A DECADE OF PROGRESS

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CATJ

OFFICIAL JOURNAL OF THE COMMUNITY ANTENNA TELEVISION ASSOCIATION
JULY 1984

CCOS 84 IN TAN-TAR-A

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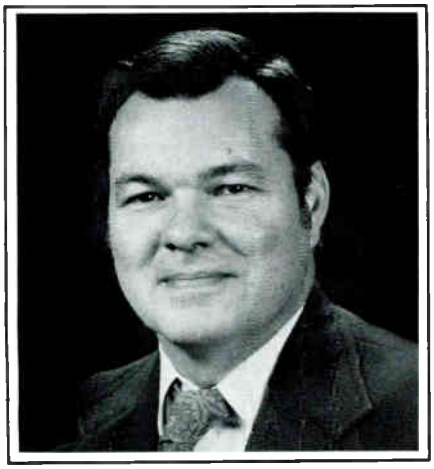

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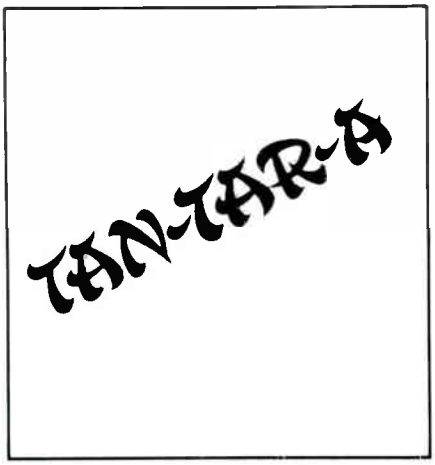

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ABOUT THE COVER

This enticing view of Tan-Tar-A Resort, Osage Beach, Missouri, certainly hints at the delightful scenery and recreational facilities offered at this site for CCOS '84.

Photo courtesy of Tan-Tar-A Resort

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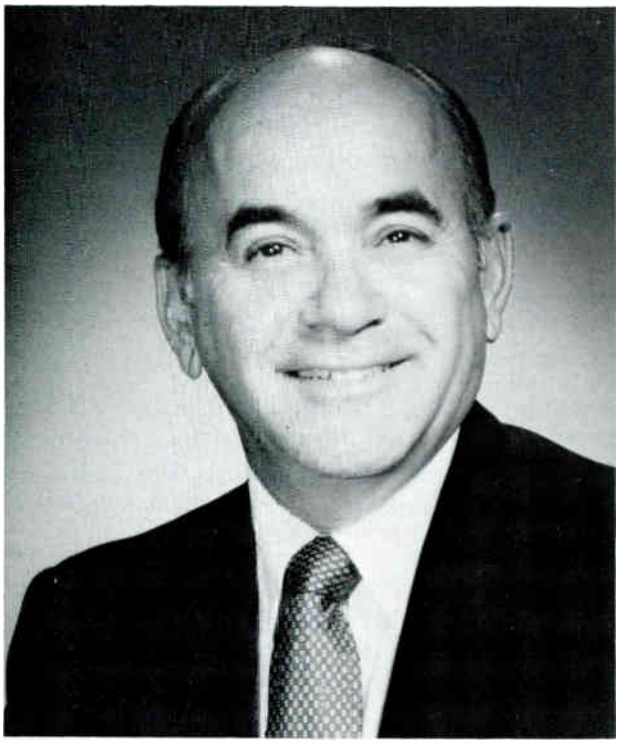

Peter Athanas
PRESIDENT OF CATA

THANKS, AND LET'S KEEP GOING!

This is my last CATAtorial as President of CATA. At our annual meeting about to be held at the Tan-Tar-A Resort, on Lake of the Ozarks, Mo., a new President of CATA will be named for the next two years and I will assume the title of "Chairman" of the Board of Directors. In other words, I'm being "kicked upstairs" in order to let someone else deal with the day to day problems faced by any Association President. Before that happens though, I'm going to take this last opportunity to take a look at what we have done in the past two years and what I hope we can accomplish in the next two.

As I became President of CATA two years ago, there were two issues very high on the agenda of all cable operators. One was Federal Deregulation, and the other was Copyright. Now, as I am about to turn over the reins, two issues remain paramount — the same two! But we have indeed come a long way. By the time you read this, H.R. 4103 may have already become law. It certainly has an excellent chance at this juncture, and I am urging all members of the cable industry to work hard for its passage. Of course, controversy has surrounded the bill. That is inevitable. There is no way that everyone can get everything they want out of a negotiated political settlement of some very thorny issues. But on the whole, after very careful analysis and much debate, I think that the compromise ultimately reached between the cable industry and the cities will serve our best interests over the long run.

To be sure, there are many things in the bill that I do not like. There are particular provisions that are still so ambiguous that, once again, we will have a "lawyers relief act" when it starts being implemented. But I have now spent the last two years on the "inside" of the debate — hearing the theories and the arguments among the lawyers and negotiators — being sure that what finally came out served the interests of the individual cable system owner or manager, and I can tell you very frankly that there simply are no "simple" solutions. For every move the cable industry negotiators took, there were counter-moves made by the city negotiators. For every impassioned argument we made, citing some "horror story" of how a city had "mistreated" an operator, there was a countervailing one told by the city negotiators.

The "bottom line" is that we did, indeed, reach the "bottom line". The negotiated settlement, I believe, represents politically as much as we could possibly have gotten given the current circumstances. Now, I know that some might say we would be far better off without the legislation. That our remedies through court action, particularly the antitrust laws, and the opportunities open to us through FCC deregulatory actions, should be used instead of accepting a legislative solution.

I disagree. The cable industry needs stability. It needs to be able to go about the business of serving our customers and developing new services and revenues absent the constant distraction of legal challenges and unstable regulatory environments. Federal legislation gives us that. Yes, we may have to give up some things for it — we will be hard pressed to continue the legal blitz on antitrust grounds, but our basic position on First Amendment rights, I believe, is not injured. We will have, through this legislation, accomplished something that the cable industry has sought for a very long time: recognition in the Federal statutes as an independent and significant factor in the communications marketplace. That is well worth the compromises we have had to make. I urge all cable operators to support the final passage and enactment of H.R. 4103.

Of course, we have not been neglecting other major

interests while working on deregulation over the past two years. I think CATA has reason to be very proud of the role we have played in getting Copyright legislation to progress as far as it has. While most others in the cable industry were focusing solely on deregulation, CATA maintained its focus on copyright. Of course that is the issue that resulted in the creation of CATA ten years ago. Our efforts are paying off. Particularly in the House of Representatives, there is a far greater awareness of the issues and problems created by the Copyright Office and the Copyright Royalty Tribunal than ever before. And there is a welcome resolve, especially on the part of the Chairman of the Copyright Subcommittee, Mr. Kastenmeier, to solve some of the outlandish problems created by those two offices.

As I am sure you will remember, CATA was instrumental in getting copyright legislation initiated in the past year by our very good friend Rep. Mike Synar of (appropriately) Oklahoma. His unfailing efforts and the resolution of the Chairman to see that the "runaway" CRT was brought back under the control of Congress have resulted in major strides in the past year on Copyright. Once again, we have major legislation in the works, and whether that legislation actually succeeds this year or not, we have already benefited from a far better informed Congress on the issues involved. Of course we will continue to seek passage during the waning days of this Congressional session — but remember it is "silly season" on Capitol Hill — the elections are coming up and all sorts of strange things start to happen. Regardless of the outcome of this year's effort, however, we have made major strides in explaining the copyright issues on Capitol Hill. We must continue that effort. There is no question that copyright is going to be one of the primary issues for CATA to focus on in the year ahead, as it has been in the past. We will continue to make copyright our primary focus until the cable industry and the American viewing public are finally treated fairly. That is certainly not the case today. But we have made significant gains, and we must continue. The most important one is that the almost overwhelming lobbying power of Jack Valenti and the Motion Picture Association is eroding. The folks who know and understand the issues on Capitol Hill are finally recognizing that they have been the victims of a great deal of "creative mathematics" as well as extreme rhetoric over the years from the MPAA. The credibility of that group is in serious question, and that can only aid our cause of getting Congress to really understand the issues involved. That, of course, is your job. Let's keep up the good work. Thanks for your support during my tenure as CATA President. Let's keep growing! □

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To:
Mr. Peter Athanas, President
CATA Board of Directors

Gentlemen:

We have great concerns about the direction that CATA seems to be taking. It appears that, at the expense of the independent operators, more and more power is being given to the large MSOs. The Oklahoma office has been discontinued and all operations are now centralized in the Washington office. Ostensibly this was for greater flexibility and economies of operation. Some of this may be true, but we think the disadvantages and potential problems far outweigh any gains. Control by the membership is diluted in favor of the whims of the one person running the day to day operations. From a purely business standpoint, it is a poor idea to put all the power in the hands of one person or office. There are no checks and counterbalances to see that everything is being done the way it should be.

We, the smaller independent system operators, must not overlook the fact that most of the technology and programming made available to the entire industry is a direct result of the large cable operations. We must also realize that the smaller independent systems are a completely different business from the urban builds and even that of the large MSOs that own many smaller systems.

We often hear that all the smaller independent operators are selling out and soon there will be only a few majors in the country, and it is implied that we must all "go with the flow." There is a great similarity here to the telephone industry. Until the recent breakup into several operating companies, you normally only heard of about three big telephone companies. In reality there are almost 1500 smaller independent telephone companies in the United States. This is after 100 years of domination by the Big Three: Bell, General and Continental. These smaller companies have their own association to fight for their interests which in many cases run counter to that of the majors.

We hear the argument that the large MSOs are mostly a collection of smaller systems and their aims are one and the same as ours. We say **"Not True."** While it is true that they have many systems, when it is time to negotiate copyright, program materials, pole agreements or system leaseback with the Telcos, fight franchise battles, etc., they have the weight and the deep pockets to do what they want, when they want, or to hold out until they get it. If their purpose coincides with yours, fine; if not, that's too bad for you. If they happen to lose a small system, "so what?" If you lose yours because of outlandish legislation, it's your life's work and livelihood, not to mention the general loss to the subscribers.

The rumor mill is saying that CATA will soon join NCTA and become a subsidiary of it. This may or may not be true, but if it were to happen, all would be lost for the independent.

To other independent operators we say, if you are not planning to sell out immediately, or if you have family coming along to take over the business, you must **fight** for your organization and see that it does what you want. See that your area director is looking after your needs, and, if not, elect one who will! If we do not look out for ourselves, nobody will look out for us. The dues we pay will be small compared to the loss we will suffer if CATA goes by the wayside.

Kyle Moore

BUYING A SIGNAL SCRAMBLING SYSTEM

LET THE BUYER BEWARE!

J. Richard Kirn
WIRE TELE-VIEW CORP.
Pottsville, PA 17901

A majority of the Pay TV Security Systems in use and currently being marketed by the CATV industry alters the sync pulses of the video signal. The system may reduce the sync level by a fixed or varying amount, or the system may time vary the pulses. A combination of these techniques may also be utilized. The industry has generally progressed from a fixed suppressed sync pulse to randomly varying levels and time as pirate decoder boxes become more sophisticated.

But what if a television set existed that did not require or use a sync pulse? That would represent a major glitch for the CATV industry. Imagine a cable ready television set that would decode all sync suppressed scrambled channels — and was sold by your local TV dealer. A hot seller for the dealer I would bet. It's called a **digital television set,** and it is available in Europe now and will be available in the U.S. this fall.

In 1973 ITT began a low level program to digitalize the audio, video, and timing sections of the television receiver. Their goal was to produce a universal television set that could be programmed by a micro processor to operate on any television broadcast system (European, U.S., Asian, etc.) and require no initial or long term adjustments. ITT estimated that the manufacturing cost savings of building one receiver for the world and the reduced time of alignment would more than offset any increased cost in going digital. After 10 years of work, ITT has developed five large scale integrated circuits (micro processor, video coder/decoder, video processor, deflection processor, and audio processor). The five basic chips perform all the functions needed to produce a digital television set. Digitalizing opens the door to a whole range of features unavailable with analog signal processing. Stop action, split screen pictures, reduced flicker on 50 cycle systems, improved definition, automatic convergence and pincushion correction, etc. The greatest impact on the cable TV industry, however, is the deflection processor which generates all the synchronization information internally.

The digital TV receiver keys off the 3.58 MHz color burst signal contained in the video information and synchronizes to this reference. An internal clock timer controls the correct timing for each line and frame of the TV picture.

This circuitry insures a jitter-free picture regardless of outside interference or the deliberate altering of the sync pulses. ITT has been producing digital television receivers since late 1983 and it's West German plant and 18 manufacturers worldwide have committed to use the ITT chips, beginning in late 1984.

I have heard rumors about this set for over a year but have seen very little in the trade journals. For some reason the CATV industry has not become aware of this development which will have a major impact on the security of all RF scrambling and possibly some base band systems. I would appreciate receiving any information or comments that CATJ readers have regarding this development. Finally I would caution all operators to proceed with caution in any new scrambling/descrambling equipment purchases and to begin to formulate contingency plans for the time when substantial numbers of these digital television receivers begin to show up in U.S. dealer showrooms. ❑

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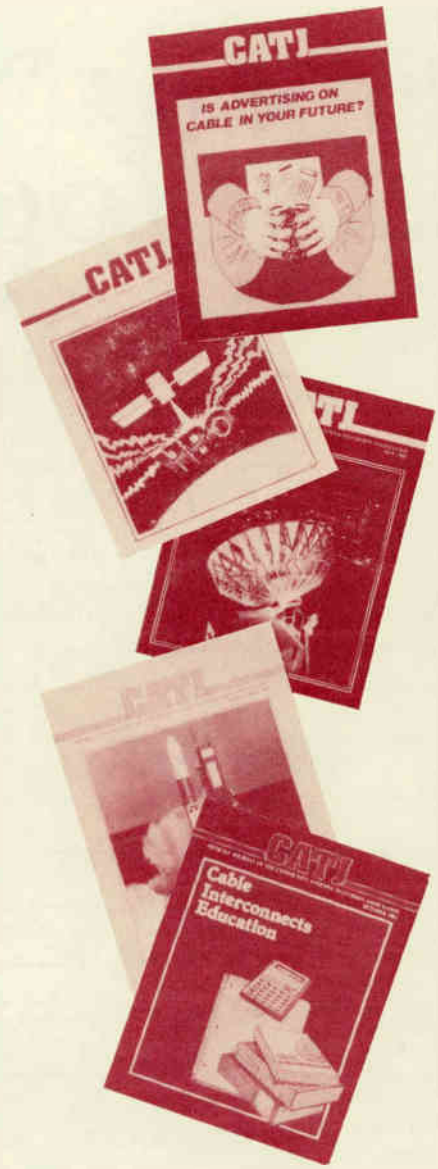

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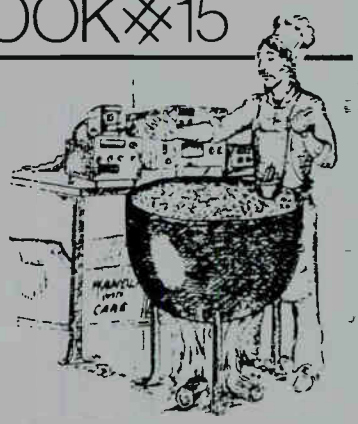

THE POSITIVE SECURITY SYSTEM

By: Terry Owens
Glyn Bostick
MICROWAVE FILTER COMPANY, INC.

Summary

The positive security system can sometimes mean a lower initial investment and is often more suitable for trapping multi-subscriber buildings than is negative trapping.

Negative or Positive?

Negative trapping (see **"Theft of Service or Signal Security,"** by Peggy Isaacson, **CATJ,** May '84, page 38) is probably the most extensively used system for premium channel security. It consists of placing a bandstop filter (for the premium channel) in the subscriber drop cable. For obvious reasons, it must be placed out of the subscribers' reach, usually at the tap. To further defeat theft of services, the trap is usually installed with tamper resistant hardware.

Positive scrambling and trapping is newer. It consists of inserting a jamming signal between video and audio frequency at the head end, and a trap is supplied to the subscriber to remove this carrier. Less security is required in this case since the subscriber has no incentive to remove the trap. However, **nominal** security is usually installed to prevent the trap from being taken when the subscriber moves.

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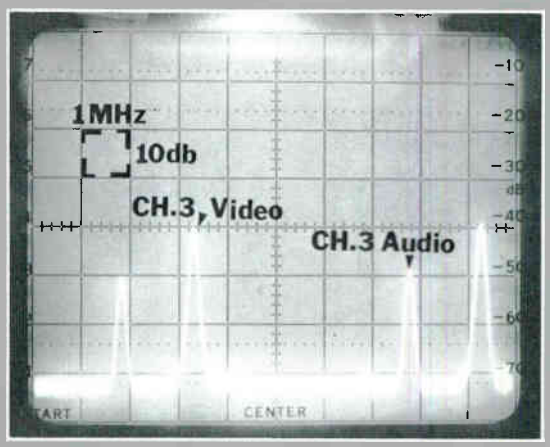

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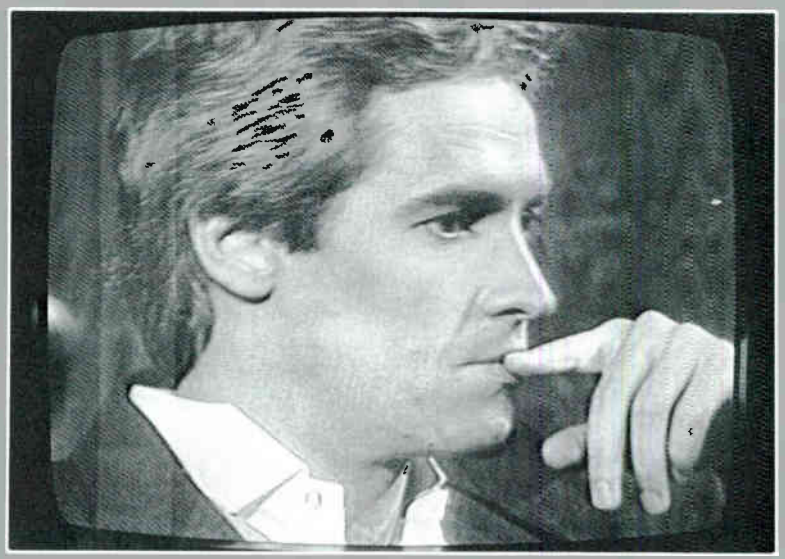


TV PICTURE

Economics

Negative trapping requires no head-end investment, as does the positive system, and the cost of the

stealing the exhibit hall blind,... stealing receivers and taking parts out of the equipment to use for repairs. We were working around the clock, getting an hour and a half, two hours sleep in a twenty-four hour period, and it was really quite an effort."

They were so close, and still the equipment wasn't fully operational. It seemed that the need for one last essential part was going to cause the failure of the project. "I remember, about three o'clock in the morning, we were lying on the ground, looking up at the sky, at the stars. It was Don Pidgeon, Tony Bickel and myself, and the three of us were lying there saying: Well, this thing doesn't work. It's not going to go. We can't do it. That's it, without this we don't make it. There's just no way and all this time we put into it! What a shame! Then... Pidgeon said, 'You know there's a (man) down in Texas that's got one.' And the next thing you know, we started jumping up and waking people and making phone calls and making arrangements to get the equipment in there." They located the crucial part and found a volunteer to fly his private plane to Texas to pick it up.

Finally all the equipment was in, turned on and in the first basic stages of bringing it up. Ralph explains, "Now you're supposed to cook in and stabalize (the equipment) for a number of hours as you bring up the driver stage and the final stages. We didn't have that time left. Don Pidgeon said, 'Let's make all these checks of frequencies and voltages as we're going along.' There was a recommended period of four hours, but at the end of two hours everything was going along and we said, 'Let's see what happens in the next stage! ...Finally, it couldn't have been more than half an hour to forty-five minutes before we were supposed to go on the air, and we were actually supposed to have another two or three hours on the cook-in before we turned on full power transmission, and Don says, "We might as well do it,' and he reached out and says, 'This is it, it'll either come up and work or it'll kick right out and we'll be back at ground zero.' And sure enough, it came up. It was just that close."

Ralph says he rushed right up to Bob Cooper's room and woke him to let him know they were up on the satellite. It kicked out once, but the men made a few adjustments and brought it back up on the air. By this time they were all totally exhausted, but they went over to the main lodge to see the pictures coming back from the satellite on the big receivers. A bottle of bourbon was brought out and passed around to celebrate.

One of Ralph's favorite humorous stories about this project is a midnight encounter for Raleigh Stelle. Around eleven or twelve o'clock one night, the group was getting ready to sight in the bird, and needed some Texscan equipment. Raleigh and Steve Birkhill went down to the exhibit hall and picked up the gear. "On the way back," says Ralph, "they came up behind the hotel where the air conditioning system was, and all of a sudden, Raleigh looked up and there was this skunk right in front of them, about twenty feet away. Raleigh stopped

and the skunk stopped, and Birkill stopped and said, "What's that?' And Raleigh says, 'That's a skunk,' I'm not sure if Steve knew what a skunk was, but Raleigh explained quickly, I'm sure. He says, "let's move off to the right, around him, and we'll just get up to where the shack and antenna are.' They started moving to their right and the skunk started moving to his left. So they stopped, and Raleigh says, 'Well, let's go back this way,' and the skunk went right with them. So he says, 'Let's try something.' So he started walking toward the skunk and the skunk backed up. When he stopped, Raleigh stopped, too. Then Raleigh backed up and the skunk came forward, and they played this game, dancing with this skunk out there for almost an hour, until finally the skunk went to where his home was, and they were able to get past." Ralph pauses and laughs before he says, "Do you know where the skunk's home was? It was underneath the air conditioning unit outside the hotel! — That's a story about how we felt about this whole operation. We were just hanging in there by a thread and could have been wiped out by the worst smell you could ever smell in your life!" In the end they overcame all obstacles — from a burned out klystron to skunks — and the system did work, and all the men who had a part in it felt a real sense of accomplishment!

Ralph has a video tape to remind him of another crazy event of that week. It was decided that the men who were instrumental in the successful installation of the uplink would appear in a live broadcast transmitted to cable operators from coast to coast. They'd had only four or five hours sleep when they were awakened to come down and do the live show and tell the cable operators of America about the obstacles they had encountered and overcome. Ralph says, "We went down to the studio and one of the cameras (wasn't working.) They were fiddling around and fiddling around with the cameras, and we were still tired, and didn't feel like just sitting there, so (we told them we'd) go down to the bar and to call us when they had finished. It took a considerable length of time to get the camera fixed, and by the time (they did) we were all three sheets to the wind. We went on television, on that program, live, talking about this uplink — bombed! . . . The people back here in my system taped it, and I've got a copy. . . . I'll keep it forever. Everytime poor Bob tries to say something serious, somebody comes in with some kind of off the wall statement that breaks everybody up!"

Ralph concludes his reminiscing about CCOS-78 by saying that many in the industry looked at the event as one of CATA's greatest accomplishments, and while it did have an impact, in terms of long term influence on the industry, CATA's technical training seminars were much more effective. Under direction of CATA's Board of Directors, Ralph organized and conducted these seminars from their inception four years ago.

Ralph brought to the seminars a background of practical experience and formal training in electronics and the cable industry. A well ➤

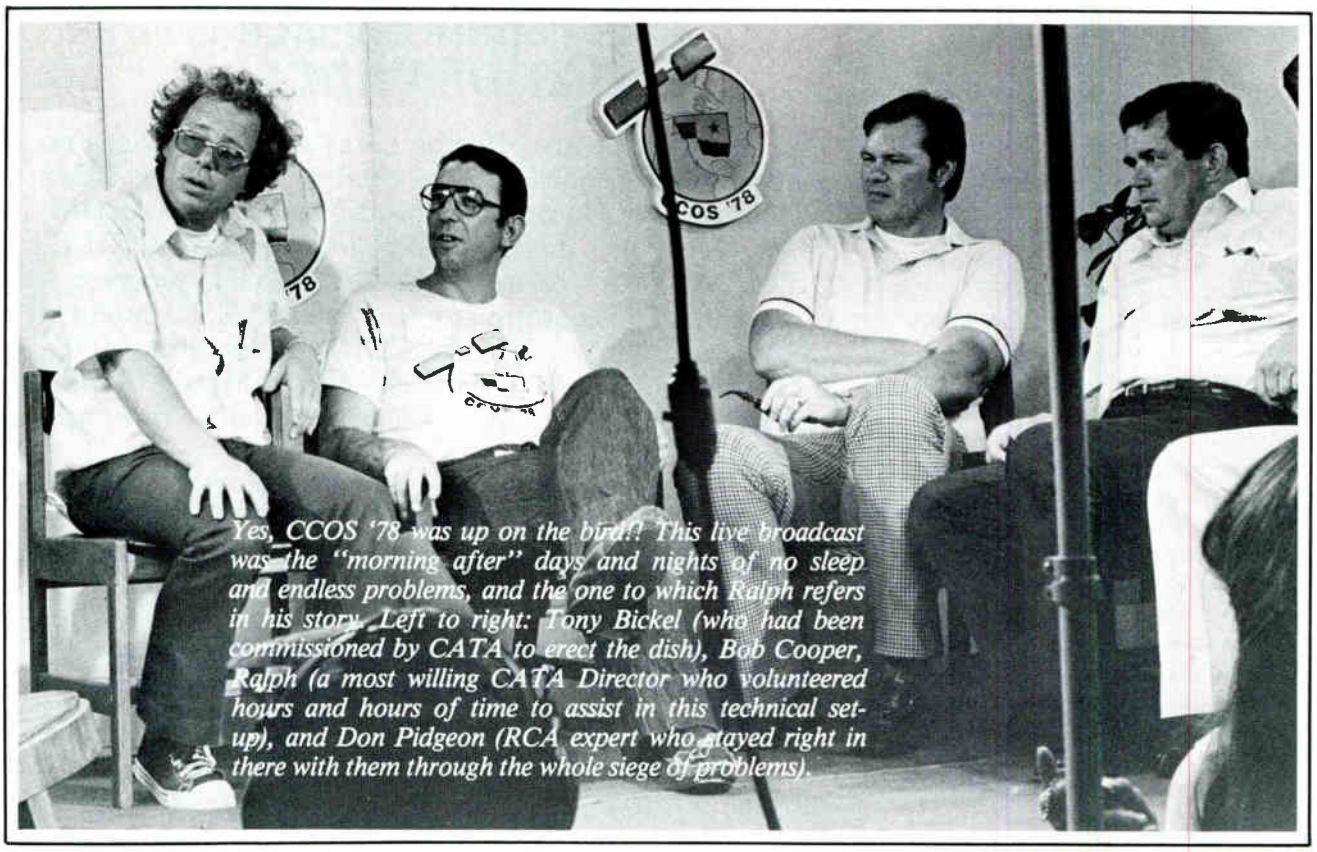
organized teacher who deals with questions and concerns of his students, as well as the planned outline material, Ralph is skilled at presenting material in a way that students at any level of expertise can comprehend. At the same time he doesn't talk down to them because he has a great respect for the dedication and experience they bring to the classroom. He has taken the material and developed it into a method of teaching that is somewhat simplified in language so that it doesn't remain some kind of mysterious, foreign language technology. He says the engineers and technicians who have attended the seminars are the most dedicated he has ever seen.

"They are there at eight o'clock sharp in the morning," he says. "They go all day long, they go into the evening; when we break for dinner they congregate together, they talk cable, they talk problems, they talk technical facts; they can stay up until one or two o'clock in the morning, and still, at eight o'clock in the morning, they're there with their pencils raised, ready to go."

Ralph tells them that the only person the cable company owes anything to is the subscriber, and that what is owed to the subscriber is the best possible picture and programming that can be provided. Once that is done, and done the way it should be, then they will have met all the requirements and exceeded all the requirements that can be expected by the FCC or the franchisor. "Unfortunately," he says, "that isn't the way it's being run, and a lot of the problems are money. (The cable company owners) don't want to spend any money to make the system work properly or better or bring them up to what they should be. If they did bring them up to those levels, and the system was operating properly, and the people were getting what they were paying for, I think they would pick up a lot of additional subscribers and it would pay for itself."

Ralph's students understand this, he says, but "They seem to feel that their hands are tied. They are very greateful that they are allowed to attend the seminars, and when they return to their systems, they hope to make some improvements, even on a small scale. They say to me that they won't be able to do anywhere near one hundred per cent of the things they have learned need to be done, but if they can do twenty-five per cent or thirty per cent or forty per cent of them, they will at least have improved it that much, toward reaching a point of perfection as far as subscribers go, and even that amount is going to be a tremendous improvement in the system operation and maintenance and will cut maintenance cost."

Ralph believes strongly that these seminars have had a long term impact in cable systems throughout the country, and he is sorry to see them discontinued due to lack of attendance. When asked why attendance hadn't been better, Ralph said he didn't think it was any



Yes, CCOS '78 was up on the bird!! This live broadcast was the "morning after" days and nights of no sleep and endless problems, and the one to which Ralph refers in his story. Left to right: Tony Bickel (who had been commissioned by CATA to erect the dish), Bob Cooper, Ralph (a most willing CATA Director who volunteered hours and hours of time to assist in this technical set-up), and Don Pidgeon (RCA expert who stayed right in there with them through the whole siege of problems).

one cause. The need for increased expertise is widely recognized in the industry, but when it came right down to it, many of the smaller systems were reluctant to let their technical staff go out of the system for any length of time. Further, says Ralph, "A lot of people who have been in cable for awhile think they are more competent than they really are, or even if they don't, they are hesitant to say something because they're afraid maybe the boss might think they're incompetent. I know in some cases the tech went to the manager or owner and said he wanted to go to the seminar, and (he was told) 'You don't need to go, ... You know all the kind of information they're going to teach. ... It's a waste of money and time."

This was disproven by hundreds who did attend, especially those who spent the time and money more than once. Ralph said he was surprised at one seminar to see a man who had been in the cable business for more than thirty years. It made him a little self conscious, because here was a man who had built many successful systems. After awhile Patti approached the student and asked him if he was getting anything out of the class, and he told her that through the years he had made all kinds of mistakes until he finally learned what worked and what didn't work in building a cable system, but he never knew why. Now, at the seminar he was finally learning why one method worked and another resulted in failure.

Selman Kremer of Southern Satellite Systems admires Ralph's teaching skills. His son, Frank, who operates Stigler Cable TV in Oklahoma attended one seminar. Selman says Ralph relates particularly well with technicians from smaller systems. "He leads them through things in terms that a novice can understand. He helps them diagnose their problems and understand what the system is all about. Ralph is able to (present information about) the satellite end, the distribution end and the home end at the drop. He has a world of patience and a real gift (for teaching.)"

Terry Shutts of Televue Cable Company in Holdenville, Oklahoma, has attended the advanced seminar twice and sent one of his men to the basic training. "I don't mind going back every couple of years to get a refresher," he said. "I think Ralph knows what he's talking about. He can tell some good jokes to break up the tension. If you have any problems that aren't covered in the seminar, you're free to break in at a certain point and he'll discuss them with you."

Suburban Cable Company in East Orange, New Jersey, has sent from twelve to fifteen of their staff to the CATA seminars at various times. Art Mutschler, of that company, says, "Ralph has the ability to transfer information from himself to the students. That's what makes a good instructor. There are many ... who have a lot of information, but they have a very hard time getting that information from themselves to the students. Technically he's very competent. ... Should you ask Ralph a question and he doesn't have the answer, he doesn't try to give you a snow job."

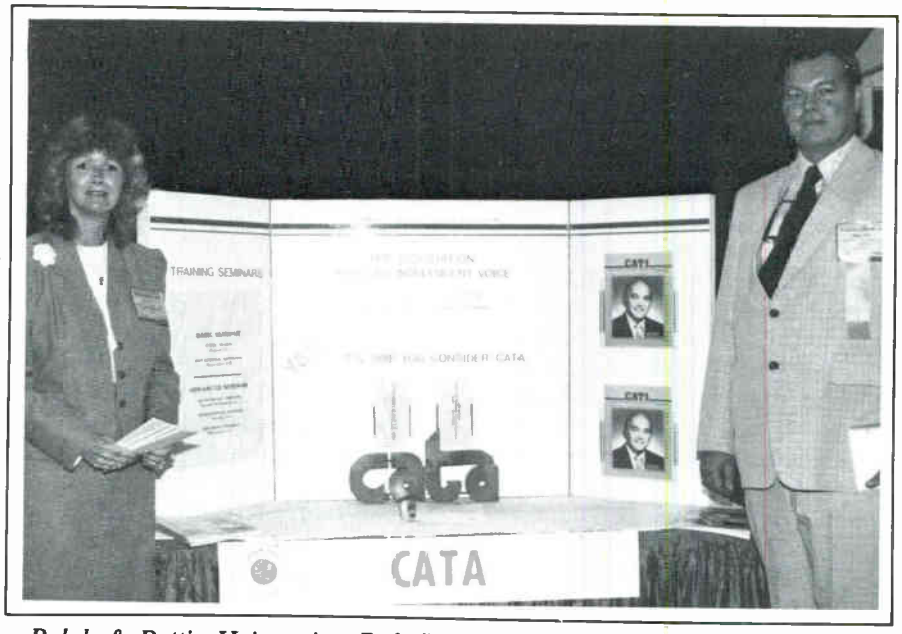
Cable system personnel aren't the only ones who have attended CATA's Technical Training Seminars. David Sheehan, an associate engineer with the Connecticut Department of Public Utilities Control, attended both a basic and an advanced seminar. His praise for the program was enthusiastic. He said, "You must bear in mind that I'm a regulator and I'm an engineer. I don't get involved with the field work technicians' responsibilities, but I found the course interesting. I think it is something that every cable operator should have his installers and technicians attend. The thing I found most attractive about this course (was) it put an emphasis, a strong emphasis, on the impression that technicians and installers leave the customers." One of the biggest problems Mr. Sheehan sees in the course of his work is with service in the terms of billing, customer relations and treatment of ►

customers during service and installations. He was pleased to hear Ralph address these problems in his classes and to emphasize the importance of professionalism on the part of installers. Further he says the course "addresses to a large degree (that) when you put in cheap equipment and you cut corners financially, you are cutting quality and you're going to have problems with it. It's a very common sense rule."

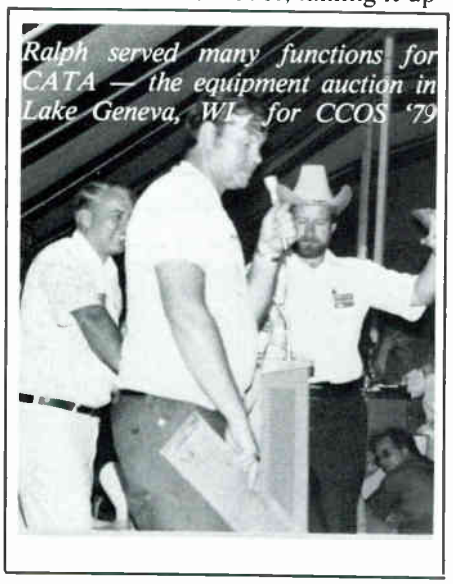
One of the best attended and most successful of the series was held in Witchita, Kansas early this year. It was co-sponsored by the Mid-America Association and the association directors worked hard to bring in technicians and engineers from their member systems. They began to promote it at their annual convention in October, talking it up and passing out brochures. System management got behind the idea. A campaign of mailings, promotion and telephone calls followed, and the result was that six weeks before the seminar, it was overbooked. This was a sharp contrast to the response to some of the meetings during 1983 which were actually cancelled due to low pre-registration.

Procrastination on the part of cable office staffs has been a problem. Ralph says, "I can't tell you how many seminars we've finally gone out on, that the last two week's (registration) meant we'd either go or cancel. Nobody plans in advance. Sometimes Ralph would get a call two weeks after he had presented a seminar in an area from an operator wondering when there would be one in that region. Announcements about the meetings compete with the volumes of mail that arrive at every cable office every day: the subscription magazines, the free magazines, the catalogs and brochures. Getting through this wall of printed material and grabbing the attention of the decision makers is no easy task.

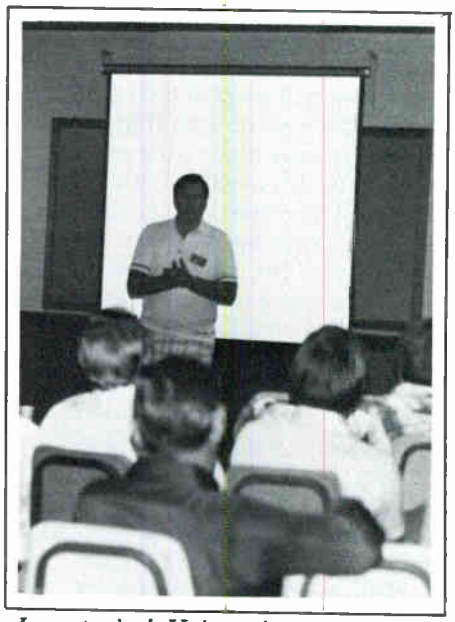
We asked Ralph to get out his crystal ball and tell us what was ahead for the cable industry. He answered: "Obviously I think that what we are going to end up with in the near future, are some of the



Ralph & Patti Haimowitz, P & R Engineering, representing CATA at the Southern Show (since changed to the Eastern) in Atlanta.



Ralph served many functions for CATA — the equipment auction in Lake Geneva, WI for CCOS '79



In a typical Haimowitz scenario — the teacher and his class.

Ralph was in on the kidnapping of then NCTA President, Bob Schmidt, who visited CCOS '78 and was on the look for the Indians who were coming after Bob.

things that are in progress, but have not worked completely well to this time. Addressability (will) be a definite thing of the future. The only reason I say of the future instead of the present is that although there are a number of addressable systems, there are stil problems that need to be worked out...and the cost is still high, so it's not going to be for everyone, right away. I feel that even smaller systems, and by smaller let's define under 5,000 and maybe later as few as 2,500, will be falling into this addressability thing in the future...Fiber optics is a very questionable thing...
The technology is here, but it is something that I don't think is quite at the point that we can build cable systems with fiber optics and have it a good concrete system that would work with no problems. I think what we're going to find is that the telephone systems...are going to start rewiring...with fiber optics, and they're going to lease back frequency allocations to cable systems. I think this is going to result in the capability for interconnect and open the doors for just a tremendous amount of things. (I can see this happening) probably within the next ten years. It will take several years to rebuild with fiber optics, but the plans are already underway by the telephone companies. The leaseback thing and the interconnect, the statewide interconnect, major urban interconnect and even national interconnect is certainly possible that way...It would also (make it possible) to reach the furthermost rural people where service is not available because it is not economically feasible. It will open the doors to new services involving data...I would like to see our technicians and engineers today looking forward and getting into digital data communications. That's where we're going."

Ralph says that eventually, in the not too distant future, the entire spectrum of the transmission band, all of the cable frequencies, will be broken down into digital, with less frequency space and giving much cleaner, clearer pictures and fewer problems from signal leakage. This

will be reproduced as television and data information to subscriber homes. Ralph says it is important that cable technicians and engineers begin to plan for this. A certain number of people are becoming skilled and training themselves in data technology, but most of these are design engineers and manufacturer's technicians who are developing different types of digital equipment for various, specific purposes such as two way communications.

"We've seen a whole rash of these," he says. "These are the growing pains, the beginnings of a new section in the industry." He points out that the expenses involved in getting into this field, devising it and selling it, combined with the limited capabilities they are designing for, are causing some failures, especially into today's financial climate. However Ralph says that within the next ten years this will be worked out and, "then we're going to have something!" Costs will come down, pay per view will be commonplace, addressability will be available at a reasonable cost and programming will be digitized and then reproduced.

There will be so much along this line Ralph says that "our people . . . need to start learning about digital transmission and the basics of how it works (so they will be prepared.) He adds that after four years of teaching seminars around the country he is very concerned about the extent of substandard skill, knowledge and capabilities in the industry. There is a problem "just with forward transmission skill alone and if we don't get people skilled in those areas, what are we going to do when we get into some of (the new) areas? We're fumbling along, and I'm telling you, it's scary as can be." He adds that in many systems the upper level technicians and engineers and the management personnel honestly believe that their people have a good knowledgeable background in cable television and are doing the best job that they possibly can, but Ralph says this isn't the case at all.

He takes his mission of educating cable personnel very seriously, and in an effort to reach more industry people, writes articles for trade journals, including CATJ and Cablevision.

Ralph was born in West Palm Beach, Florida, and that state has been "home" to him ever since, although he has spent almost as much time away from the state as in it. When he was twelve he attended St. John's Military School in New York. His father died when Ralph was fourteen. In 1952 he joined the Air Force and spent his twenty year military career in communications work.

While stationed at Patrick Air Force Base, he was Advisor for an Explorer post. This group was a host post to other Explorer posts and Boy Scout troops which came from all over the United States for a tour of Cape Canaveral facilities. The host Explorers took visitors on tours, telling the history of the Cape, the missile program, the manned space program and so on. Housing was provided for a small fee, the Explorer post provided the necessary buses, and the youth presented a slide and film briefing and conducted the tours. This experience and others promoted Ralph to comment that he really enjoys today's youth "as they are intelligent and eager."

One of his current youth related activities is with the Vero Beach

The Haimowitz Family during the holidays — Ralph, Patti, and son, David.

Ralph at the Board Meeting table in the early CATA days serving as a CATA Director with Chuck Kee and Mickie Gahan.

Band Parents Association. He and Patti are involved with this group because of their son David Jean Fuller. Among other things, they have helped with fund raising events and acted as chaperones. David plays the trumpet and has traveled on numerous trips and to competitions with the band. The band went to Dallas last year where it was invited to play in the Cotton Bowl, it has performed during Miami Dolphins halftime, and played at the Worlds Fair in Knoxville by invitation. "They're an outstanding group," says Ralph.

Ralph has four grown children by a previous marriage. The oldest, Ralph Jr., lives in Newton, Kansas, and worked as a chef at a restaurant in that area until a recent back injury, for which he is still undergoing surgery. Ralph's daughter, Rennie Alicia, lives in Mariana, Florida, and is the mother of his two grandchildren, Sarah who is six and Regina, two years old. Ralph's other two sons are Russell Anthony who lives in Louisiana where he is a helicopter maintenance technician for a big oil conglomerate, and Scott Andrew who lives in the Vero Beach area and works as a security guard. Ralph's mother who has remarried, lives in Indian Harbor Beach, Florida.

Ralph enjoys water sports, performing magic and traveling. He and Patti have an active social life with friends and relatives. They like to have a good time and to involve others in the fun. Friendly, energetic and considerate, they make friends easily.

On one of their recent adventures, they took a seven day cruise out of New Orleans, up the Mississippi River to Vicksburg and back to New Orleans in a paddle wheel boat. They befriended some of the crew on that trip and spent some shore time with them. The cruise itself was one of the most memorable things they have done, says Ralph. There was gourmet food, too many meals, entertainment every night, activities during the day. Along the way the boat, a large vessel carrying about 500 passengers, docked at different ports so passengers could make tours of antebellum mansions and plantations. "Things that I just really enjoy," says Ralph. The on board entertainment included a Mardi Gras Night for which passengers created costumes out of ribbon, cardboard, crepe paper and other supplies furnished by the ship's staff. "You wouldn't believe some of the things people came up with, making costumes out of this conglomerate of junk," said Ralph.

Patti now works for Vero Travel Service and this has afforded them the chance to pursue their traveling further as her work requires that she become familiar with tours, trips, and accomodations that are offered.

One might think that after all his years in the Air Force, Ralph would be tired of traveling, but he illustrated some of the Haimowitz philosophy when he said, "When I was in the Air Force I didn't look at it as having to travel to go to work in foreign countries. I looked at it as an opportunity that was given to me to be able to find out about those countries while assigned to do a job there with the Air Force. I used that philosophy right from the beginning."

While some military personnel went to the normal tourist attractions or spent their free time in bars, Ralph went out to meet the people of the countries where he was stationed. An outgoing man with a friendly easy going manner, he became acquainted with local people and was invited into their homes and to local celebrations, events and holidays. Generally he picked up enough local language to travel, speak and get along.

For instance, he spent a considerable amount of time in Japan where he was able to travel and become familiar with local customs. "I climbed Mount Fuji three times," he said. "There's an old Japanese saying: The man who goes to Japan and does not climb Mount Fuji is a fool. He who climbs Fuji twice is twice a fool. I did it three times, so I guess that makes me a blooming idiot!" Ralph doesn't take himself too seriously. He adds, "You climb all night, just to get up there for sunrise. Sunrise at the top of Mount Fuji is absolutely gorgeous, unbelievable!"

While in Germany, Ralph says he took every opportunity to travel. "I went all through Germany, including Berlin, trips up and down the Rhine River, into the Black Forest, down through the Munich area, into the German Alps area, and just thoroughly enjoyed it." On other trips he went to Belgium, Holland, Switzerland, Italy and France. On an extended tour of Italy he saw Venice, Florence, Rome, Naples, Pompei, Sorrento and the Isle of Capri. He came back through Pisa and visited the Italian and French Rivieras and Monte Carlo. "Italy was fabulous," he says. "The architecture and the art work are just absolutely staggering."

Most people find Thule, Greenland, a remote, barren, frozen waste, said Ralph, but he made his one year stay there easier by getting to know the people and studying the natural wonders of the area. "There's a village of Danes just outside the Thule area," he said, "and I was invited to their homes and parties. We visited some Eskimo

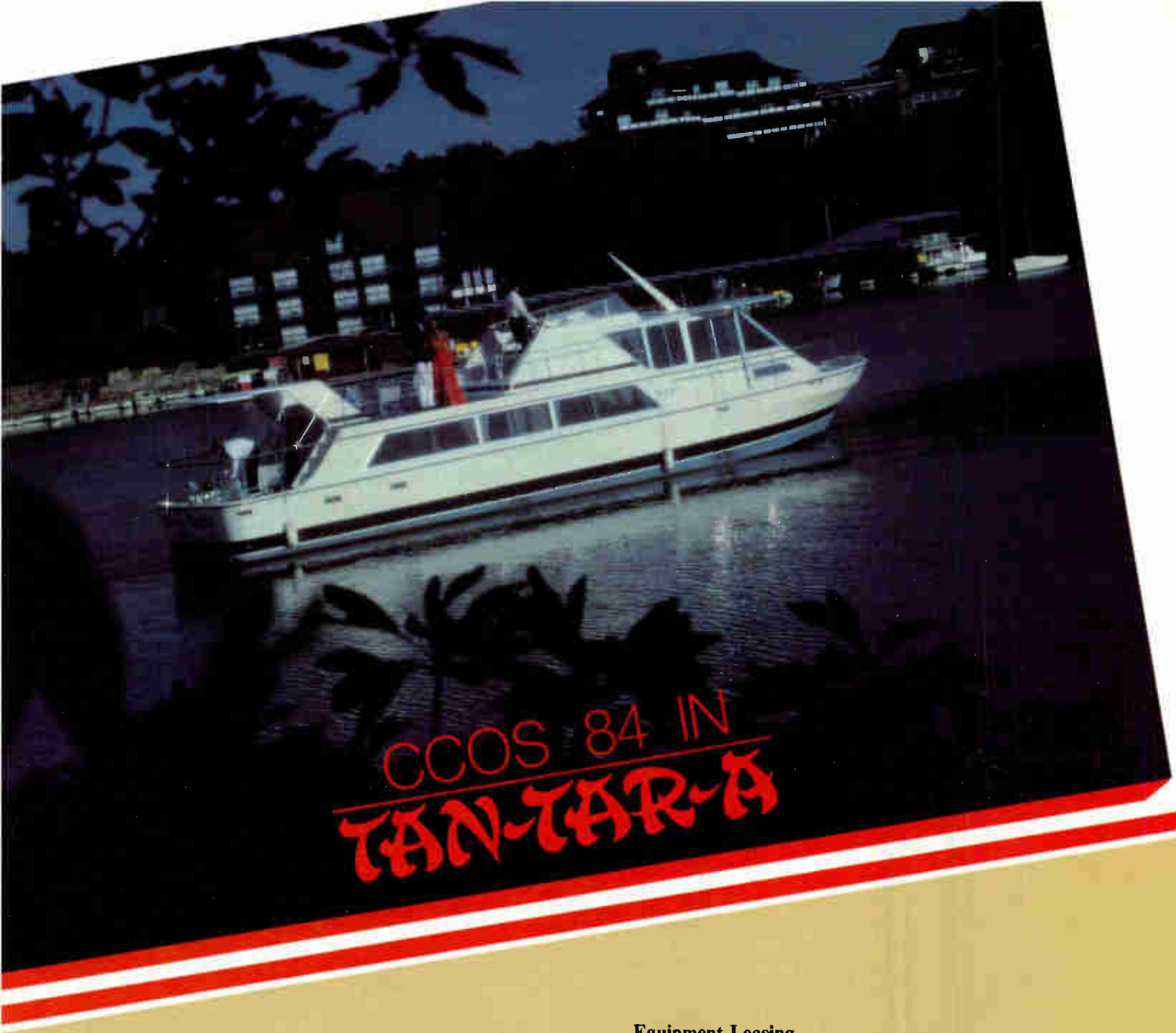
villages, and I went out into the fiord, walking on the ice. We went all over the area, looking at strange creatures of the North, (such as) polar bears, walrus and the two most predominate animals up there, the Artic fox and the Artic hare." According to Ralph, since there is no vegetation in the area to speak of, the rabbits are carnivorous. He says, "They eat the Artic fox. And the fox eat the hare. Very interesting situation."

While there he worked with the Armed Forces radio and television station and did volunteer work as a disc jockey on three programs a week.

These days, for quiet, peaceful solitude, Ralph and Patti retreat to their time share vacation chalet near Blowing Rock, North Carolina. It is a small development with widely scattered units that are built on mountainsides and surrounded by native trees. There's no television or telephone. Evenings are usually cool enough to light a fire and they listen to the radio and read. Days they go fishing, hiking, and horseback riding. It's an emerald mining area, so just for the fun of it they gave mining a try and came away with a few emeralds.

Ralph records his adventures on movie film. "I'm not the kind that takes movies of family and children and those things. I take movies of where I've been and what I've seen that I want to remember," he said. A Haimowitz party often includes viewing these films by popular demand. Other parties are built around water volley ball games (this is a regular feature in his neighborhood) and a few magic tricks, again by popular demand. He gets a great deal of pleasure out of amusing his friends, and Ralph's expertise as a magician is well known to CATA members as well as to his other friends.

This popular, sincere man, with amazing stamina and extensive interests may not want to be called the resident genius or an expert, but there is no doubt Ralph Haimowitz has had a positive impact on the cable television industry and is widely admired and respected for his contributions. □



CCOS 84 IN TAN-TAR-A

As the times comes near for the CCOS '84 program, the schedule is developing into three days, jam-packed with the latest in technological information and cable "know-how". As time will not permit the participants from attending each one of the sessions, listed below are the panel topics as planned, along with the personnel presenting these sessions:

Pole Attachments
Paul Glist, Hogan & Hartson

Theft of Service
Bill Cologie, PA CATV Association

EEO & Aeronautical Frequency Filings
Wes Hepler, Cole, Raywid, Braverman

Feedforward
Jay Staiger, Magnavox CATV
Don Pisarcik, C-COR Electronics

Equipment Leasing
Ron Demer, Phoenix Cable

Auditing Cable Systems
Doug Houston, Audi Cable

Buying & Selling Cable Systems
Rick Michaels, Communications Equity

Home Satellite Installation VS. Cable
Woodie McHargue, Fayette Cablevision

Telco & Cable Joint Interests
Marshall Borchert, Mid-State Community

Shared Revenue, Cable & Telco
Larry Lehman, Southwestern Bell

Status Monitoring
Bill Gilbert, Texscan Corporation

Cost of Programming
Dean Waite, C-TAM, Nory LeBrun, Turner Broadcasting
Jim Ballard, ESPN

Multi Satellite Dishes & Retrofit
Ernie Larson, Larson Electronics
Dean Dixon, Anixter-Mark
Tom McAllister, Microdyne

Rebuild and Upgrade
Fred Rogers, Quality RF

Signal Leakage
Bob Luff, UA Cablesystems

Signal Leakage Demo
Ralph Haimowitz, CATA Engineering Office

FCC Compliance
Bob Vogel, Showtime Entertainment

The Economics of Addressability
Bob Rodgers, TCA

Tiering & Sales Formats
Seymour Kaplan, Lifetime

And, CATJ is told that there is more planned as of this writing!!

That's a lot of information to get into a short period of time, for sure, but the concept at this year's version

Photos courtesy of Tan-Tar—A Resort

New Revenue Sources
Bob Schloss, Omega Communications

C-SPAN
Ed Allen, Western Communications

Local Insertion
Ken Doyle, Cable Graphic Sciences

Low Cost Interconnect
Dean Peterson, SoWest Missouri CATV

Programs on Smaller CATV Systems
Buzz Hassett, Warner Amex Satellite

Addressability Revisited
Linda Arnold, Pioneer Communications

Converters: On or Off the Premises?
Jim Emerson, AM Cable TV

A Case for Off-Premise Converters
Raleigh Stelle, Texscan Corporation

What In The World Is Up?
Lynn Watson, Showtime Entertainment/
The Movie Channel

Two Degree Satellite Spacing
Mark Elden, Home Box Office

Terrestrial Interference
Mike Aloisi, Showtime Entertainment,
The Movie Channel

Addressability/Tiers and Sales Formats
Dave McDonald, NYT Cable
Dick Gessner, Massillon Cable TV

of CCOS is that each of the above named experts will make introductory comments, and then each has been assigned a specific time in the "Consultant's Corner" to explore further their particular subject; this corner will be on the exhibit floor.

Another new concept is a demonstration area on the exhibit floor. At specified times during the exhibit hours, there will be demonstrations of equipment and/or services that directly relate to subjects presented during the panel discussions.

And that brings up the respected group of suppliers who will again be supporting CATA's CCOS exhibit floor; you are urged to save your purchasing until you can visit with them in person and place your orders during the exhibit hours — please visit all the exhibitors and let them know by your purchasing power how much their support and presence at CCOS is appreciated.

Again, CATA has chosen a most picturesque and delightful setting for the annual get-together, and we feel all participants and their families are going to be happily satisfied with the beautiful Tan-Tar-A facility. It seems that each property that has been chosen through the years has had that special unique attraction that made it seem like the "best" one, and Osage Beach, Missouri, will be put at the head of that list. The resort offers so many summer recreational facilities for all ages with two championship golf courses, tennis courts, racquetball, five different pools, spa, sauna, trail riding, and every imagineable water vehicle — from waterskiing, sailing, and fishing to the paddleboats available at the dock. The lake covers 98 acres of beautiful shoreline, and it is indeed a very restful and ►

relaxing atmosphere. Also available are billiards, bocci ball, miniature golf, and (okay, parents, get your coins ready!!) a fully equipped game room. That means all kinds of video games.

Extra services are offered there for families needing nursery and babysitting, upon special request through the hotel desk. Lots of free indoor/outdoor parking is available for those with vehicles. You'll find beauty shops and specialty shops full of interesting items to gather for souvenirs.

It was our pleasure to visit this property several years ago as the CATA Selection Committee searched for the most likely place in 1984, and it was a very easy recommendation to make to the CATA Board. CATA welcomes the 1984 participants and their families — the suppliers and their families to Tan-Tar-A and CCOS '84 and encourages those of you who may not have yet made up their mind about coming to make every effort to do so. The program is loaded with helpful information for better running your cable systems, and the scenery will again provide enough relaxation for you and family to make it another memorable vacation/work package for you. But register today — time is running out — and you really won't want to miss this one in beautiful Osage Beach, Missouri.

(For registration information, contact CATA at (703) 691-8875.)

CCOS 84 EXHIBITORS

Arts & Entertainment Network
Augat (Broadband Engineering)
Avtek, Inc.
Bethlehem Towers
C-Cor Electronics
CWY Electronics
Cable Graphic Sciences
Capscan/Burnup & Sims
Catel Telecommunications
Christian Broadcast Network
Comprehensive Cable Enterprises
ComSonics
Data Management Co.
The Disney Channel
Ditch Witch
The Drop Shop, Ltd.
ECA/Manufacturing Division
EHD Associates
ESPN
Eastern Microwave
Group W Satellite
Harmon & Company
Home Box Office
Hughes Microwave
Ind. Co. Cable TV
KMP Computer Services
Klungness Electronic Supply
Larson Electronics
Lifetime
Lindsay America
Magnavox CATV Systems
Microdyne Corporation
Panasonic
Pioneer Communications
Quality RF Services
Sachs Communications
Showtime/The Movie Channel
Southern Satellite
Standard Communications
Superior Electronics
Texscan Corporation
Times Fiber
Toner Cable Equipment
Triple Crown Electronics
Turner Broadcasting
United Video, Inc.
Wavetek Indiana
Zenith Electronics Corp.

CCOS '84 SCHEDULE

(Subject to Change)

Sunday, July 15

9:00 a.m. - Noon
CATA BOARD/DIRECTORS
First Session

1:00 - 5:00 p.m.
REGISTRATION
Windgate Foyer

2:00 - 5:00 p.m.
CATA BOARD/DIRECTORS
Second Session

2:00 - 6:00 p.m.
INSTALLATION OF EXHIBITS
Windgate North & Central

6:00 - 9:00 p.m.
ADVANCE REGISTRATION PICK-UP ONLY
Windgate Foyer

Monday, July 16

8:30 a.m. - 8:00 p.m.
REGISTRATION
Windgate Foyer

9:00 a.m. - 5:00 p.m.
INSTALLATION OF EXHIBITS
Windgate North & Central

1:00 - 3:45 p.m.
EDUCATIONAL PROGRAMS

4:00 - 5:00 p.m.
CATA Membership Meeting

6:00 - 8:00 p.m.
EXHIBITORS' OPENING RECEPTION-Offical Opening of Exhibit Hall
Windgate No. & Central

8:00 p.m.
EXHIBIT HALL CLOSES

Tuesday, July 17

8:30 a.m. - 5:00 p.m.
REGISTRATION
Windgate Foyer

9:00 a.m. - Noon
EDUCATIONAL PROGRAMS

Noon - 5:00 p.m.
EXHIBITS OPEN

1:00 - 1:30 p.m.
DEMONSTRATION
FCC Compliance
Exhibit Hall

2:00 - 4:00 p.m.
CONSULTANT'S CORNER
Exhibit Hall

4:00 - 4:45 p.m.
DEMONSTRATION
Signal Leakage
Exhibit Hall

5:00 p.m.
EXHIBIT HALL CLOSES

Wednesday, July 18

8:30 a.m. - 3:00 p.m.
REGISTRATION
Windgate Foyer

9:00 - 10:30 a.m.
CATA 10th ANNIVERSARY BREAKFAST PROGRAM

10:45 - Noon
EDUCATIONAL PROGRAMS

Noon - 4:00 p.m.
EXHIBITS OPEN
Windgate North & Central

1:00 - 1:30 p.m.
DEMONSTRATION
Terrestrial Interference
Exhibit Hall

2:00 - 3:30 p.m.
CONSULTANT'S CORNER

2:30 - 3:15 p.m.
DEMONSTRATION
Signal Leakage
Exhibit Hall

4:00 p.m.
EXHIBIT CLOSES

DISMANTLING TO 8:00 p.m.

Thursday, July 19

8:00 a.m. - Noon
DISMANTLING AND REMOVAL OF EXHIBITS
Exhibit Hall
(Windgate)

□

Marian J. Gammey

CONGRATULATIONS

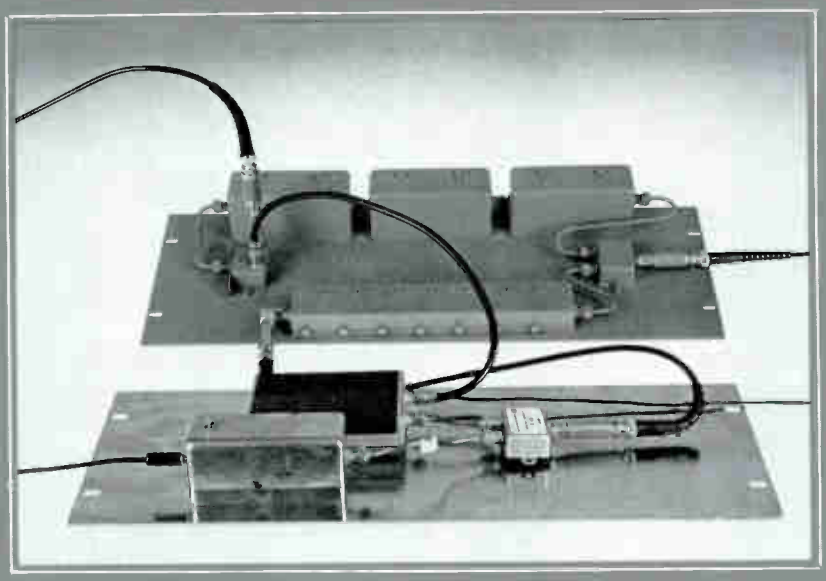
Effective in June, Marian J. Gammey, a familiar friend and advisor to cable industry buyers, along with Tom Pearman, has established a distributor's office for the T.R. Pitts Co. located in Iron Mountain, Michigan.

Together, Marian and Tom bring 28 years experience to this new venture, with Tom being very knowledgeable in headend set ups, working as a Senior Technician for TelePrompter for 13 years.

Marian, known to cable system buyers all over the country, has been in the distribution business for more than 12 years and knows cable products from hardware to electronics.

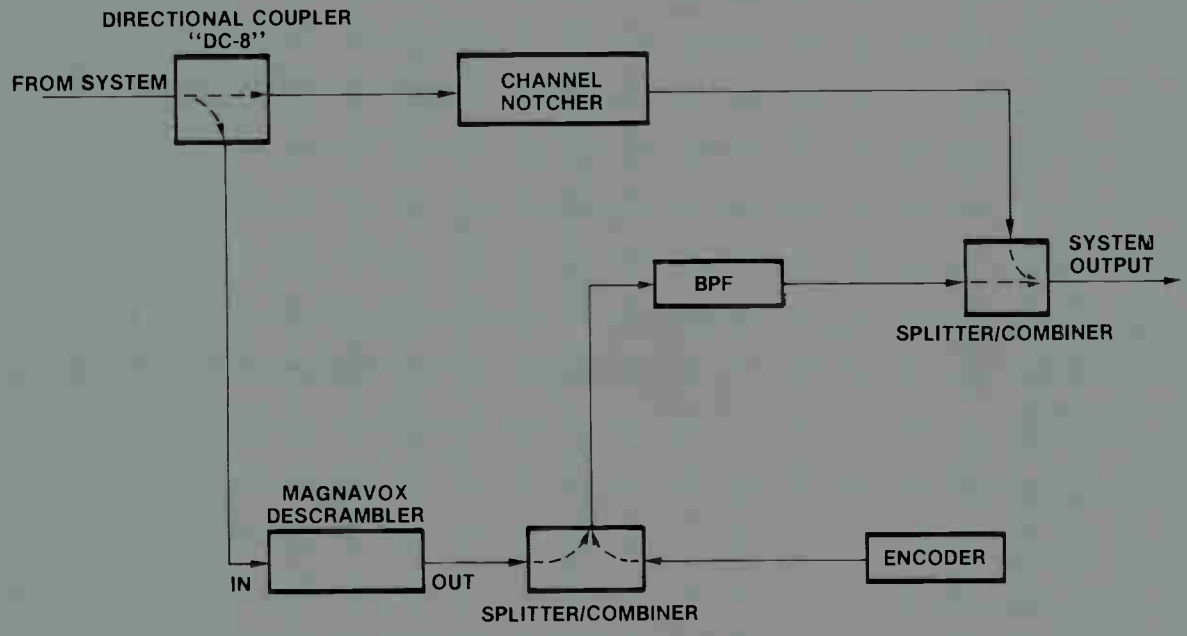
Their office has been established at 905B Washington Street, Iron Mountain, Michigan 49801; their WATS number is 1-800-772-9431. □

(cont. from P.11)



PICTURE OF EQUIPMENT

SCRAMBLING CONVERSION NETWORK SUITABLE FOR USE AT ENTRY TO MULTI-SUBSCRIBER BUILDING

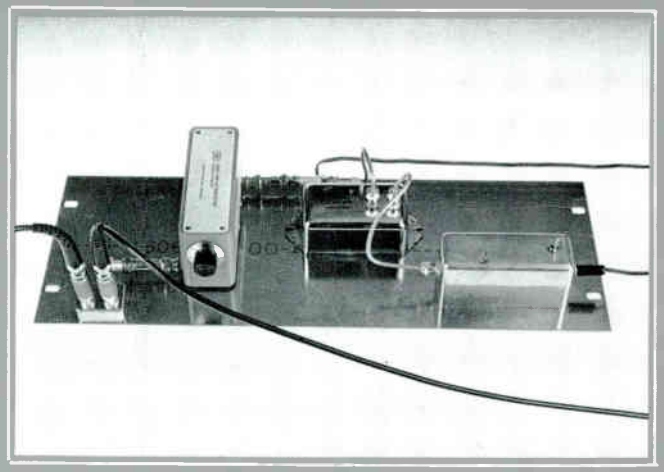


SCRAMBLING CONVERSION SCHEMATIC

ping. Positive trapping by-passes these problems by decoding at the TV set — regardless of the nature of the distribution system.

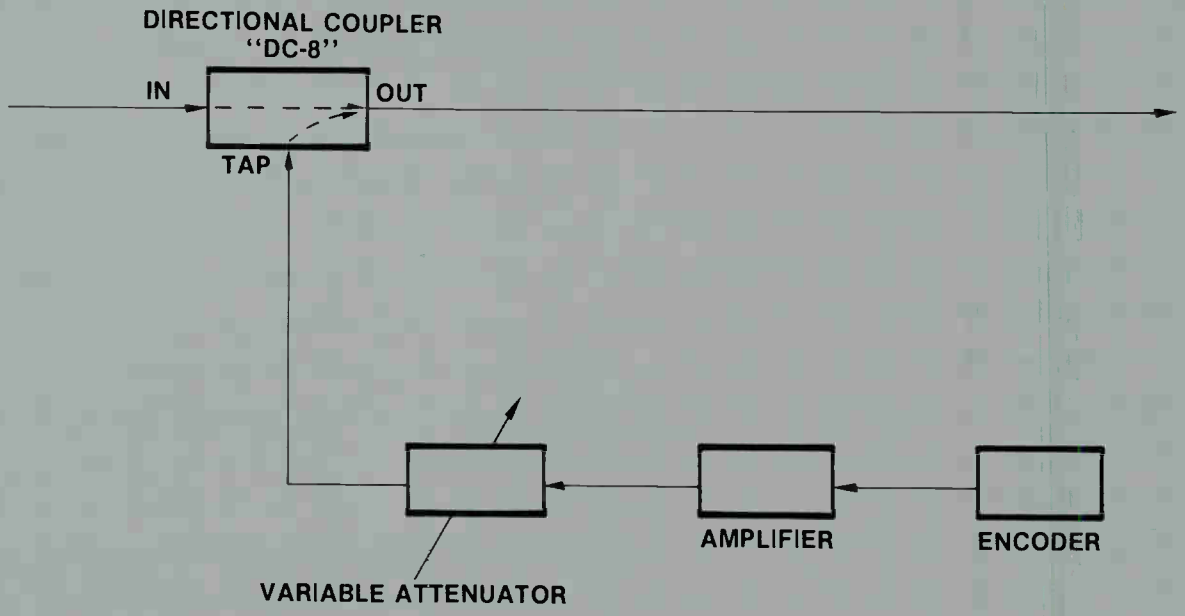
The Mechanics of Positive Trapping

The system is a simple, two-step process: jamming and decoding. A carrier is injected midway between the video and audio frequencies — usually 2.25 MHz above the picture carrier. This effectively scrambles the picture. It also destroys the sound — an advantage not shared by negative trapping. The carrier can be injected at baseband or channel RF. This latter option can be utilized to convert an unscrambled channel to a scrambled one at the entry to the multi-subscriber — where the property owner is selling TVRO premium, for example. Where the premium channel arrives scrambled by another method ►



PICTURE OF EQUIPMENT

PRACTICAL EQUIPMENT SET-UP FOR POSITIVE SCRAMBLING EITHER AT HEAD END OR AT MULTI-SUBSCRIBER ENTRY



SCHEMATIC OF POSITIVE SCRAMBLING HOOK-UP

(synch-suppression, for example), it can be decoded and rescrambled by the positive method for use in the building's distribution system. Installation of the decoding trap — an L/C device tuned to the jamming carrier — recovers the picture and sound.

Technical Comparison: Negative versus Positive Trapping

As mentioned earlier, the positive system kills the sound. This is not always the case for negative trapping. Because of the deep notch required for negative traps and the proximity of the trapped video and the lower adjacent sound carrier, the latter is attenuated. In current state-of-the-art low-cost negative traps, this attenuation increases with channel frequency. The positive system leaves adjacent carriers intact, including lower adjacent sound. Positive traps suffer less attrition and failure due to weather because they can be mounted inside the subscriber's home.

Availability of Positive Equipment

The basic positive system is patented[1] and variations of the head end jamming equipment is available from several non-exclusive licensees[2]. The positive decoding traps are available from numerous sources — being universally available for the low band channels

PRACTICAL LAB SET-UP SHOWING POSITIVE PAY TRAPPING

EQUIPMENT SCHEMATIC

(2-6) with a few CATV trap manufacturers also offering decoding traps for the mid band channels.

Acknowledgements

Many thanks to Carol Ryan for editing, Steve McIntosh for photography, Rich Green for schematics and Chris Bostick for the Cook sketch.

Footnotes

1. Patent #4,074,311 issued to Tanner Electronic Systems Technology, Inc.
2. Partial list of positive encoder suppliers:
   Tanner Electronics (TEST)
   Eagle Comptronics
   Pico
   Microwave Filter Company, Inc.
   Partial list of decoder trap suppliers:
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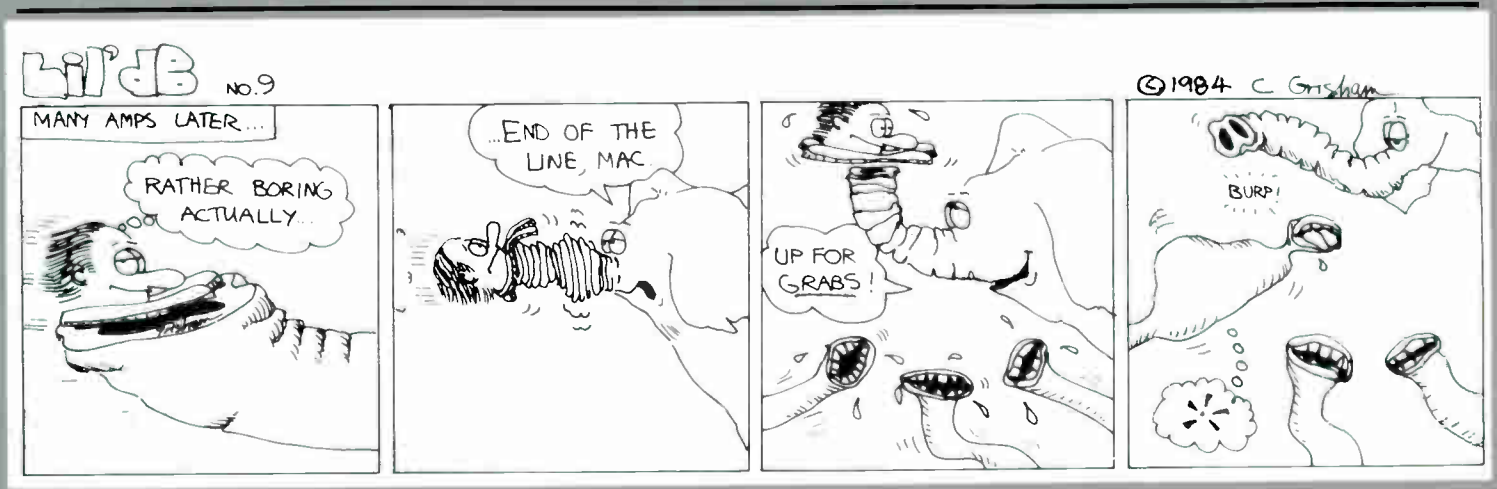
   TEST
   Microwave Filter Company, Inc. □



Emergency Override of Localized Areas Within CATV Systems.

By: Karl Poirer Triple Crown Electronics

One of the major innovations in CATV over the last few years has been the ability to provide **emergency communications.** This technology has seen more demand with the increased number of small CATV systems being constructed. Many of these systems see the need and opportunity to provide flood, fire, chemical spill, and other general hazard information. More recently, the concerns over high-rise fire dangers has brought about interest in this type of capability for MATV and SMATV systems.

In general, the operation of these systems, regardless of manufacturer, are fairly simple and quite similar. Typically, the override function is done at IF, with occasional use of baseband (generally more expensive). The override is usually voice only, and is performed in the following manner.

The control, in the hands of a city official (Fire Chief, Sheriff, Mayor etc.) is usually the telephone. This allows use of an unattended answering device at the head end to activate the transfer. Usually a security code device is incorporated to prevent unauthorized access. On receipt of the appropriate code, the telephone voice circuit is connected to an audio modulator, and generates a modulated IF signal. The IF signal, which has been distributed to various modulators and processors as an alternate IF signal, is then switched into the system. It is now possible to provide audio information to anyone listening or watching television within the CATV system. It is our feeling that there are areas of improvement which would enhance the capabilities for precise emergency communications.

Some of the obvious shortcomings of this type of override system are:

a) The potential for voice override only.
b) The requirement that television receivers be **on** during alert status.
c) The complete system override, when only certain

isolated areas within the system coverage area require emergency alert.

In particular, a present override system does not allow fire warning to an individual high-rise within the CATV area.

What was required, in order to allow a more capable system to develop, was a combination of technologies that would free the override system from the head end system. To this end, we have produced a system which has the flexibility and capability to overcome all of the basic constraints of the existing override methods.

The key to this solution lies in two fairly new products and their application. The first product introduces the CFMM/CFMD as an FM SCPC link within the telephone control link. This means that a DTMF control system (eg. Munroe) can be transported via cable without requiring a telephone line connection.

The second product: E_{LOG} (Emergency Local Override Generator) is a low cost package which can generate 12, 24, or 36 television channels modulated with visual and aural Emergency information. This device contains:

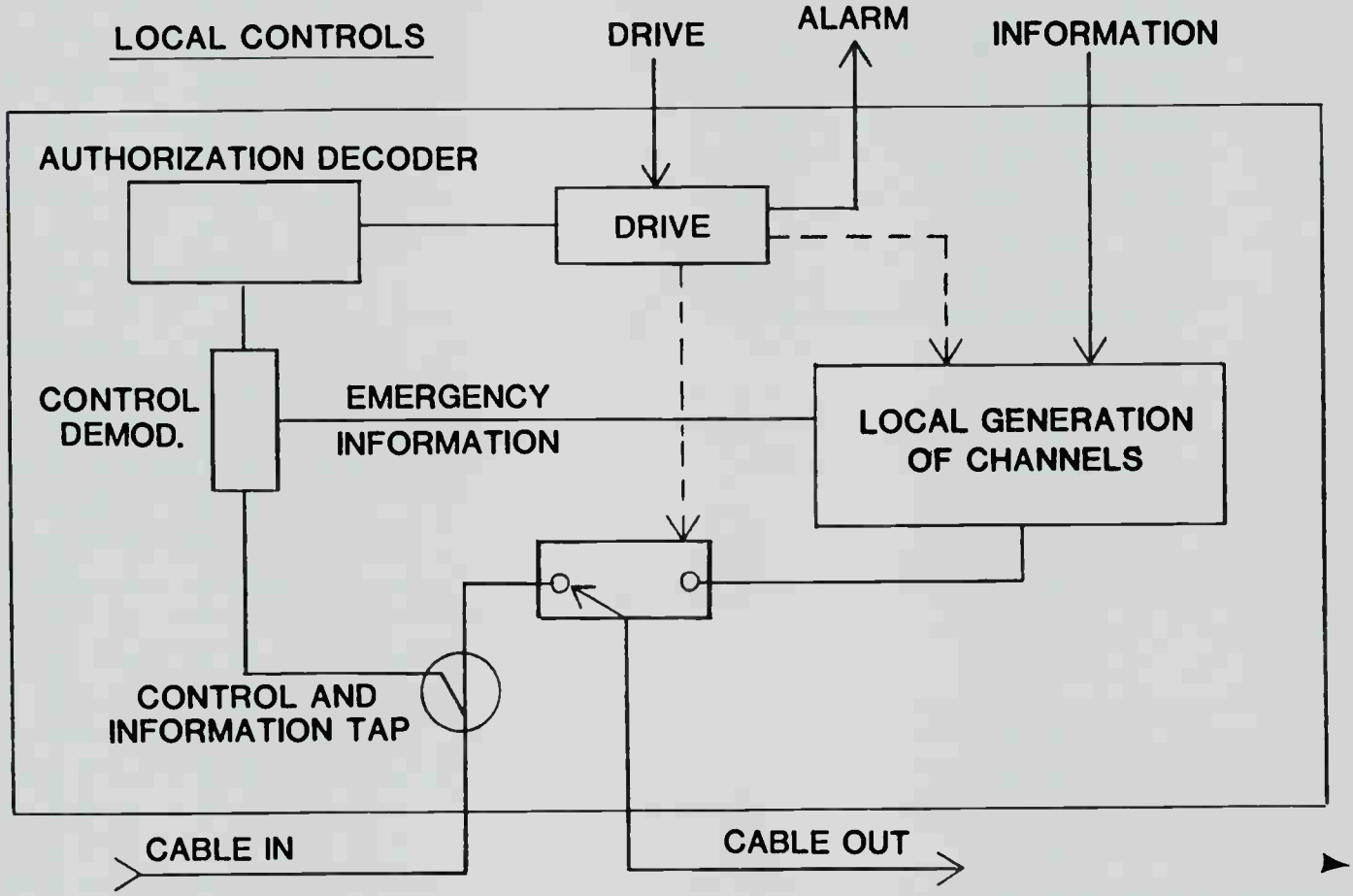
- Audio video modulator to IF
- 12, 24, or 36 IF to channel upconverters
- CFMD FM receiver/demodulator
- DTMF addressable decoder (Munroe)
- Broad band transfer switching
- local control switching (Visual, audible alarms etc.)

E_{LOG} can be employed to override a local hub, secondary cable system, isolated hotel or high-rise, or any other area which requires separate override capability. It is, in effect, a complete, remote head end, occupying only some 16"x14"x6" of space. (12 CHS).

In order to clarify the operation of E_{LOG}, outlined are three system configurations which could employ this technology.

1. Override of A CATV system which has not inherent override capability built in.
2. Local emergency communications to isolated areas within a cable system (e.g. flooding in one area).
3. Override of E_{LOG} equipped high-rise in metro area employing local and remote control.

FIGURE 1 BASIC E_{LOG} FUNCTIONAL BLOCK



The E_{LOG} system, shown in **Figure 1,** is only partially active in standby mode. The circuits which receive and detect the alert command, as well as the power supply system (110 volt or cable power), are operational while the override generating system is inactive. The cable/override transfer switch is normally in the "cable through" position under no power condition.

When an alert command is sent, and the proper authorization code is detected, the override drive function is activated. This function energizes the IF modulator and channel convertors and transfers the override switch to the internally generated channels. The emergency information appears simultaneously on all channels at the output of the E_{LOG}. In addition, external drive is provided to activate auxiliary equipment such as visual alarms, emergency lighting etc.

CONTROL FUNCTION

Access to the E_{LOG} can be performed by 4 basic methods which can be employed separately or in combinations.

The control methods are:

1) Direct hard wire switching.
2) DTMF (Dual Tone) via telephone pair.
3) DTMF via FM carrier either downstream (88-108MHz) or upstream (5030MHz).
4) DTMF via FM carrier directly broadcast to the E_{LOG} (significant potential for direct access by fire departments etc.)

SYSTEM CONFIGURATIONS

The addition of override capability to an existing CATV head end can be very complicated and costly depending on the type of existing processors involved. Even processing equipment with IF or video transfer switching requires significant extra wiring and hardware, while processors without switching may be impossible to adapt to override systems.

(See Figure 2 page 40)

The addition of E_{LOG} **(Figure 2)** is about as simple as the job can get. The E_{LOG} is connected between the head end and the CATV system, levels are adjusted to balance the CATV system and override generator outputs, and the system is operational. In most cases, 12 channel override capability is adequate but extra banks of 12 channels can be paralleled as required. The basic transfer switch operates to 475MHz, and normalized insertion loss of E_{LOG}, even in power down mode, is less than 1dB and **totally passive** thus, no distortions are introduced into the system.

The addition of E_{LOG} to a high-rise or multi-dwelling complex **(Figure 3)** either MATV, SMATV, or cable fed, is equally simple.

(See Figure 3 page 40)

IN FACT, E_{LOG} IS PRESENTLY THE ONLY METHOD OF ADDING OVERRIDE CAPABILITY TO AN EXISTING CABLED HIGH-RISE.

Control can be established as a combination of DTMF via cable, local control from a hotel front desk, or telephone from a central complex office.

The emergency drive output can be employed to trigger visual alarms for hearing-impaired residents, bells and/or speakers for blind residents, or any other special applications.

THE POTENTIAL FOR LOCALIZED CONTROL

In the normal, E_{LOG} configuration, the **ACCESS** is controlled by a DTMF code transported via FM carrier or telephone pair.

This access code can be employed to address E_{LOGS} in selected areas of a CATV system.

(See Figure 4 page 41)

The example shown **(Figure 4)** would be the application for flood warning in a CATV system where only part of the area served is in danger (cross hatched area). During flood emergency, it is possible to call and activate **only** those E_{LOGS} serving the affected area (e.g. A & B) without sending alert information to the entire system. If, as in this example, the flood hazard is known and specifically targeted, it is possible to give all flood area E_{LOGS} identical access codes, so that a generalized flood warning immediately activates all and only the endangered areas. This same approach can be applied to many situations, such as separate towns fed from common head ends, or danger area fed from more than one cable system.

(See Figure 5 page 41)

Figure 5 shows a system whereby the appropriate access code directs the override information and control to the desired area. In this example, frequency diversity is employed whereby all E_{LOGS} in area (1) operate on F_1, and all in area (2) operate on F_2. We can just as easily use selective code numbers and common frequencies for the separation.

VIDEO/AUDIO INFORMATION

Audio

The audio information required for the system can be delivered to the E_{LOG} via the same media as the control information. In the case of FM transported DTMF, the FM link is fully audio cabable, and the combined audio/control sender can be a telephone handset. For localized control, a control system consisting of a switch, microphone, and audio preamplifier can serve the function from a hotel front desk or office. It is also possible to equip a dedicated (e.g. flood warning) unit with a pre-taped cassette message which would activate when required. **(Figure 6)**

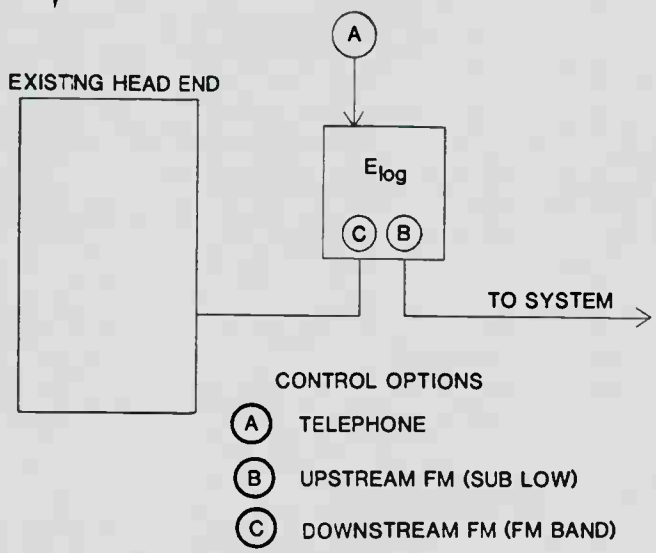
(See Figure 6 page 41)

Video

The video alert portion of the message can be delivered to the E_{LOG} in 3 ways.

1) Video is transported on the cable system via unused

ADDITION OF E_{LOG} TO EXISTING CABLE SYSTEM FIGURE 2



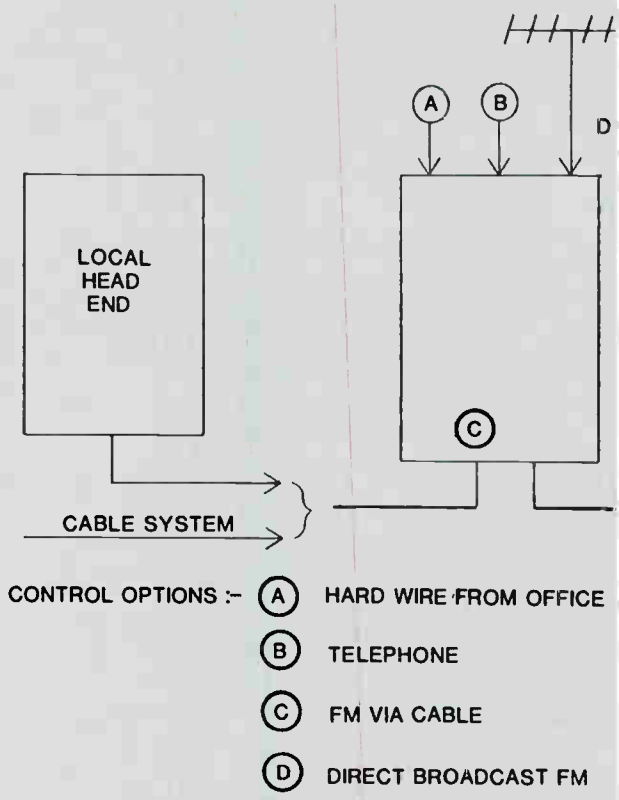


FIGURE 3 ADDITION OF E_{LOG} TO CABLE HIGH RISE OR SMATV SYSTEM

channel(s) from the head end or cable office. The E_{LOG} modulator is replaced with a processor which receives this signal and processes it to the standby generator.

2) Local generation: Video from a character generator or camera is connected to the E_{LOG} from hotel front desk.
3) Self generated: A mini character generator capable of 1-3 fixed messages (e.g. FIRE, FLOOD, ALERT) is installed in the E_{LOG} housing. DTMF control selects the appropriate message for display. **(Figure 7)**

(See Figure 7)

The flexibility of the E_{LOG} concept allows many levels of service to be provided from the simple override of a small cable system to a combined multi region system with co-ordinated local authority, fire department and FCC emergency communications broadcast service access.

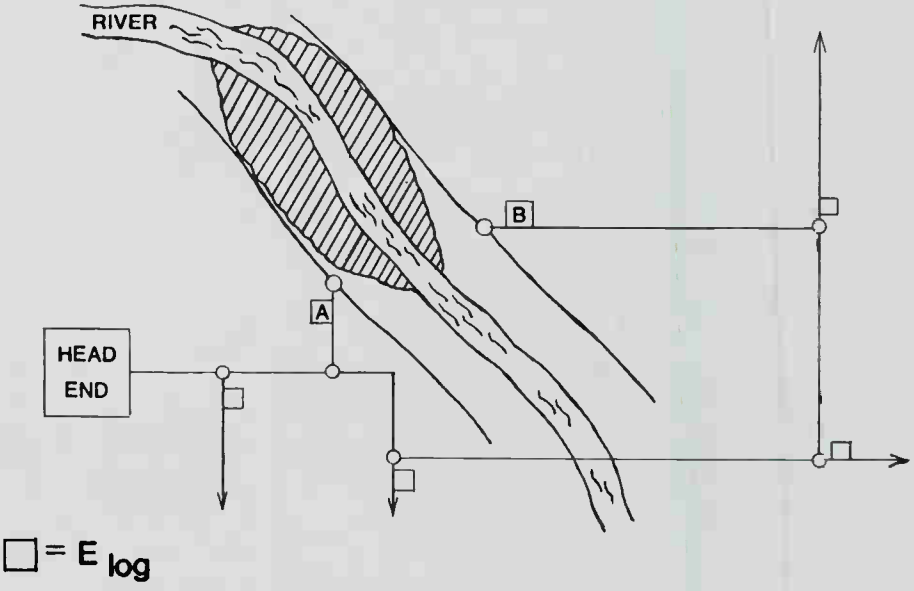


FIGURE 4 EXAMPLE OF E_{LOG} SELECTIVE EMERGENCY CONTROL (FLOOD WARNING DIRECTED TO E_{LOG}'S AT LOCATIONS A & B ONLY)

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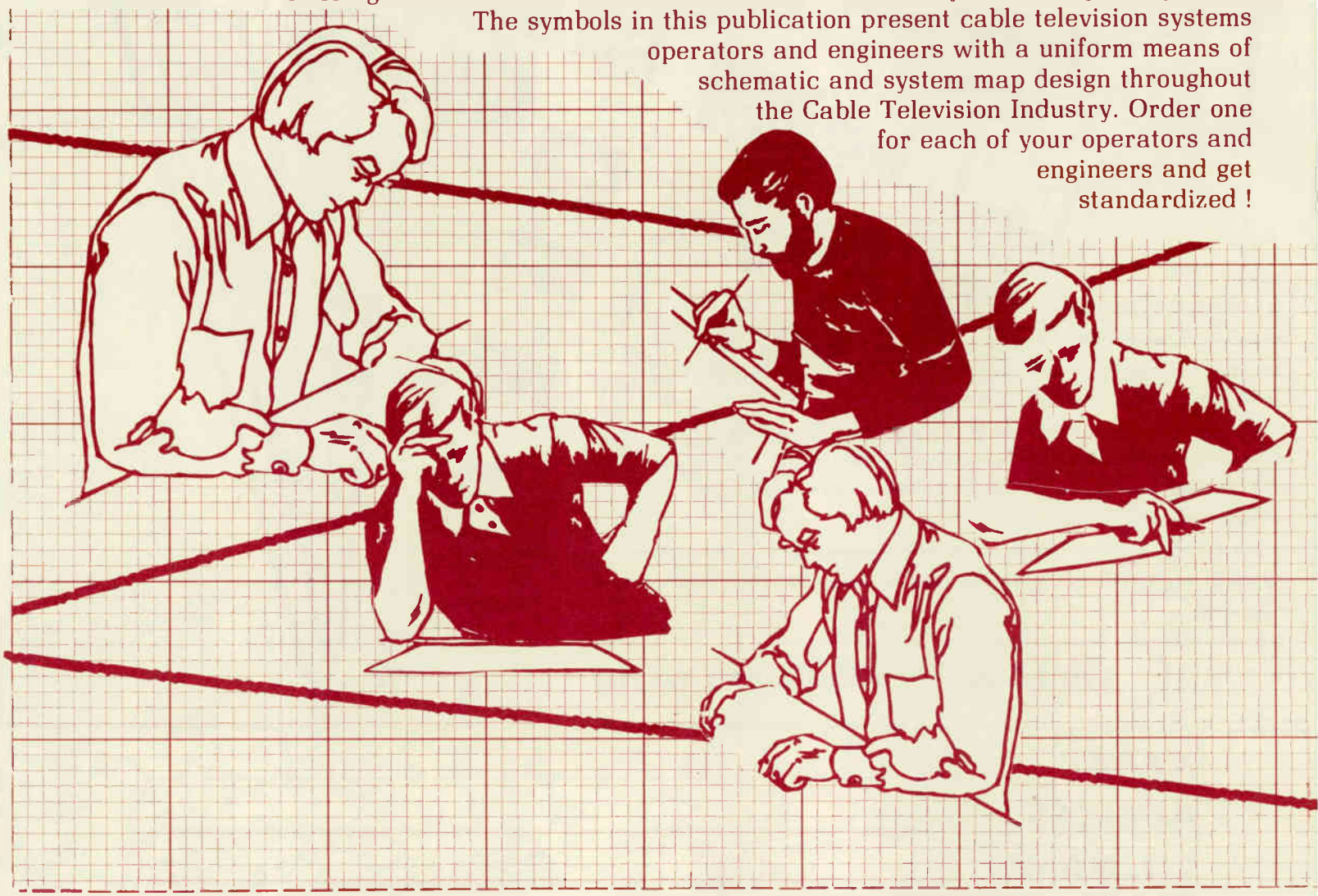

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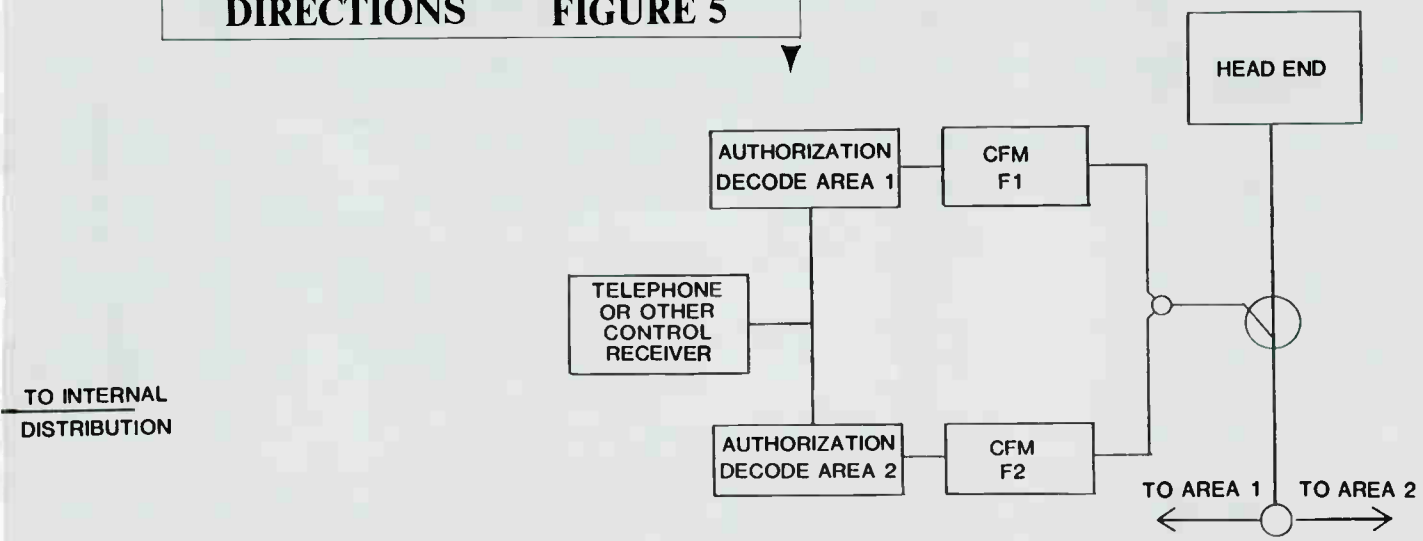
SEPARATION OF CONTROL DIRECTIONS FIGURE 5



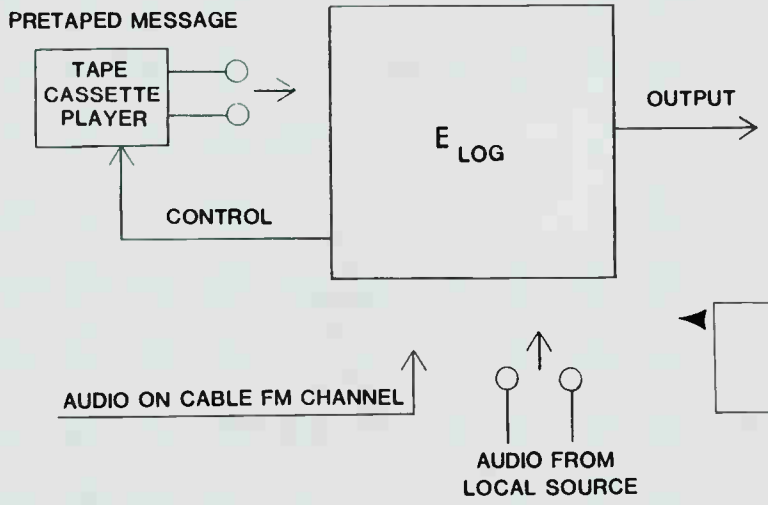
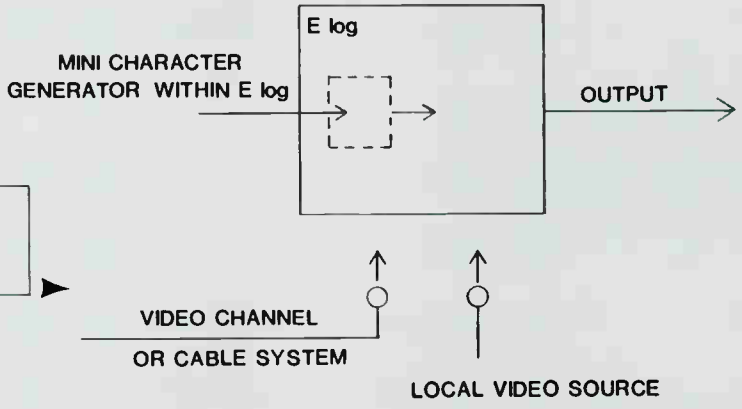


FIGURE 6 AUDIO INPUT OPTIONS



VIDEO INPUT OPTIONS FIGURE 7

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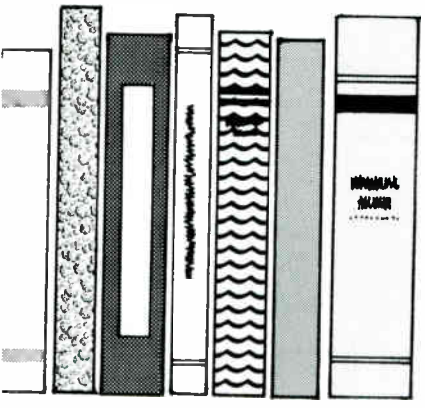

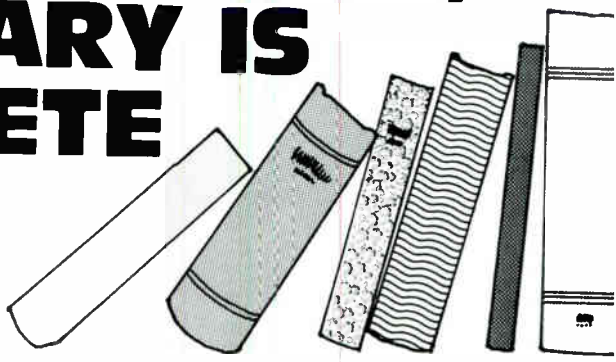

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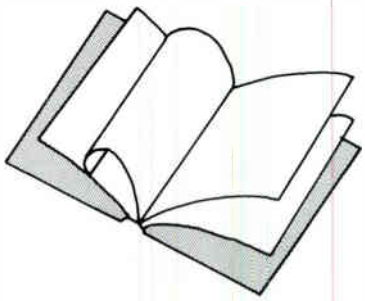

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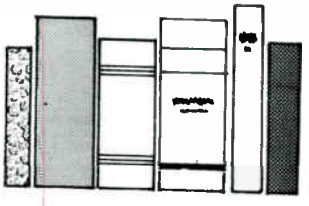

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Middlesex, NJ 08846
201—356-8940

Klungness Electronic Supply,
P.O. Box 547,
107 Kent Street,
Iron Mountain, MI 49801
1-800—338-9292
1-800—682-7140 (Mich)
(D1, 8, S2, 8)

LRC Electronics, Inc.,
901 South Ave.,
Horseheads, NY 14845
607—739-3844
(M7)

Lash-Ade Company,
P.O. Box 147,
Guntersville, AL 35976
205—582-6333
(M9 Cable Protector,
S9 Equipment Repair)

Larson Electronics,
311 S. Locust St.,
Denton, TX 76201
817—387-0002
(M9 Standby Power)

Lifetime
1211 Avenue of the
Americas
4th Floor
New York, NY 10036
212—719-7230
(SZ9, Programming)

Lindsay America Inc.
P.O. Box 15775
1202 B West 19th St.
Panama City, FL 32405
904—769-2321

Distributors	Manufacturers	Service Firms
D1—Full CATV equipment line	M1—Full CATV equipment line	S1—CATV contracting
D2—CATV antennas	M2—CATV antennas	S2—CATV construction
D3—CATV cable	M3—CATV cable	S3—CATV financing
D4—CATV amplifiers	M4—CATV amplifiers	S4—CATV software
D5—CATV passives	M5—CATV passives	S5—CATV biling services
D6—CATV hardware	M6—CATV hardware	S6—CATV publishing
D7—CATV connectors	M7—CATV connectors	S7—CATV drop installation
D8—CATV test equipment	M8—CATV test equipment	S8—CATV engineering
D9—Other	M9—Other	S9—Other

Note: Associates listed with * are Charter Members.

M/A Com Prodelin, Inc.,
P.O. Box 100
Claremont, NC 28610
704—464-4141
(M2, 3, 7, S2)

McCullough Satellite Equipment,
Route 5, Box 97,
Salem, AR 72576
501—895-3167
(M2, 9, D3, 4, 6, 7)

Microdyne Corporation,
471 Oak Road,
Ocala, FL 32672
904—687-4633
(M9 Satellite TV Receivers)

* **Microwave Filter Co.,**
6743 Kinne St., Box 103,
E. Syracuse, NY 10357
1-800—448-1666
(M9 Bandpass Filter)

Octagon Scientific, Inc.,
4 Adler Drive,
East Syracuse, NY 13057
315—437-4405
(M9)

Power and Telephone Supply Company, Inc.,
530 Interchange Drive N.W.,
Atlanta, GA 30336
1-800—241-9996
(D1)

Quality RF Services, Inc.,
825 Park Way, Suite 3,
Jupiter, FL 33458
305—747-4998
1-800—327-9767
1-800—433-0107 (In Florida)
(M4, S9)

RMS Electronics,
50 Antin Place,
Bronx, NY 10462
1-800—223-8312
1-800—221-8857 (Poleline)
(M4, 5, 6, 7, 9)

Sadelco, Inc.,
75 West Forest Ave.,
Englewood, NJ 07631
201—569-3323
(M8)

Showtime/The Movie Channel, Inc.
1633 Broadway,
New York, NY 10019
212—708-1600
(S4)

Satellite Syndicated Systems, Inc.
P.O. Box 470684
Tulsa, OK 74147
918—481-0881
(S9)

Superior Electronics Center,
2010 Pine Terr.,
Sarasota, FL 33581
813—922-1551
(M4, S9)

Teledac, Inc.,
1575 Taschereau Blvd.,
Longueuil,
Quebec, Canada J4K 2X8
514—651-3716
(M9 Character Generators)

Tele-Wire Supply Corp.,
7 Michael Ave.,
East Farmingdale,
NY 11735
516—293-7788
(D1, 2, 3, 5, 6, 7, 8, 9)

* **Texscan Corp.,**
3102 N. 29th Ave.,
Phoenix, AZ 85017
602—252-5021
(M9 Bandpass Filters)

* **Times Fiber Communications,**
358 Hall Avenue,
Wallingford, CT 06492
1-800—243-6904
(M3)

Tocom, Inc.,
P.O. Box 47066,
Dallas, TX 75247
214—438-7691
(M1, 4, 9 Converters)

* **Toner Cable Equipment, Inc.,**
969 Horsham Rd.,
Horsham, PA 19044
1-800—523-5947
In PA. 1-800—492-2512
also 1-800—523-5947 (PA)
(D2, 3, 4, 5, 6, 7)

Triple Crown Electronics, Inc.,
4560 Fieldgate Dr.,
Mississauga, Ontario,
Canada L4W 3W6
416—629-1111
Telex 06-960-456
(M4, 8)

Turner Broadcasting System,
1050 Techwood Dr.,
Atlanta, GA 30318
404—898-8500

Tyton Corp.,
P.O. Box 23055,
Milwaukee, WI 53223
414—355-1130
(M6, 7)

United Press International,
220 East 42nd St.,
New York, NY 10017
212—682-0400
(S9 Automated News SVC.)

United Video, Inc.,
3801 South Sheridan Rd.,
Tulsa, OK 74145
1-800—331-4806
(S9)

Viewstar, Inc.,
705 Progress Ave.,
Unit 53,
Scarborough,
Ontario, Canada M1H 2X1
416—439-3170
(M9 Cable Converter)

Vitek Electronics, Inc.,
4 Gladys Court,
Edison, NJ 08817
201—287-3200

Walsh, Walsh, Sweeney & Whitney, S.C.
P.O. Box 1269,
Madison , Wi. 53701
608—257-1491
(S9)

Warner Amex Satellite Entertainment Corporation,
1211 Avenue of the Americas,
New York, NY 10036
212—944-4250
(S4)

* **Wavetek Indiana,**
5808 Churchman,
Beech Grove, IN 46107
1-800—428-4424
TWIX 810—341-3226
(M8)

Weatherscan,
Loop 132,
Throckmorton Hwy.,
Olney, TX 76374
817—564-5688
(D9, Sony Equip. Dist., M9 Weather Channel Displays)

Western Towers
Box 347,
San Angelo, TX 76901
915—655-6262/653-3363
(M2, 9 Towers)

Zenith Radio Corp.
1000 N. Milwaukee Ave.
Glenview, IL 60025
312—391-8195
(M1, 6) □

Showcase

SCIENTIFIC-ATLANTA INTRODUCES COMPLETE LINE OF FEEDFORWARD AMPLIFIERS

Scientific-Atlanta has introduced its Series 6800 feedforward amplifiers with field interchangeable gain blocks for ease of maintenance. These feedforward gain blocks permit on-line testing and replacement, virtually eliminating the need for returning modules to the factory for repair. In addition, the new amplifiers are compatible with existing trunk housing which can be easily upgraded for feedforward.

Feedforward amplifier benefits include distortion improvement of 18dB to 20dB over standard push-pull electronics and expanded bandwidths up to 550 MHz. Applications for feedforward products include new builds and upgrades.

"These amplifiers offer the cable operator feedforward performance with push-pull simplicity," says Patrick M. Miller, distribution products marketing manager. "We felt this to be vitally important when designing the feedforward amplifiers."

Included in the new feedforward product line are feedforward trunks, bridgers and distribution amplifiers. The power supply has built-in positive transient and short circuit protection. Trunks are available with 22, 26 or 30 dB gain. Distribution amplifiers are available with 32 dB gain or 30 dB gain with optional AGC.

For additional information contact: Patrick M. Miller, Marketing Manager, Distribution Products (404) 925-5462. •

TIMES FIBER COMMUNICATIONS DEMONSTRATES MINI-HUB II PRODUCT LINE

Times Fiber Communications, Inc. (TFC) demonstrated its newest cable television distribution system . . . **Mini-Hub II™** in Alameda, California. The coaxial cable based star switched network was shown against the background of TFC's fiber optic Mini-Hub I system which is being installed for United Cable Television to pass all 24,000 homes in this California city.

In his remarks at the press conference, Colin J. O'Brien, Executive Vice President of TFC, said, "Here in Alameda we have proven that our star switched system is the most cost effective way of supplying two-way interactive cable television services. We can now offer in the Mini-Hub II the same system design and computer software for any operator who is providing one-way services and wants the advantages of off-premise equipment. All at a cost comparable to in-house converters."

Mr. O'Brien added, "Our star-switched network designs greatly reduce the amount of electronics in a cable television system. This means fewer service points and substantially lower maintenance cost. In addition, virtually all the active electronic components are accessible any time in the day or night with no need for a technician to get into a subscriber's home."

The Mini-Hub II's design permits a cable operator to install an addressable off-premise system to meet current franchise requirements at today's cost. In the future the system is modularly upgradeable to meet the needs for additional services which the subscribers may want. The Mini-Hub II offers minimum initial installation cost, lower maintenance and operating costs and provides complete security for the system components and signals.

The Mini-Hub systems use computer driven switches located outside the home to distribute cable television service to subscribers. To obtain programs or other services, the subscriber uses an inexpensive keypad to request the desired channel from the remote switch. The computer's addressable memory determines if the service is authorized or paid for. If it is, the Mini-Hub transmits only the authorized channel into the home.

A computer at the cable operator's main office controls the remote switches and also performs diagnostic and billing functions. The Mini-Hub star switched design has the advantages of virtually eliminating the theft of service and places the expensive electronics where it is safe from tampering, theft or damage.

The Mini-Hub I is a fiber optic two-way addressable system. Its features include pay-per-view, parental lock, voting and other interactive services such as shop-at-home and teletext. The Mini-Hub II product line is based on this over-all design and uses the same computer software. In its simplest version it is a one-way addressable system, using coaxial cable drops, which also has pay-per-view and parental lock. The Mini-Hub II's modular design permits the cable operator to upgrade the system to include other features up to and including fiber optic two-way capability.

Speaking about the Mini-Hub I system in Alameda, Barry Wilson, Vice President of Operations for United Cable Television, said, "Based on our experience with the system so far, we are optimistic that we will achieve the maintenance and operating cost savings that we projected. We are very impressed with the quality of Times Mini-Hub equipment, too". He added, "We like the fact that we have complete security for the system components".

Times Fiber Communications is headquartered in Wallingford, Connecticut, and is an affiliate of Insilco Corporation. The company is a major supplier of coaxial cables for the cable television industry. The company also designs and manufacturers cables and cable products for communications, data processing, local area networks, and military applications. Times has developed and produces the only commercially available fiber optic star switched network systems for video, voice and data distribution.

For more information, contact Times Fiber at (203) 265-8500 or write P.O. Box 384, Wallingford, CT. 06492. •

RMS ANNOUNCES NEW PRODUCTS

RMS ELECTRONICS, INC. has announced the introduction of two new products which feature high quality and low price. The Model CA-2014FGB is a Non-Power Passing 4-way Directional Tap with "built-in" grounding block, and the Model CA-2018FGB is a Non-Power Passing 8-way Directional Tap with "built-in" grounding block. They are priced at $3.04 and $5.51 each, respectively. These directional taps are nickel plated, non-corrosive for indoor/outdoor use, and have machined threaded terminals. They come complete with hex head and slotted 1 1/4" mounting screws. The impedance is 75 ohms at all ports.

For further information call our toll-free number: 800-223-8312, or write 50 Antin Place, Bronx, N.Y. 10462. •

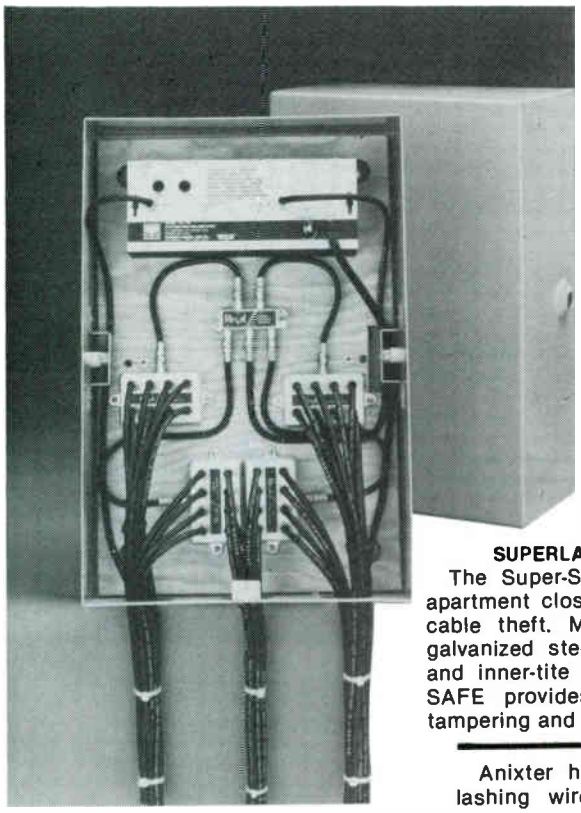
ANIXTER COMMUNICATIONS MAKES ADDITIONS TO THEIR PRODUCT LINE

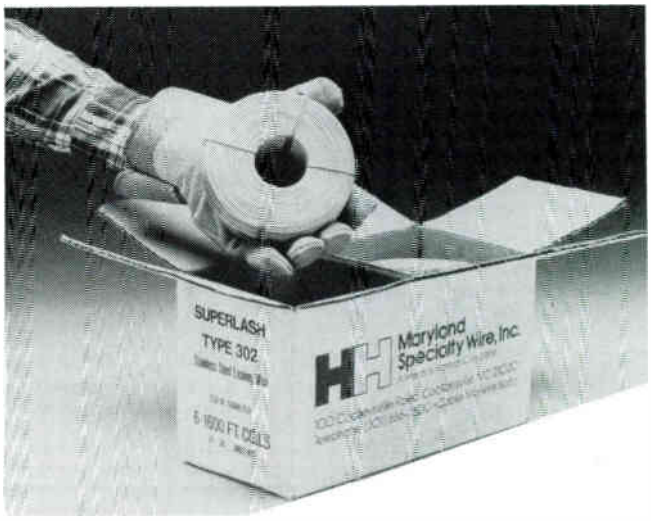
Anixter Communications introduced the new Reliable Electric/Utility Product's Super-SAFE at the 1984 NCTA show, it was announced by Gordon Halverson, Vice President of CATV Sales and Marketing.

The Super-SAFE is a high security apartment closure designed to prevent cable theft. Made of 14 gauge mill-galvanized steel, with welded corners and inner-tite barrel locks, the Super-SAFE provides strong deterrents to tampering and prying.

Standard features also include: an interlocking cap, optional punchout for cylinder locks, knockouts on the bottom of the unit, a plywood backboard, and no bolts or rivets. The Super-SAFE comes in ten sizes ranging from 8" x 8" x 6" to 18" x 24" x 8", with 6" or 8" depths.

Anixter Communications and Telecrafter Products Corporation have announced a new arrangement giving Anixter distribution of their full line of cable television drop security products. Telecrafter manufactures and markets the most complete line of cable markers including address, service, system, and subscriber identification cable markers.





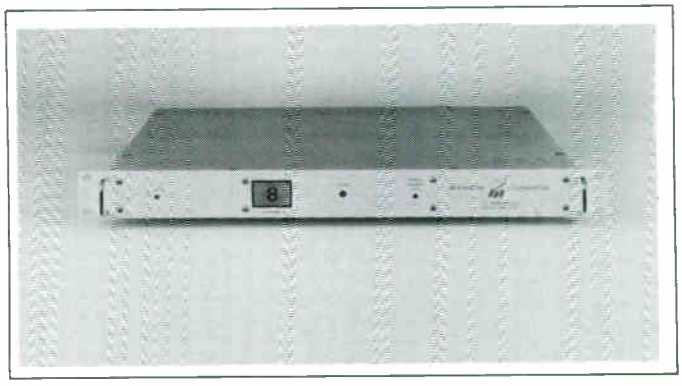
SUPERLASH LASHING WIRE

The Super-SAFE is a high security apartment closure designed to prevent cable theft. Made of 14 gauge mill-galvanized steel, with welded corners and inner-tite barrel locks, the Super-SAFE provides strong deterrents to tampering and prying.

Anixter has also introduced a new lashing wire, SUPERLASH, from the Maryland Specialty Wire Inc. SUPERLASH was designed for superior corrosion resistance in hostile environments and with greater ductability for easier handling. Its standard coil size fits all lashers and uses standard fittings.

For more information on these new products in the Anixter line, contact Anixter Bros., Inc., 4711 Golf Road, One Concourse Plaza, Skokie, Illinois 60076 or call (312) 677-2600. •

MICRODYNE'S LOW-COST TV MODULATOR NOW AVAILABLE WITH SUPERBAND



The Microdyne 1000 LCM television modulator with new superband option.

April 16, 1984. Ocala, Florida — Microdyne's single-channel television modulator now offers superband channels J through W and IF loop-through as options.

The 1000-LCM Television Modulator provides cable and SMATV operators with a high-quality, low cost vestigial sideband television signal. Individual output converter cards can be user installed to provide VHF channels 2 through 13, mid-band channels A through I, and superband channels J through W.

The 1000-LCM with superband option is the latest addition to Microdyne's full product line of uplink and downlink equipment for the broadcast and cable television markets.

Full specifications for the 1000-LCM with superband are available from Microdyne. Contact Earl Currier at (904) 687-4633 or write to Microdyne Corporation, P.O. Box 7213, Ocala, Florida 32672. •

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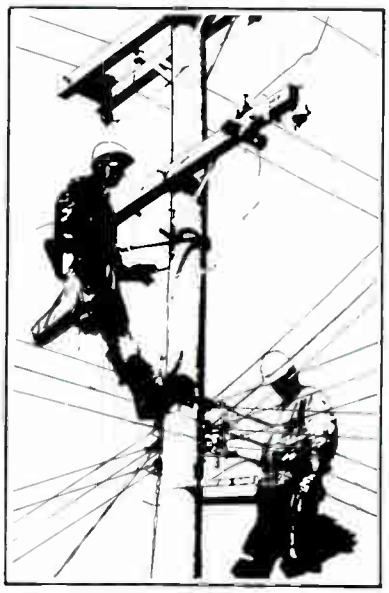
CATJ Classified advertising is offered as a service by CATA for its membership.

Any member of CATA may advertise in the CATJ classified section FREE of CHARGE (limit of 50 words per issue - 3 issues per year.)

NON MEMBERS may also use the Classified Section at the rate of 50 cents per word with a minimum charge of $20.00. Non-members should include full payment with ad insertion.

CATJ
4209 N.W. 23rd, Suite 106
Okla. City, Okla. 73127



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Box 71080
c/o CATJ
4209 N.W. 23rd
Suite 106
Okla. City, OK 73107

CATJ classified advertising is offered as a service by CATA for its membership.

ANY member of CATA may advertise in the CATJ classified section FREE of CHARGE (limit of 50 words per issue—3 issues per year.)

CATA offers three types of memberships:

1.) Systems—paying regular monthly dues based on number of system subscribers.

2.) Associate Members—pay an annual fee.

3.) Individual Members—pay an annual fee.

NON MEMBERS may also use the Classified section at the rate of 50 cents per word with a minimum charge of $20.00. Add $2.00 for blind-box. Non-members should include full payment with the ad insertion.

Deadlines for all Classified Advertising is the 1st of the month for the following month's issue.

Address all Classified material to: CATJ, Suite 106, 4209 N.W. 23rd, Oklahoma City, Okla. 73107.

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WESTERN OPERATIONS: 2901 W. Garry Ave., Santa Ana, Ca., 92704 • TEL.: (714) 662-1041
Toll Free: (800) 247-8435 (Cal. Only) Toll Free: (800) 624-2511 (Continental U.S.A., Puerto Rico, U.S. Virgin Is., Alaska, Hawaii)