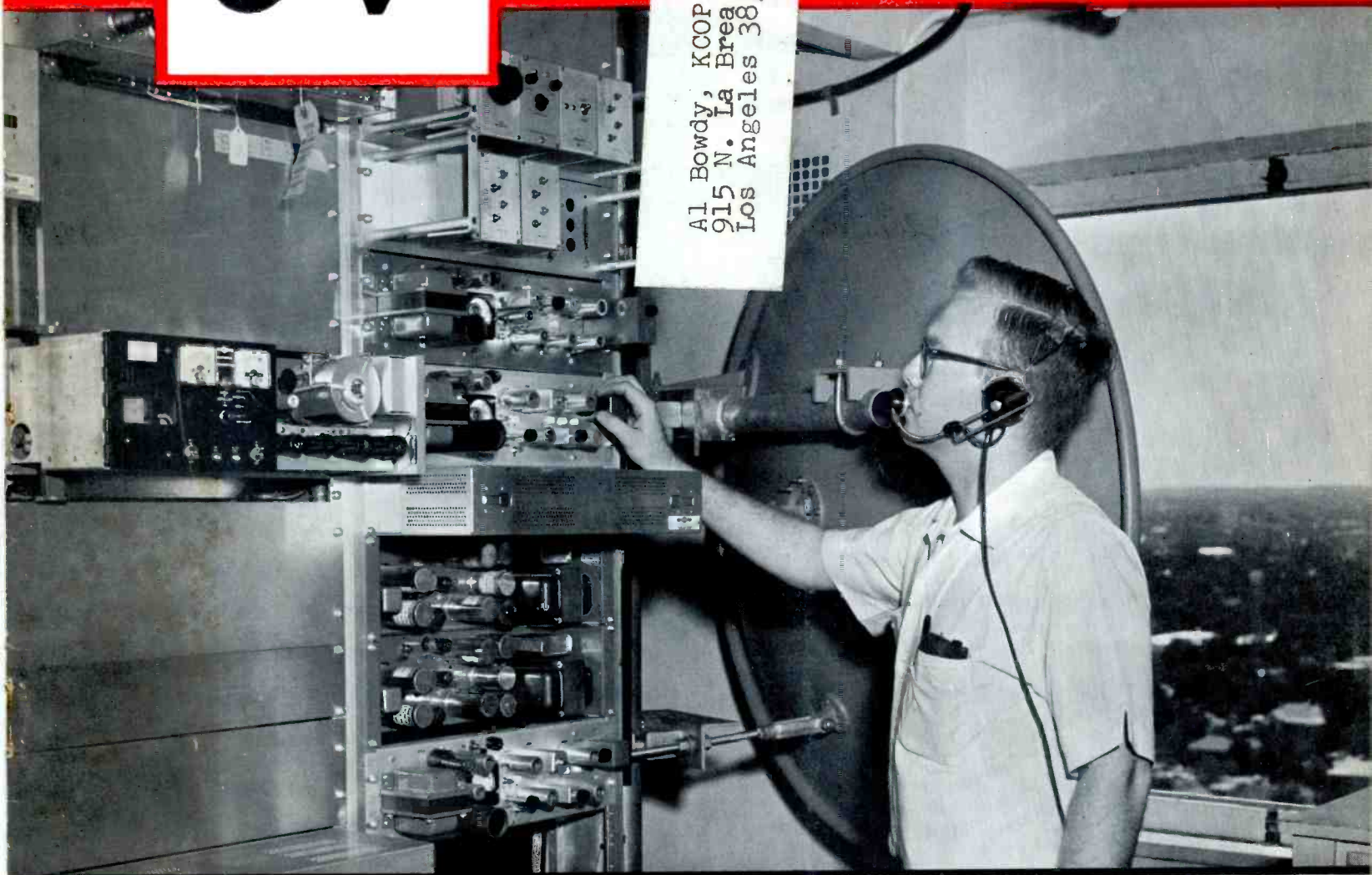
\$5.00 per year

**DEC.
1962**

tv

horizons

Al Bowdy, KCOB Television
915 N. La Brea Ave.
Los Angeles 38, Calif.



The Professional Television Journal

IN THIS ISSUE

Educational Television in Texas

MEET EFFINGHAM—Part Two

CCTV and Public Service

NOW - GO 12 CHANNELS



WITH THE NEW

JERROLD[®]

CHANNEL COMMANDER



- **Permits adjacent-channel operation on high and low bands**
- **Single unit processes, controls, and delivers antenna signal on any channel—including same channel**

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.

JERROLD[®]

ELECTRONICS CORPORATION

Community Systems Division, Dept. ICS-102

A subsidiary of THE JERROLD CORPORATION

PHILADELPHIA 32, PA.
215-BA6-3456

SAN CARLOS, CALIF.
1042 Terminal Way
415-LY3-8273

Channel

1

GAB SEMINAR HELPFUL

The Georgia Association of Broadcasters sponsored seminar, held in Atlanta on October 16th, proved to be beneficial to the CATV industry. Probably the greatest asset produced by the meeting was the education of the broadcasters in the southeastern area to just what CATV was and was not.

Another by-product of the seminar was a proposal by William Dalton, president of the NCTA, that the NAB's CATV committee meet with the CATV operators to discuss the various aspects of their operations. This particular step was felt to contain considerable merit. The full outcome of this proposal, however, will not be known until the NAB committee meets in Washington. Hollis Seavy, assistant to the vice-president, Governmental Affairs, NAB, stated he would bring this proposal up at the Washington meeting.

Among the speakers at the seminar was Kenneth A. Cox, Chief of the Broadcast Bureau, FCC, who

● CATV
● MATV
● Fringe TV
● ETV
● UHF-TV
● Associated
Industries' News

stated to the audience that the Commission intends to hold its position regarding regulation of the CATV industry. At the same time, Mr. Cox praised CATV's ac-

complishments in regions where TV was devoid. Another of the speakers, Mr. Fred Weber, Rustcraft Broadcasting, provided the terse opposition to CATV. Speaking on behalf of the CATV industry was Mr. Charles Batson, WIS-TV, Columbia, South Carolina. In a telephone conversation with Mr. Batson, Television Horizons was told that the meeting flowed very well, with a few old-fashioned arguments but none of the hostile atmosphere that was expected. He further stated he felt the meeting was wholly successful.

COLLINS APPOINTS DALLAS DIVISION MICROWAVE SALES MANAGER

Mr. T. A. Farrell has been appointed general microwave sales manager of the Dallas Division of Collins Radio Company responsible for commercial and military sales throughout the United States and Canada.

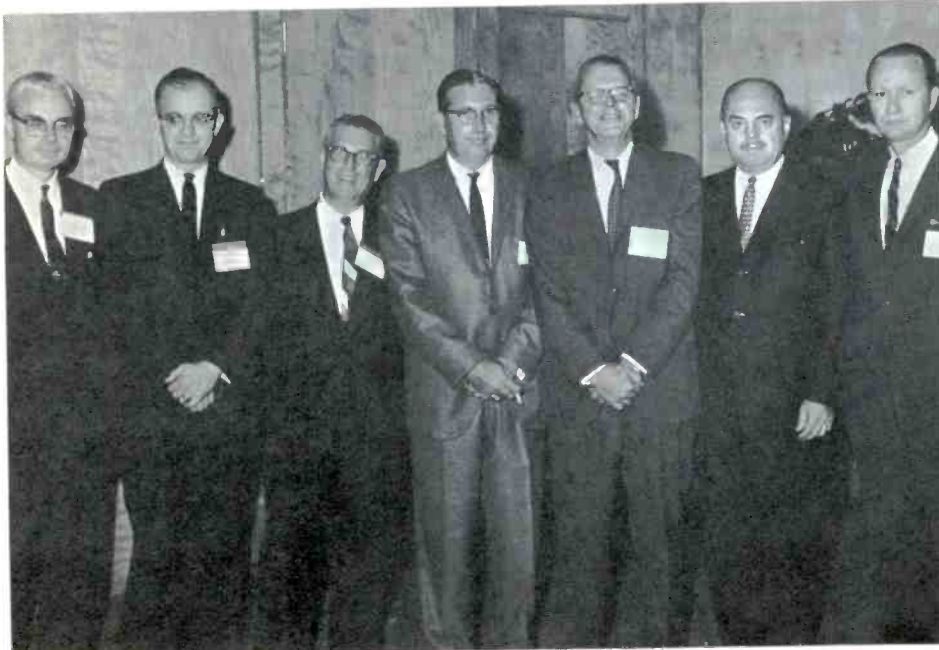
Other appointments include Mr. R. I. Hancock, manager of microwave services; Mr. H. G. Kraft, manager of the microwave product line.

Mr. Dick Jones, with offices in Chicago, has been named area sales engineer serving Wisconsin, Michigan, Illinois and Indiana. Mr. Tom Daly is military sales engineer for the eastern area with offices at Boston. Mr. D. E. Gallard is Canadian sales coordinator based at Toronto and Mr. John Israel is sales engineer serving the eastern states area from offices at Albany, N.Y.

UNFAIR COMPETITION

The National Alliance of Television and Electronic Service Associations magazine, The NATESA Bulletin, October, 1962, contains a short paragraph on the inside front cover warning its members that a certain CATV system in New Mexico is offering to service TV receivers at no additional charge.

Also the article is asking that this item be brought to the attention of the Federal Trade Commission.



(left to right) Charles Batson, WIS-TV, Columbia, S.C.; Kenneth A. Cox, Chief, Broadcast Bureau, FCC; Fred Weber, Vice President, Rust Craft Broadcasting Co.; R. Russell Eagan, Washington attorney; Hollis Seavy, Assistant to Vice President Governmental Affairs, NAB; William Dalton, President, NCTA; Raymond E. Carow, WALB-TV, Albany, Georgia, moderator of seminar.

TELEVISION HORIZONS

PUBLISHED MONTHLY BY HORIZONS PUBLICATIONS
Post Office Box 1557 • Oklahoma City 1, Oklahoma

The recent fracas over the placement of vehicles of destruction in Cuba did much to bring about thoughts of what the CATV industry could contribute in time of emergency. After all, CATV systems are essentially a means of communication on the local level.

Distant television stations can supply the national news readily but when necessary, who will help to supply the local news? This is certainly a point that has received little attention for its relative importance. In time of emergency how well prepared are you?

In the first place, how well equipped a system do you possess. Do you have a means of putting local audio or video on the system? How about only slides? There is an endless number of questions that you can ask yourself and probably very few you can actually answer. One other thought, how about standby power sources? Well, undoubtedly all of us have asked ourselves some very pointed questions recently and have come to a conclusion or two. I feel sure that any city and its local government would look with favor upon any CATV system that was equipped to operate under the most adverse conditions and supply local news of a public service nature to the residents of the community.

Don't expect to be able to compete with other local communications media since you will be able to operate only while some power is available to the residents. However, as a contribution to your community in the form of a public service and to help inform people before something happens, think strongly about this. It is generally the "befores" that determine the aftermath.

Well we're slowly getting close to Christmas time and the season for settling back and relaxing a little. We here at Television Horizons have seen a very fruitful year pass behind us and an even brighter 1963, as far as the growth of CATV is concerned. True, we have seen a number of lumps and bumps but what road isn't just a little rocky. We hope all of you will be with us through the next year and in the meantime will you accept a very sincere Christmas Greeting and a wish for a Bright New Year?

RLM

TABLE OF CONTENTS

FEATURES

ETV in Texas George Runge, Collins Radio Company	4
MEET EFFINGHAM — Part Two Staff Report	8
CCTV and Public Service Russ Miller, Television Horizons	10

DEPARTMENTS

General News of the Industry CHANNEL ONE	1
National Emergency? EDITORIAL	2
New Equipment, Acquisitions, Trends CABLE DROP	12
How-Goz-It SYSTEM NEWS	13

STAFF

R. B. Cooper, Jr.
Publisher-Editor

Russ Miller
Managing Editor

Jamie Jones
Associate Editor

Lon Cantor
Charles Wigutow
Mark Mitchell
Vic Nicholson
Contributing Editors

Gordon J. King
"Our Man In Europe"

Patrick T. Pogue
Business Manager

Stanley M. Searle
Advertising Manager

Jean Schaefer
Art Department

Deborah Carter
Circulation Manager

EDITORIAL OFFICES
1025 N. Broadway
Oklahoma City, Okla.
Central 2-1108

BUSINESS OFFICES
P.O. Box 1557
Oklahoma City 1, Okla.
Central 2-6290

ADVERTISING: Television Horizons accepts commercial display advertising from bona fide manufacturers of electronics equipment and apparatus dealing with the CATV, MATV, fringe-TV, and ETV industries. Advertising rate card and circulation data upon request.

CIRCULATION: Television Horizons is circulated through the mails and in person on the 5th of each month to an average of 7,500 readers in the CATV, MATV, TV servicing, fringe-TV, and ETV industries. Circulation is both paid and controlled. Detailed circulation breakdown, by reader occupation is available upon request.

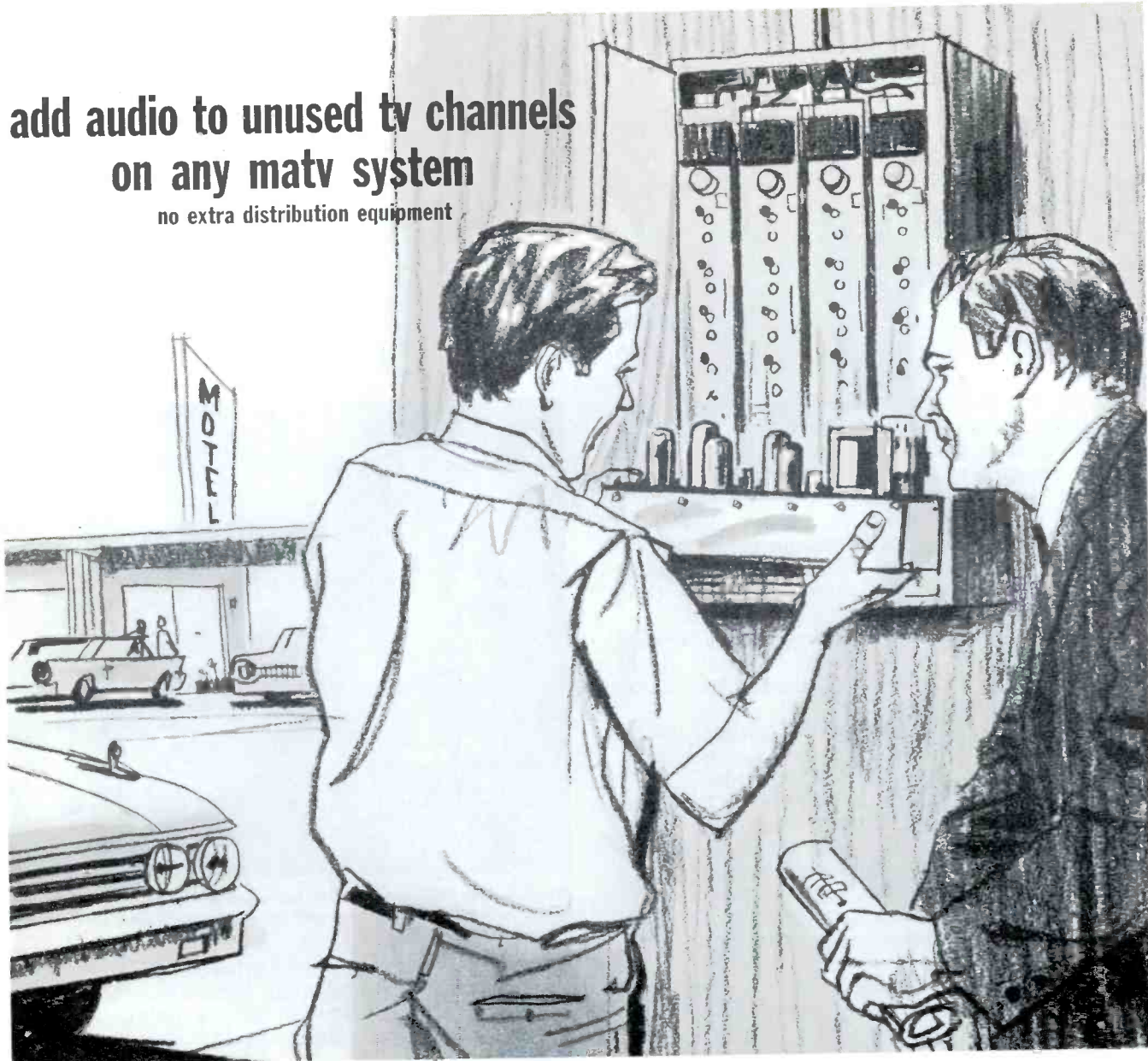
SUBSCRIPTION: Subscription rates in the United States and Canada \$5.00 per year. Subscription includes the Annual Directory edition. Single magazine copies \$.50 each. Single Directory Editions \$1.00 each. Subscription remittances should be made by bank money order or check. Two year subscription rate U.S.A. and Canada—\$8.00. Subscriptions outside the U.S.A., Canada \$6.00 per year.

The entire contents of this magazine are copyrighted by Horizons Publications. No article in this magazine may be reproduced in whole or in part without the written permission of the publishers.

TELEVISION HORIZONS (title registered U.S. Post Office) entered as second class postage material December 30, 1960. Second Class Postage Paid at Oklahoma City, Okla. All rights reserved. Address of publisher in Oklahoma City is 1025 N. Broadway.

THIS MONTHS COVER: Microwave equipment installation on the 27th floor of the Texas Tower, Austin's tallest building, beams programs to the KTBC repeater for distribution. Antennae in another room send programs to St. Edward's University and Huston-Tillotson College in Austin.

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

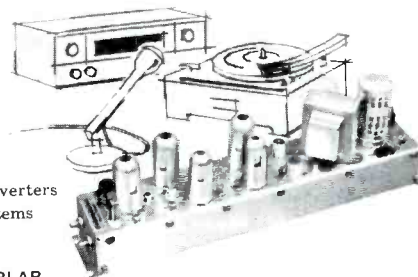
engineered and manufactured by

BLONDER-TONGUE
9 Alling St., Newark, 2 N. J.

Home TV Accessories • UHF Converters
Master TV Systems • CATV Systems
Closed Circuit TV Systems

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.



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

Educational Television in Texas

by George Runge
Collins Radio Company
Dallas, Texas

Sharing the faculty member of one college with 10 other institutions sounds unlikely, but 11 Central Texas schools have found it successful.

By means of a microwave network, video taped lectures are fed to classrooms at these colleges in a co-operative venture, Texas Educational Microwave Project (TEMP). This permits distinguished professors such as the renowned historian, Dr. Walter Prescott Webb, to teach many more students than before, the main thesis of TEMP.

Now in its second year, "The project has verified the expectations of the planners," states R. F. Schenkkan, project director and director of Radio/Television at The University of Texas.

"While not the total answer, educational use of television is at least a part of the solution to today's educational problems," Mr. Schenkkan adds.

Total enrollment at the 11 colleges is approximately 40,000. But it should be kept in mind that five of the schools have less than 1,000 students and the largest is The University of Texas with 21,000. It is the campus and facilities at Texas—the South's largest school—which is the focal point of the 110-mile closed circuit microwave system designed and installed by Collins Radio Company.

The 16-hop microwave network was developed by Collins for this system. It is unusual in four respects. First, it can be fed from four locations—one in Austin from UT's studios or from the studios of any one of three commercial VHF stations in San



ETV in action. The young miss in the center of the photo is conducting a lecture which is being video-taped for later presentation over the TEMP network.

Antonio. A second system feature is that it is made up of a two-way round-robin between the University and the San Antonio distribution point. This part of the system is unique in the industry in the sense that on one radio channel, video is carried up to 5.0 mc with the associated sound transmitted on an FM

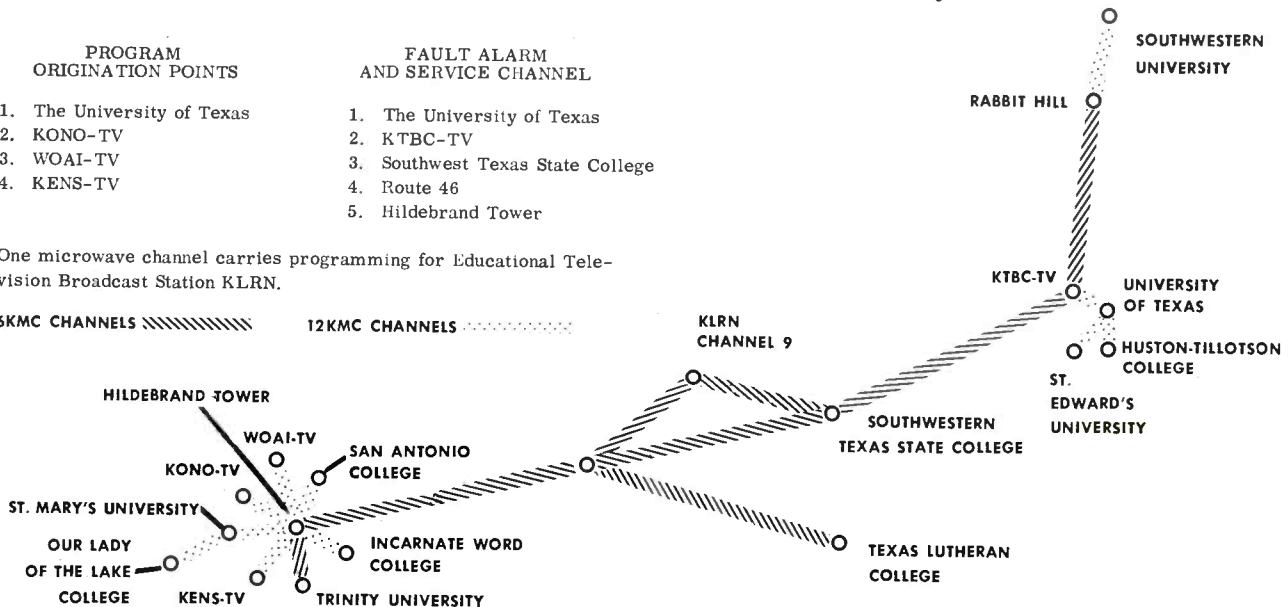
System Map of the University of Texas Educational TV System

- | PROGRAM ORIGATION POINTS | FAULT ALARM AND SERVICE CHANNEL |
|----------------------------|----------------------------------|
| 1. The University of Texas | 1. The University of Texas |
| 2. KONO-TV | 2. KTBC-TV |
| 3. WOAI-TV | 3. Southwest Texas State College |
| 4. KENS-TV | 4. Route 46 |
| | 5. Hildebrand Tower |

One microwave channel carries programming for Educational Television Broadcast Station KLRN.

6KMC CHANNELS ██████████

12KMC CHANNELS○.....





The University of Texas Tower (main building) houses a million volume library. On the 27th floor is microwave equipment for TEMP. Sheets of plastic (see center windows, 4th from top) on the south and west sides replace regular windows with bars to permit better transmission through a non-metallic material.

subcarrier at 6.2 mc. At 7.0 mc there are two single sideband suppressed carrier channels, which provide a talking channel for use by maintenance personnel and a channel for fault alarm reporting and control tones for remote switching.

Thirdly, Collins and TEMP officials believe this is the largest privately owned television distribution system in the United States. Finally, the system was one of the first installations of 12 gc microwave equipment in the business radio services band.

In this connection, an important first for educational television was registered when the Federal Communications Commission granted permission for the use of the 6 gc and 12 gc business service bands for this purpose. Equipment operating in the 6 gc band is used for the intercity links while 12 gc equipment is used for local or intracity links.

Collins also provided the studio-to-transmitter link for the broadcast operation of KLRN, the educational TV station for the area. This operation is independent of the TEMP program.

In the first full year of operation — 1961-62 — more than 6,300 students on all campuses participated in the 8 TEMP offerings. This averaged out to 790 students per course. This average was more than the 600 total enrollment at Huston-Tillotson College in Austin and the 700 pupils registered at Texas Lutheran College in Seguin.

"These students utilized the services of the system at a cost to its co-operating institutions and sponsoring agencies of less than the \$10 per credit hour, which is the usual institutional cost for such instruction," Mr. Schenkkan states. "It is not an unfair assumption that in the first year-and-one-half

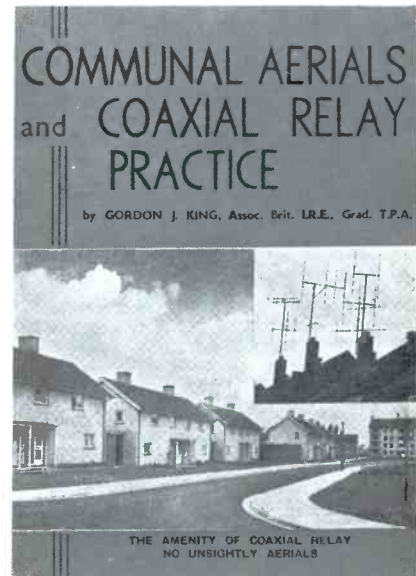
NOW

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. Surprisingly 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.



Another industry publication available exclusively from —

HORIZONS PUBLICATIONS, INC.

P.O. Box 1557, Oklahoma City 1, Oklahoma

of operation the system has equalled almost one-third of its total cost in credit hours provided. By logical extension, over a three-year period the total cost of the system will be amortized, thus providing future services for the cost of operation and maintenance."

Despite these important financial features, the participating schools consider the system far more important than its dollar and cents values.

One immediate plus value noted when TEMP began full operation in September 1961 took place at Texas Lutheran College. The man who was to teach psychology was "frozen" in the military, and this one-man psychology department was faced with a crisis. The school solved the problem by offering the TEMP course with an assistant teacher in the classroom.

Educators have hailed the advantages of TEMP, summing up the favorable points this way:

1. Individuals teaching TEMP courses are recognized as outstanding in their field with a superior knowledge of the subject.

2. The use of multiple receivers has permitted smaller classes in the larger schools at a given hour.

3. Facilities, visual aids and demonstrations, which only the larger schools can afford, are available to small schools as well through TEMP. For instance, the German language teaching technique of using native speakers in skits, has received nationwide acclaim.

4. An almost total disappearance of student assistants as primary lecturers has been affected in large enrollment courses which are available through TEMP.

5. Teachers already overburdened with repetitious classroom instruction have been released to devote more time to research and counseling of individuals.

6. Through the use of videotape, all program



The 6 and 12 gc antenna installation at the KTBC repeater tower. The Austin television station (KTBC) permits use of its tower and site for utilization by TEMP.

material is recorded for historical usage and is called an invaluable asset to the future of the system.

7. An unparalleled opportunity of having a professor such as Dr. Webb lecture on his specialty, The Great Plains, to students outside of The University of Texas "is a heretofore unavailable example of scholarship and challenge." To the small schools it meant expansion of their history departments with highly qualified personnel.

Courses offered fall into two categories: those common to all colleges such as math and American history and specialized offerings of which science for elementary teachers is an example.

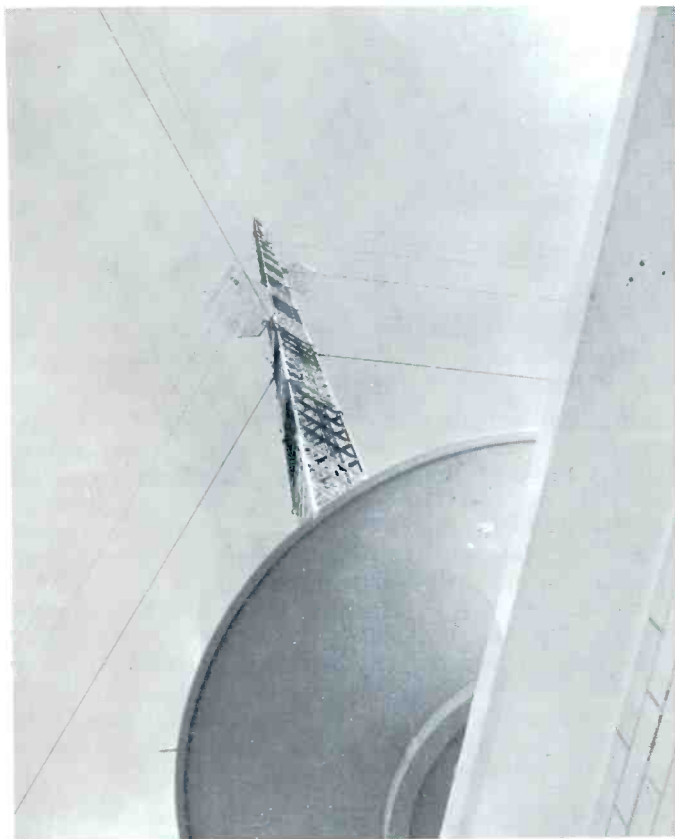
TEMP PARTICIPATING INSTITUTIONS

Institution	Location	Brief Description	Enrollment
Huston-Tillotson	Austin	Co-educational, 4-year, Methodist and Congregational Christian related.	600
Incarnate Word College	San Antonio	4-year, Women's College, men admitted to Graduate School, Roman Catholic related.	1,200
Our Lady of the Lake	San Antonio	4-year, Roman Catholic, men admitted to special programs.	800
St. Edward's University	Austin	4-year, Roman Catholic for men.	800
St. Mary's University	San Antonio	4-year, Roman Catholic, men. Women admitted to special program.	2,000
San Antonio College	San Antonio	2-year Junior College, Co-educational.	(Day) 2,200 (Night) 4,200
Southwest Texas State College	San Marcos	4-year, Graduate program, Co-educational, State-supported.	2,700
Southwestern University of Texas	Georgetown	Co-educational, 4-year, Methodist related, Graduate program.	800
Texas Lutheran College	Seguin	4-year, Co-educational, Lutheran related.	700
Trinity University	San Antonio	4-year, Co-educational plus Graduate program, Presbyterian related.	1,800
The University of Texas	Austin	Co-educational, 4-year plus Graduate School, State-supported.	21,000

"None of the courses is designed to do a total job," says R. C. Norris, project coordinator. "Generally there are taped lectures two days a week and on the third class day a local teacher holds discussions, answers questions or administers examinations. In the case of the math offering, it was found students needed to ask questions immediately after a presentation. Therefore, taped lectures were cut to 30 minutes with 20 minutes of the class period given to answering questions."

Those who see the taped lectures are "getting valuable critical analysis" normally unavailable to students, the coordinator points out.

"Before courses are taped, the television instructor has several meetings with the classroom instructors from the participating schools. This group goes over the text, course outline and nomenclature. And often after a lecture has been taped, colleagues are asked to review it and offer suggestions for improvement," states Mr. Norris.

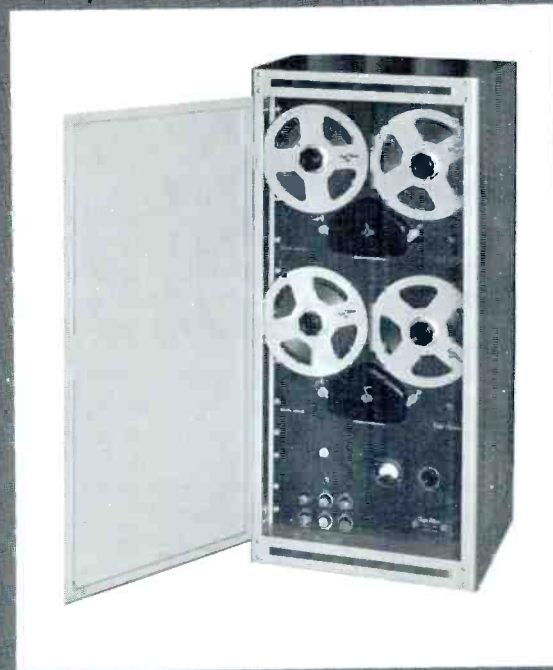


Repeaters on the KTBC tower beam programs north to Southwestern University in Georgetown and south to San Marcos, Seguin and San Antonio.

Presently TEMP has only one channel although Collins designed the system keeping in mind multi-channel distribution. Additional channels are now desirable, officials indicate, and this "seems to be a very logical step" in the development of the project. An extension of the network to include colleges in other parts of the state also is being considered.

Whatever the future holds, TEMP is one of the basic firsts in the field of educational television. What started out as an experiment sanctioned by the Office of Education, U.S. Department of Health, Education and Welfare, appears to have set the pattern for similar projects.

Custom Tailored for the CATV Operator!



Whether or not you already know the advantages of offering *background music* to your subscribers — don't fail to look into Tape-Athon's new Librarian. Here's a completely automatic tape player made especially for CATV systems.

It plays continuously, without attention, and reverses itself automatically at the end of a tape. An exclusive push-button intersperser also allows pre-selection of music sequence, guaranteeing non-repetitious programs. If you're using other music sources now, here's a way to eliminate record-changing, radio commercials, and other undesirable distractions.

Tape-Athon, under a convenient leasing plan, also supplies an almost endless source of selected music tapes, and rotates them monthly to assure a fresh supply of music. Each tape plays 8 hours so the twin decks hold 16 hours of music — about twice the library of a typical FM radio station.

Tape-Athon, Corp.

523 South Hindry

Inglewood, California

ORegon 8-5859

MEET EFFINGHAM

— A Staff Extra —

— A Staff Extra —

The construction of the Effingham system proceeded along the same lines as any similar system would be expected to follow. Problems regarding the proper placement of cable, amplifiers, poles, etc., all made themselves known at one time or another. But, regardless of what occurred, things were kept on an even a plane as possible.

A lot of the difficulties were resolved merely by applying solutions previously considered before the system was actually under construction. Where the job called for someone particularly adept at public relations work, a qualified employee was dispatched to handle whatever situation was at hand. This very approach circumvented many a misunderstanding.



George Henderson, a system technician with Effingham TV Cable Company, is shown here finishing a new hook-up in the downtown area.

The whole point of this is centered around strictly organization. The installation of any system must be pre-mapped so that the eventualities are not serious. This is only a matter of setting up alternatives so if one particular situation occurs, a remedy can be quickly obtained.

Following the above criteria, the Effingham system was successfully being installed.

When the system was almost completed, plans were developed for a free demonstration. One of the



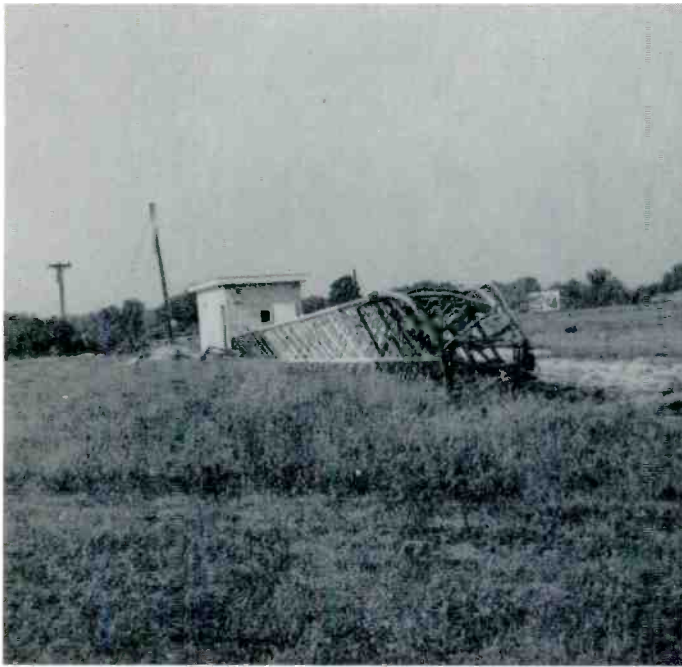
System technician taking the easy way up to finish connecting the antennas. Lift makes it up to the top in 6 minutes.

things that concerned the Effingham TV Cable Company at this point was the proper presentation of the service to the community. Excellent cooperation with the local newspaper provided the means. A 22 page "Effingham TV Cable Section" was published, complete with all the necessary information as to just what CATV was and could do.

However, before the system could be demonstrated, the 500 foot tower collapsed. Examination of the tower revealed that the guy-wires had been cut deliberately. This set the system back a short while until a new tower could be installed. Plans then proceeded to conduct the free demonstration which turned out to be a big success.



Headquarters building for the Effingham system.



A view of the tower base vividly shows how much damage was incurred when the tower came down.

Now, Effingham is enjoying the first wide-band system in the State of Illinois. The stations that are being carried are: Channel 3, Champaign, Illinois; Channel 17, Decatur, Illinois; Channel 20, Springfield, Illinois; Channel 10, Terre Haute, Indiana; and Channels 2, 5, 11, St. Louis, Missouri. The closest station to Effingham is Channel 17, being only 55 miles south of the town while the farthest stations are located in St. Louis, 110 miles distant. All seven of the stations are being carried off-the-air with good signals from each.

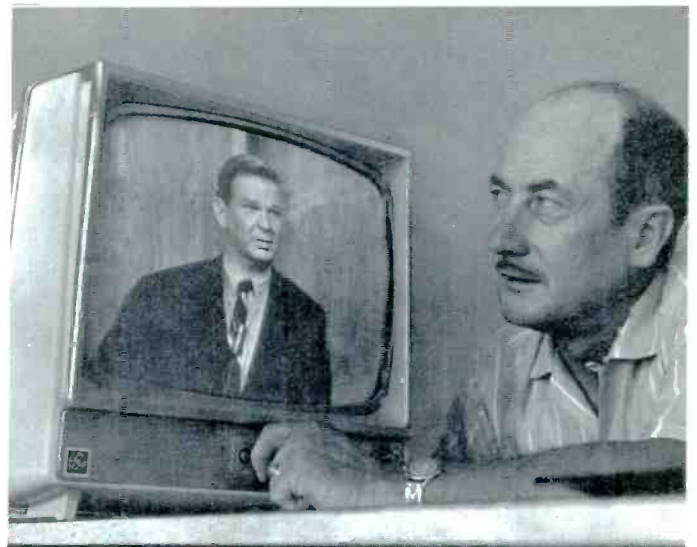


One of the booths at the grand opening. Note the very fine depiction of what CATV can and does offer.

Although with this many stations, there is some duplication of programming via network. However, most of these stations still have different programs throughout the day and in some instances at night. Also, there is one independent station which is heavy on the movie side.



Phil Hays, Manager of the Effingham TV Cable Company being interviewed at the show by Channel 20 personnel. When this interview was aired, a total of 25 minutes was given over to CATV.



The fine pictures that the Effingham system offers in a result of much careful planning. Here, Phil sees to it that the quality is kept at its best.

As to the future, Mr. Phil Hays, General Manager for the CATV system, says that they are looking at Channel 7 from Evansville, Indiana for possible use. An educational station, Channel 9, is slated to be carried before long, also.

The success of the Effingham CATV system is already established. Once again, a TV-less community is being served by CATV. With the management of the Effingham system under Mr. Domenic Frisina, President; Jack Crosby, Vice-President; and Ben Conroy, Jr., Treasurer, the future of the system is assured.

END

CCTV and Public Service

— Russ Miller, Managing Editor, Television Horizons —

Closed Circuit Television is no stranger to the CATV field. For some time now, CCTV has played a predominant part in the operation of several systems located at various points in the United States. Their application of CCTV to CATV has been one of filling a community need.

What created this need? Since television has become a major communications media it is not hard to see why people look towards it to supply them with everyday information. Without CCTV, those communities that lack prime television coverage also lack local communications, a vital part of life. Some communities are indeed fortunate where local radio station coverage is afforded. This helps to fill the gap in communications but when it comes to items that are newsworthy, it is proven that it takes the two to successfully get the word across.

Secondly, CATV can only fill a gap such as the one created by a viewer watching television and not listening to the radio.

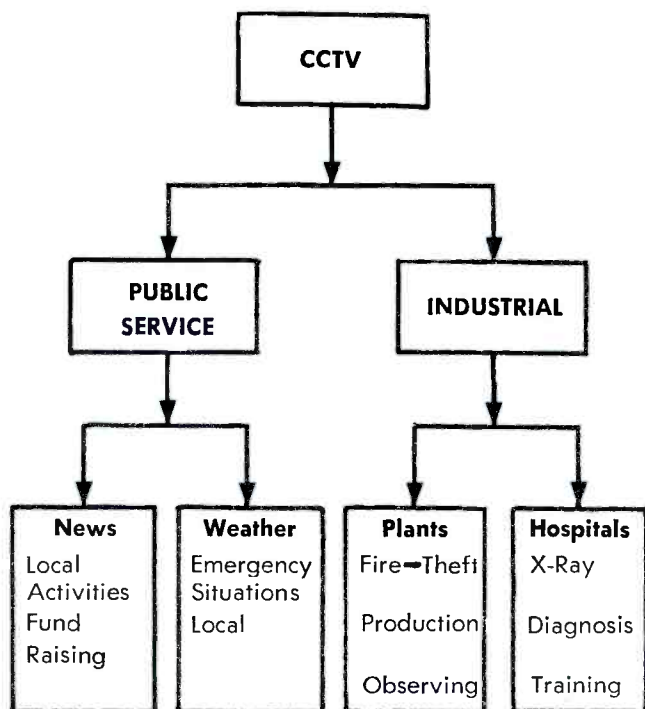
The kind of service that a CATV system can offer is really divided into several categories. One of them is local weather. A great many of the CATV systems in this country are totally dependent upon television stations located a considerable distance away. Although the signal at the originating point and at the system head-end are one and the same, save a handful of microseconds time difference, such things as the weather are not. Where the sun shines in one area, perhaps a scant ten miles away there can be a heavy downpour. In other words, those people either in a specific business or maybe those that are hopeful of good weather for fishing purposes, are not receiving the weather information applicable to their locale. In terms of dollars and cents, this type of information is invaluable to the local merchant.

Looking at this in a totally realistic manner, a lot of areas in the United States have what can be classed as ambient weather that is predictable and a great many more have the type of weather than can change in one hour's time. Where the latter exists it becomes necessary to team up with all forms of communications media to fulfill a natural inheritance, namely public service.

Consider this service much as a fellow stuck in the snow. He most surely will ask the assistance of whomever happens along his way. True, he could call the local garage and ask for a tow truck but this might mean he would have to walk a long distance to a telephone. If he has children with him or perhaps his wife or friends he doesn't wish to leave them in a possibly cold car so he will take the most natural action. The person that helps him is not being a competitor, he is only providing a public service.

Another item that CCTV can be applied to is local news. News is one thing that can never be slighted in any community. Knowing what is occurring on a day by day basis is a must for any area. Such things as PTA meetings and various civic events are of interest to all. Something which occurs frequently and of utmost importance to all junior citizens is the tale of a lost dog or two. Fund drives are important too, as well as church activities or perhaps a plea for funds to help a family in need due to some disaster. There are a lot of other places that CCTV can fit in, almost too many to name.

But, the first time a lost child must be located or warning is given for a possible catastrophic event caused by some freak weather conditions, etc., a



This should not be construed to mean that a CATV system should compete with local radio. In the first place it can't be done. This is mainly because radio offers quick, efficient coverage on a vast scope compared to what CATV could or would want to do.

CCTV installation will pay for itself. There isn't a big enough price for this kind of public relations.

In communities all over the nation an intense interest is being shown in Civil Defense activities. CCTV can be an answered prayer for the local C-D officials. It can be used as a carrier for instrumental C-D instructions or to show C-D films. More practically, live demonstrations of proper first-aid techniques and other forms of C-D information may be accurately passed on to the populace.

One system recently conducted a garden care clinic. Although the idea was strictly conceived as a test, the results were tremendous. Several hundred phone calls later, the operators were convinced of the usefulness of CCTV. All of the phone calls were of a congratulatory nature making clear the real good that had been obtained from the program. Another system went to the extent of carrying a local play put on by a non-profit "little theatre" group. Over fifty-percent of the viewers took time to watch this program. Actually there have been a lot of different programs put on by CATV systems that have been one-hundred-percent successful. All of them were of a purely public service nature.

One of the most important aspects of CCTV is its application to the teaching or ETV field. Here is where the CATV system and the local school officials can work together towards a very rewarding end. The vast worth of ETV has already been proven and no community should be without these facilities. Learning is and has always been an important asset to the overall growth of the United States. In carrying ETV, some thought might be given to sharing maintenance costs with the local school board. It is

quite possible that they can lend some assistance along this line, at least to help cover partial operating costs in regards to cameras, monitors and modulator assemblies.

In considering CCTV along with CATV it might be well to remember that at one time or another a life or property could be saved as a result of timely thinking. This should be enough incentive to any of the systems to put the wheels in motion. Today, most of the CATV systems in the country are contemplating CCTV additions. However, too many are holding back until it can be fitted into the expansion schedule. Part of this delay seems to be because of the economics involved. Possibly the delay in installing CCTV equipment is justified but when weighted against what can be contributed in way of a community service, the delay could be costly.

Those that are not familiar with the CCTV field, be assured that there are a number of equipment manufacturers in this field. From current indications there will be even more. For instance, one Japanese firm is producing equipment now for the CCTV industry. Another manufacturer offers a vidicon camera in kit form less the vidicon tube and lenses. Then there are many of the large electronics manufacturers that have all forms of equipment available including consoles, monitors, patch boards and video tape units. In terms of actual cost there is equipment available for almost any price.

Digressing from general useage of CCTV and its associated equipment, consider lease services to hospitals, banks and department stores. Something else that should not be overlooked is industrial applications. It can go on and on.

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.

CAS

MFG. CO.

Pioneer Manufacturers of
Transistorized CATV Systems

P.O. Drawer B—Mineral Wells, Texas FA 5-5124

SOUTH CENTRAL GROUP ELECTS

The South-Central CATV'ers met in Hot Springs, Arkansas October 16, 17 and 18 to elect a new President as well as a slate of new officers for 1962-63.

Elected to the Presidency of the group was Jim Davidson of Batesville, Arkansas. Jim had served as Secretary-Treasurer of the group since its founding nearly four years ago.

Guest speakers at the meet included NCTA Chairman Glenn Flynn of Tyler, Texas. Fred Stevenson, NCTA Director from Rodgers, Arkansas and Virgil Evans, NCTA Director from Alexandria, Louisiana. CATV'ers Frank Hailey of Tupelo, Mississippi and Davidson also spoke.

Members agreed to hold their next regional meeting next spring, approximately 60 days prior to the National NCTA meet. The conference will take place at the Broadwater Beach Hotel in Biloxi, Mississippi.

State Directors who will serve for the new year include Wavne McKinney of Arkansas. J. E. Wolk of Mississippi, L. R. Rutledge of Alabama, Joe Davis of Arkansas-Oklahoma and Bob Neathery of Missouri.

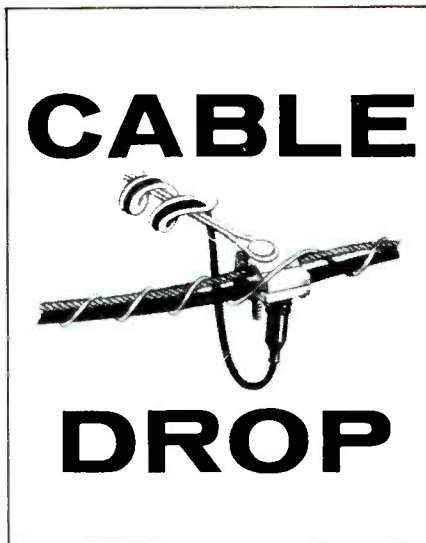
OKLAHOMA-KANSAS CATV ASSOCIATION

October 24th was the date and the spot was the Skirvin Hotel in Oklahoma City, Oklahoma. Mr. Bud Weir, President of the O-K CATV Association, aptly kept the entire proceeding flowing smoothly.



Bud Weir, President of the Oklahoma-Kansas CATV Association.

Among the highlights of the meeting was the showing of the NCTA film. Most everyone agreed that it was very good and requested the use of the film for showing in their own locales.



Two of the featured speakers at the meeting were Bill Dalton, left and Bob LaRue on the right.

Some of the featured guests included Bob LaRue, NCTA attorney, and Bill Dalton, President of the NCTA. Bill gave a very interesting talk on CATV that was well received by all. Bob LaRue filled in the gaps on the current legal questions.

ETV TAPE AVAILABLE FROM 3M

A 30-minute taped presentation on the use of video tape in educational television has been made available by the 3M Company, Dept. E2-459, 2501 Hudson Road, St. Paul, Minn.

Entitled "Dynamic Teaching Through Video Tape," the program is designed to introduce the educator to various ETV applications of the tape that records both sight and sound for immediate playback without processing.

The taped presentation was prepared initially for a South Carolina seminar on ETV and since has been played at numerous ETV meetings and teacher workshops. Produced at Minneapolis/St. Paul's ETV station, KTCA, the tape is narrated by Dr. John C. Schwarzwal-

der, general manager of KTCA. It is illustrated with several excerpts from typical programs.

Video tape copies of the presentation are available without charge, on a loan basis, to groups actively engaged in, or planning, ETV programming. The 3M Company suggests that interested groups without access to video tape recorders arrange to have the tape played at local ETV stations, commercial TV stations, or educational closed circuit installations equipped for video tape recording.

SPENCER-KENNEDY UP

Spencer-Kennedy Laboratories, Inc., reports that their earnings over the past physical year were more than two and one-half times larger than that earned in fiscal 1961.

Earnings reported for the fiscal year ending June 30th were \$176,726 compared to their 1961 earnings of \$67,423. Total sales for the year amounted to \$1,588,766 which is a 29% increase over the 1961 figure of \$1,230,520.

TSC OPENS DALLAS OFFICE

Telesystem Services Corporation has just opened a Regional Technical Office in Dallas, Texas, according to Mr. Fred Lieberman, TSC President.

Taking over the job as Manager of the new office will be William "Bill" Karnes, well known CATV engineer. Mr. Karnes was previously with Jerrold as a field engineer and Americantenna Corporation as Vice-President.



William "Bill" Karnes

Bill is married and has three children, he and his family will reside in Richardson, a suburb of Dallas, Texas.

NOTE:

This portion of Television Horizons is set aside for news of the industry as contributed by system planners and system managers. The convenient monthly reporting form, found on a perforated card in the back of TV Horizons this month, is designed to provide TVH with the data necessary to keep others informed of your activities during the past 30 days. Why not make it a regular point to fill in the card each month and drop it into the mail. There is no better way to promote industry cohesion than sharing your progress with others.

The Editor

SYSTEM NEWS

Texas Video, Inc., reports the addition of Palestine, Texas, formerly Clearview Cable Service. New Manager will be Norman A. Williams; Construction Foreman, Bill Smith; and secretary, Wynona Smith. Also, considerable remodeling is being done along with adding new vehicles, advertising etc. Forty-two new subscribers have been picked up within a period of 22 days bringing the system total to 1549. Currently, the Palestine system is revamping for microwave service from TV Cable Service Company, Tyler, Texas. **Central Multi-Channel T.V. Ltd., Red Deer, Alberta, Canada** has just completed a new extension to serve an additional 300 subscribers. 20,000 feet of aluminum cable and RG-11/U went into the new line. Also, the system added 5- CAP-2 BENCO amplifiers. Mr. Cam G. Harju, President of the company says they are up to 600 subscribers now after adding the new service.

Irvine Community TV, Irvine, Kentucky, has just replaced 5,000 feet of trunk lines with VK-108 cable. Jim Hayes says they have added 15 new subscribers to bring the total to 292. Jim also reports that the McKee TV Enterprises, Inc., system, at McKee, Kentucky has added more subscribers bringing the total now to 116. Plans are underway now to add CCTV to the Irvine system.

ENTRON NET GOES UP

Entron, Inc., of Silver Springs, Md., showed a 127% net sales increase to \$1.5 million for the six month period ended August 29th over that period last year. As reported in the company's interim report to stockholders, net income totaled \$142,600 compared to a net loss of \$146,950 during the six-month period last year. Earnings were equivalent to \$.52 per share on the 272,135 shares outstanding

**WANTED:
CATV SYSTEMS
CHIEF ENGINEER**

We're a well-established and rapidly growing multi-system operator offering the right man an excellent opportunity (including profit sharing and health insurance). If you have experience as chief technician in community system operation and a knowledge of microwave (familiarity with pole-line construction helpful), here's your chance to move into multi-system administration and supervision. Write full details in your first letter. Our people know of this ad.

Box 7, TV HORIZONS
P. O. Box 1557, Oklahoma City 1, Okla.

compared with a \$.54 per share loss during Entron's first fiscal half last year.

Entron President James L. Lahey, attributed the impressive sales gain in part to a 35% increase in sales of Entron products to CATV systems and to the completion of major construction projects.

NEW YORK CITY GIVEN ANTENNA

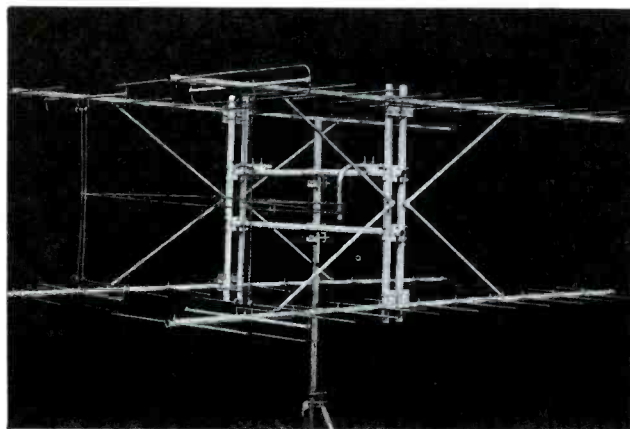
By FCC order, the Channel 31 antenna used for WUHF-TV tests in New York City, was donated for non-commercial applications. In a direct letter to Mayor Robert F. Wagner, the Commission stated that the array represented only scrap value in view of the fact that it was built specifically for the UHF tests and for operation with

the "existing complicated array of other antennas presently in place on the Empire State Building." Further, the Commission stated, "its costs of removal would far exceed its salvage value as scrap, it is actually more economical to leave it in place."

The official transfer of the antenna from Government to New York City ownership will become effective on November 1st, at which time the city will assume the call letters WNYC-TV and commence operation of the station. Presently, the city is purchasing the RCA transmitter used in the test and also will rent the Empire State Building space used for the FCC tests.

SITCO

HEAVY-DUTY QUAD • SOLID BAR YAGIS



Write us for free specification sheets and prices.

• DAVCO •

ELECTRONICS CORPORATION

Post Office Box 861

Riverside 3-3816

Batesville, Arkansas

DENVER TO HAVE PAY-TV

On October 3rd of this year, Pay TV once again appeared in the limelight. A Federal Communications Commission broadcast action on this date, authorized Gotham Broadcasting Corporation to conduct a trial subscription TV operation over KTVR, Channel 2, Denver. In allowing the tests, the Commission denied opposing petitions submitted by the Denver Committee Opposed to Pay TV and a group of local theatre owners.

A test period to extend for three years, under conditions for Pay TV tests specified in the Commission's Third Report on the subject, was allotted. The subscription system that will be used in the tests is one that allows the transmission of normal video but requires a telephone line connection in order to receive the aural portion. Denoted the "Teleglobe" system, the audio portion of the programs is fed by land line to speakers that are installed in the homes of the subscribers.

All the needed equipment for the tests, as far as the subscribers are concerned, will be furnished by the franchise holder per FCC Pay TV provisions. A \$10 charge for wire interconnection and a minimum monthly rate not to exceed \$3.25 is all that will be charged to the subscriber, besides the normal program charges which will vary from as low as 25 cents to as high as \$3.50 depending upon the situation. As the various programs are selected, a tape is correspondingly punched to record the charges for billing purposes.

Initially, the programs that will be made available are current release feature films with subsequent offerings in drama, opera, ballet, stage shows, and sports events. Also educational programs and illustrated lectures, supplementing free TV, will be presented.

In the beginning it is planned to transmit the Pay TV programs between the hours of 9:30 P.M. and 11:30 P.M. These hours were chosen because re-runs and old feature films are presently programmed for these times. Eventually it is planned to transmit subscription programs a minimum of 14 hours a week with some of the programming falling in the daytime hours. In cases where popular free programs are displaced by the Pay-TV shows, efforts will be made to continue their availability on other Denver TV stations or on KTVR's free-program hours.

Commercial announcements will

not appear in any form while the Pay-TV programs are being aired. Additionally, during the times that subscription programming is not being transmitted, music and public service programs will be furnished free over the wire facilities.

Currently, the franchise holder for the Denver test is the Teleglobe-Denver Corporation. A well-known radio station licensee, Macfadden-Bartell Corporation, will participate in the tests having been committed to purchase \$350,000 worth of stock in the Denver corporation.

In the beginning, approximately 2,000 subscribers will be served by the system under a proposed agreement between the Teleglobe-Denver Corporation and the Mountain States Telephone & Telegraph Company.

NEW EQUIPMENT FROM BENCO

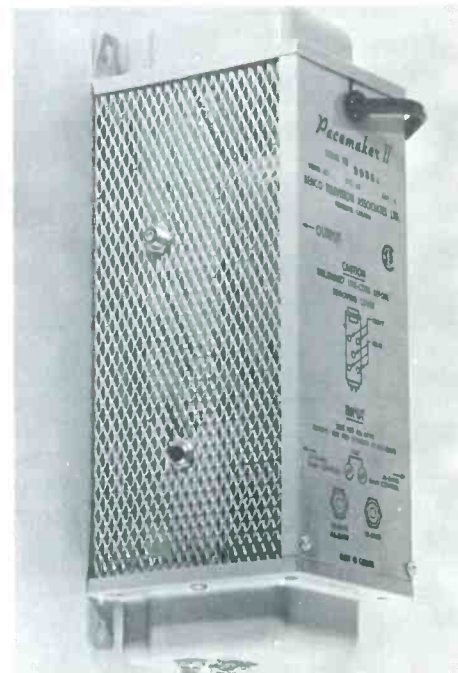
Two more additions to the Pacemaker line have been announced by BENCO. Both the new units are broadband amplifiers for VHF television channels 2 to 13 and FM channels.

Joining the BENCO family is the Pacemaker 2. This amplifier is designed as an ideal unit for small and medium sized installations. It also offers an added advantage over the original Pacemaker with the extra feature of a separate gain control for high and low bands. By use of the gain controls, up to a 10 db change can be effected on either band. The Pacemaker 2 is therefore also suitable for use as a line extender in a CATV system.



Benco's new Pacemaker 2 amplifier.

The other new member of the family is the Pacemaker Junior. This unit was designed by BENCO as a low-power-consumption amplifier for use in small apartment installations. Featuring the use of a low-noise frame grid tube, this amplifier also has a well designed and ventilated chassis to provide trouble-free operation and low maintenance costs. The Pacemaker Junior may also be used as a line amplifier for a small apartment drop in a CATV system.



Designed for color TV and FM usage, the Pacemaker Junior is ideal for small apartment installations.

SOPHISTICATED SLIDE RULE

A complete system calculator and conversion guide is currently available in ready-to-use form from BENCO. Nominally priced at \$1.00 the slide rule features a very complete conversion guide plus a more complete CATV system calculator.



This item is available from BENCO Television Associates Limited, 27 Taber Road, Rexdale, Ontario, Canada or Blonder-Tongue Laboratories, Inc., 9 Alling Street, Newark 2, New Jersey.

JERROLD REPORTS RECORD PROFITS

The Jerrold Corporation's sales and net operating profits for the six months ended August 31, 1962 set first-half record highs for the Philadelphia-based diversified electronics company.

Sidney Harman, president, reported that net operating profits for the six months rose to \$190,312, equal to 9½ cents per common share on an average of 2,012,479 shares outstanding, from \$11,150, or six-tenths of one cent per common share on an average of 1,987,482 shares outstanding in the year-ago period.

Sales increased to \$10,413,495 from \$5,953,074 in the first half of the previous year.

"To place these results in proper perspective," Mr. Harman said, "I should point out that the first six months of our fiscal year are seasonally poor marketing months for each of our companies, because of the nature of their products. The second half of the fiscal year beginning with the month of September and concluding with the month of February, is the period in which the major portion of our total sales volume and operating profits have been traditionally developed. Without question we should see that characteristic performance again in the second half of this year."

He reported that all operating subsidiaries in the Jerrold family of companies at midyear operated profitably, and that each is set to "perform effectively and profitably" in the second half.

The Jerrold operating companies reporting profitable results for the first half were: Jerrold Electronics Corporation, Philadelphia; Harman-Kardon, Inc., Plainview, New York; Technical Appliance Corporation (TACO), Sherburne, New York; and Pilot Radio Corporation, Long Island City, New York. Another Jerrold company is Analab Instrument Corporation, Cedar Grove, New Jersey, acquired on September 1, 1962, after the mid-year period had closed.

The acquisition of Analab, Mr. Harman explained, "will take us a very long way in the direction of achieving a position of importance in the instrumentation field." Analab specializes in the design of highly sophisticated display instrumentation, such as storage oscilloscopes and its products are widely regarded as the finest in its field, and complements the Jerrold Elec-

tronics industrial products division which produces an outstanding line of test instruments, according to the Jerrold president.

Reporting on the individual operating companies, Mr. Harman stated that Jerrold Electronics Corporation currently is operating at an alltime level. Its position was further strengthened during the first half of the year with the introduction of an all-band community television system capable of distributing 12 television channels. The company also substantially increased its activities in the ownership and operation of community television systems. Sales of test instruments, television master antenna systems, and television and FM reception aids continued at "an extremely healthy level."

CATV PIONEER DIES

Larry B. Boggs, 40, pioneer and leader in the community antenna television industry died November 17, 1962, in General Rose Hospital, Denver, Colorado.

Mr. Boggs was president of Vumore Company, Oklahoma City from 1950 until June of 1962 when he resigned to join the Denver firm of Daniels and Associates.

After spending the early days of his life around the oil business in southern Oklahoma, Mr. Boggs moved with his family to Oklahoma City where he completed his primary and secondary education. In 1939 he entered the University of

Oklahoma working toward a mechanical engineering degree. He was a member of Sigma Chi fraternity.

Shortly after the beginning of World War II he entered the Air Corps as a civilian flying instructor. Lieutenant Boggs was then assigned to the ferry command in which he made over 100 ocean crossings before discharge in 1946.

Returning to Ardmore, Oklahoma after discharge, he entered business as a local theater manager before forming the Vumore Company.

As president and general manager of Vumore, Mr. Boggs was instrumental in forming not only a new company, but an entire new industry. Many of his innovations and ideas now form the back bone of the community antenna television industry, one of the fastest growing industries in the world. During his 12 years at the helm of Vumore, the company constructed and acquired thirty community antenna television systems in Kansas, Oklahoma, Texas, Mississippi and Arizona.

Boggs was a member of the Board of Directors of Video Independent Theaters for many years and served as an officer and director of many of its subsidiary companies. He was also a vice-president and director of the National Community Television Association.

Mr. Boggs is survived by his wife Taletta and daughters, Jane, 12, and Leslie, 17.

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
- ★ DIP SOLDERED
- ★ SELF POWERED
- ★ ULTRA-STABLE CIRCUITRY
- ★ EASY TO INSTALL

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.

BENCO

TELEVISION ASSOCIATES LTD.
27 Taber Road, Rexdale, Ontario

TWO MORE SYSTEMS TO APPEAR

In an announcement released today by Jim Davidson, President of DAVCO Electronics Corporation, Batesville, Arkansas, the towns of Berryville and Eureka Springs, Arkansas will soon have CATV. Television Cables, Inc., owned by Bill Daniels, Berryville, Ark., Joyce Harvey, Eureka Springs, Ark., and Charles Harvey of Wellesley, Mass., will install and operate the two systems. Towers and antennae should be completed by November 1st, and construction of the systems will begin without delay. DAVCO Electronics is furnishing the equipment, cable and materials for the systems. They will carry a total of seven channels of television and two channels of FM, from the start. DAVCO is building their "Functional Design" head-ends for both systems. Both towns are located in the heart of the Ozark Mountains, and are noted for their recreational offerings. Berryville also is quite a thriving industrial community, with several factories in operation. Eureka Springs, sometimes called "Little Switzerland" is a very beautiful community, nestled in the picturesque Ozarks, and offering much to the sightseer. Good hotels, motels and eating places, abound. It is one of the most interesting places in the Southwest, and one gets the feeling he is in a "different world" when exploring the area. CATV has long been needed in this area, and the owners are to be commended for their foresight and civic gesture.

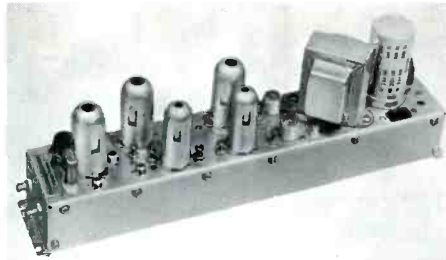
B-T DEVICE ADDS AUDIO TO UNUSED CHANNELS

Blonder-Tongue Laboratories, Inc., has recently released a new device capable of adding complete sound channels to MATV and CATV systems. Called the Audio Master, it enables any TV receiver on the line to reproduce a variety of audio sources: AM or FM music, tapes, hi-fi recordings, and public address.

The new unit, designated Model AM, makes available completely new entertainment or information channels for all types of TV systems. Used with a tuner, tape or radio, it yields an instant and inexpensive variety of background music, broadcasting, original programming or announcements.

A major advantage of the Audio Master is that it requires no extra distribution equipment, cables or cabinets. Rather, its compact head-

end design makes it entirely compatible with other MATV and CATV equipment, since it can be mounted directly into the same housing.



Blonder-Tongue's new Audio Master, model AM.

According to the manufacturer, the unit is well suited for adjacent channel use, performing without any interference to or from other channels.

Its operation is basically simple: When any sound source is plugged in, the unit converts the audio into an actual TV channel by generating a crystal-controlled picture carrier, to coincide with the VHF channel frequency, and a sound carrier 4.5 Mc higher. The audio source serves to modulate the sound carrier. To assure interference-free operation, the video and audio carrier output levels are adjustable.

Net price of the Audio Master is \$175.

CATV Man Wanted . . .

. . . to represent manufacturer of CATV cable and equipment. All replies held in strictest confidence. (Our employees know about this ad.) Write — Box W-10, Television Horizons.

HALF-MILLION GOES FOR SYSTEMS

A Wyoming firm, Wentronics, Inc., is arranging for loans totaling \$500,000 for the purpose of acquiring additional systems in the Northwest area. Wentronics, Inc., of Casper is receiving half of this sum from The First National Bank of Casper and the other half from Central Investment Corporation of Denver.

The details of the transaction with the First National Bank of Casper were not released but the arrangements with Central investment Corporation are at 7½% interest with warrants to purchase 17% of the Wentronics stock.

AUTOMATION TODAY

Vance Eckersley, General Manager of TV station WTEV, Channel 6, Providence-Fall River-New Bedford, today signed for a complete Television Program Automation System from Visual Electronics

Corporation, New York. WTEV will serve as primary affiliate of ABC.

James B. Tharpe, President of Visual Electronics Corporation states that this new ultra-modern television plant will be the first to operate the Visual 6000 System with an IBM punched card system.

Several Visual 6000 Television Program Automation Systems are presently installed and operating with punched paper tape facilities at WDSU New Orleans; KYW-TV Cleveland; WNEW-TV, WABC-TV, WPIX in New York City and KTTV Los Angeles.

EXPERIENCE PROVEN

BY OVER
\$27,000,000.00
IN SUCCESSFUL
CATV SYSTEM
SALES . . . IN JUST
FOUR YEARS.

For Reliable System Sales,
the Highest Return on Your
Investment Dollar, Contact:

THE DANIELS TEAM

SYSTEM APPRAISALS
•
SYSTEM SALES
•
SYSTEM MANAGEMENT
•
NEGOTIATIONS

Daniels & Associates, Inc.

THE DANIELS BLDG. — 2430 E. THIRD AVENUE
DENVER 6, COLO. — PH. DU 8-5888

In Canada: FRED T. METCALF
25 Crestwood Place, Guelph, Ontario
Telephone TA 2-2030

THE Economy TWINS!



**AMECO'S SENSATIONAL TRANSISTORIZED BRIDGING
And LINE EXTENDER AMPLIFIER NOW AVAILABLE
EITHER ALL-BAND OR LOW-BAND!**

A perfectly matched pair of transistORIZED amplifiers providing the most economical means of High or Low Band distribution possible today.

5-Way Savings

- 1** **NEW CONSTRUCTION:** Eliminates need for clearing power locations . . . saving at least \$50.00 per amplifier location. (AMECO's transistORIZED amplifiers are messenger mounted and remote cable powered.)
- 2** **TUBE REPLACEMENT:** Eliminated! In the conservative 5-year life expectancy of a transistor, you will probably re-tube a conventional amplifier two or three times. Figure your savings: Number of tubes — x cost — x average number of replacements in 5 years — x cost of labor — = savings.
- 3** **POWER:** The ATB-10C & ATBL-10C uses 150 mA at —15 V DC, and the ATM-20C and ATM-30C only 70 mA at —15 V DC. Regardless of how you are charged for power, AMECO's remote powered messenger mounted amplifiers will materially reduce the bill.
- 4** **MAINTENANCE:** Transistors in AMECO's amplifiers do not lose gain as they age. Once levels are set, the amplifiers will provide many hours of stable, trouble-free service. This cuts down expensive amplifier maintenance.
- 5** **INITIAL COST:** AMECO transistORIZED amplifiers are priced competitively with tube-type amplifiers having similar specifications. The initial savings on purchase price coupled with reduced installation and operating costs make for significant overall system economies that cannot be ignored.

Buy AMECO and SAVE! For details write or call

COMMUNITY AND
CLOSED CIRCUIT
TELEVISION
SYSTEMS

ameco

AMECO INCORPORATED
2949 WEST OSBORN ROAD
PHOENIX 17, ARIZONA
PHONE 254-5511

MANUFACTURER OF QUALITY BUILT PRECISION ENGINEERED EQUIPMENT FOR CATV

STL, ETV, CATV, CCTV and Data

COLLINS OFFERS MICROWAVE FOR EVERY VIDEO APPLICATION



What are your requirements? Educational TV systems? Intercity TV relay? Network transmission systems? Whatever they are, you can depend on Collins to meet your specific requirements for microwave video relay systems.

Collins offers you a complete microwave equipment line. You'll find equipment for short haul systems. Long haul systems. Microwave in the 6 kmc and 12 kmc frequency bands. Equipment with power from 50 mw to 5 watts. Receiver IF bandwidth of 15 or 25 mc. Complete ac or dc operation. Remodulating or heterodyne repeaters.

Our complete product line is just one reason why you should call Collins for microwave TV transmission systems. The other is systems engineering experience.

Collins engineers have designed and built microwave systems for video applications of all kinds. Some have been relatively simple. Others have been complex and highly sophisticated. When you call Collins, this wide range of experience in microwave systems design and application is brought to bear on your particular system needs.

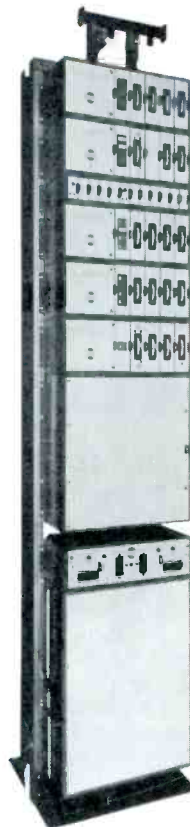
Before you invest in any microwave equipment for your video application, call Collins. Let us show you what our experience in design, engineering, manufacturing and application can do for you. In economy. In systems flexibility. In reliability.

Call Collins in Dallas for the most complete line of microwave equipment for every video application. Area Code 214, AD 5-2331.

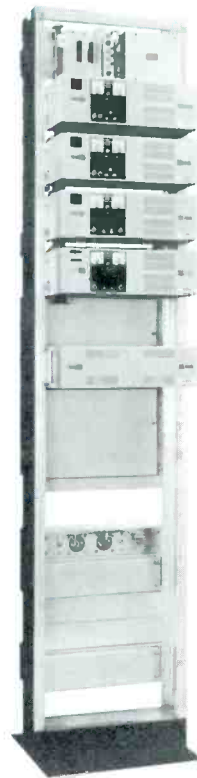
COLLINS RADIO COMPANY, Microwave Systems Division, Dallas, Texas.

SPECIFICATIONS:

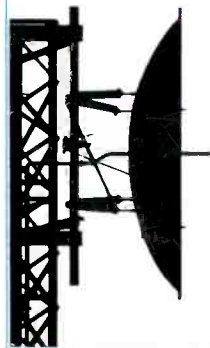
FREQUENCY	POWER	IF BANDWIDTH
5925 to 8400 mc	100 mw	15-25 mc
	1 w	15-25 mc
	5 w	15-25 mc
10,700-13,200 mc	50 mw	15-25 mc
	500 mw	15-25 mc



MW-106D RF Heterodyne



MWV-601B Microwave RF Equipment



For the world's most complete line of microwave and carrier Call Collins!

