

CATJ

OFFICIAL JOURNAL OF THE COMMUNITY ANTENNA TELEVISION ASSOCIATION

AUGUST 1982



CCOS '82 GOES COUNTRY!

"MARQUEE"
MODEL CG-800

DAY	TIME	DATE	
WED	12:48:12	9/28	
TEMP	HI	LO	BARO
72	76	64	29.83R
WIND	FROM	GUSTS	CHILL
12	WSW	16	70

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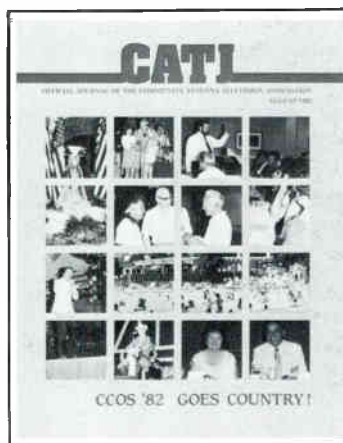
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on the outside . . .

ABOUT THE COVER

A patchwork design of photographs depicting various activities of CCOS '82 in Nashville and highlights of personalities.

catatorial catatorial

CHANGING OF THE



Peter Athanas
President of CATA

GUARD

This is my first Catatorial as the newly elected President of the Community Antenna Television Association. It is not an easy one to write since I am following the lead of Ben Willie, CATA's past President, and now the Chairman of the Board. Ben's positions, as stated in these Catatorials over the last two years, have clearly articulated what the Community Antenna Television Association stands for and who we are representing. You will find no disagreement from this quarter. Ben Willie is a tough act to follow, however, I intend over the next two years to use this column as a way of discussing with all of you the various issues that we are faced with and the proposed solutions that the Association has come up with.

I look forward to the challenge, but it can only be accomplished with your help. So, I will start right out by saying to all of you in the Association, and our friends outside the Association, that anytime you have a comment, a question, or a suggestion, it is welcomed. Unlike many other organizations, CATA truly acts on the conviction that we are only as strong as our membership is willing to be.

As we move forward to some very challenging times for cable television, I would hope that the membership of CATA, and our friends, will be willing to take the lead with me. There is very little question where that leadership must be directed at the moment, and that is to do

everything in our power to assure the passage of the revised Goldwater Bill on Capitol Hill, better known as S. 2172. The revised bill has a provision in it that is of ultimate importance to all cable television operators. For the first time a legislative body has attempted to write a law that gives cable operators a reasonable expectation of renewal of their franchise so long as the cable operators serve the community. Given the recent history of franchise negotiations and renegotiations, such a franchise renewal expectancy is of paramount importance to us all. The so-called franchise bidding wars that are going on at the moment are merely a precursor of what is likely to happen in the future. We are already seeing it happen in some cities where a system just rebuilt to 35 channels and underground is being threatened with obsolescence by a city council that has now decided that the renewal should be a minimum of 54 channels for the system. There is no real reason for that requirement other than it would mandate a totally new system being built only two years after the 35 channel system was installed. This is but one example of many of where the cities have lost sight of the purpose of franchise renewals. As CATA's recent very successful CCOS '82 in Nashville, a representative of the National League of Cities made it

very clear that she perceived the purpose of renewals to be an opportunity for the cities to negotiate for anything and everything they could to improve their position, as they saw it, in getting more from cable.

The CATA operators present tried to explain to her that **more** does not necessarily mean **better** and indeed, in most cases, simply means that the system will be more expensive for subscribers. The discussion ended simply with an **agreement to disagree**, but that is the situation we are facing in the cities as city attorneys and planners perceive cable television as a golden goose, and they want to reap the golden eggs.

CATA has long taken the position that one of the first things necessary to combat this unfortunate perception is a massive nationwide education campaign. I intend to **push** that campaign, and I also intend to **support, and urge you all to support, S. 2172** by writing Senator Goldwater and the other members of the Senate Committee on Commerce, Science and Transportation (I have included their names and addresses at the end of this Catatorial for your convenience) and telling them, that, particularly with regard to franchise renewal, you and all members of the Community Antenna Television Association support the passage of S. 2172. Of course, if you have a different view of this subject, I'd like to hear from you too. Hopefully we will continue the dialogue.

**Committee on Commerce, Science,
and Transportation**

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any time. Please see that I receive all of the
initial CATA material.

System Name _____
System Address _____
City _____ State _____ Zip _____
Individual Authorizing Membership _____
Telephone(_____) _____

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For CATA use Only**

1. Number of current subscribers (FCC
count) _____
Projected number of subscribers _____
2. Number of homes in franchise area _____
 Top 50 Market (35 mile zone)
 Second 50
 Smaller TV Market
 Outside All Markets
3. Channel capacity _____
System start-up date _____
4. Do you plan to build a TVRO earth sta-
tion? Yes No
5. Congressional District _____

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with subscribers between 500 and 3500;
\$15.00 for systems with more than 3500
subscribers. The surcharge, PLUS 3 cents per
subscriber per month determines the month-
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Numbers of Subs _____
X 03 _____
Sub Total _____
+ Surcharge _____
Total _____

**PLEASE ATTACH CHECK FOR THAT AMOUNT WITH
APPLICATION**

Note on Corporate Membership:

Dues for systems or MSOs with more than
16,666 subscribers are established with a
dues limitation of \$5,000 annually

**Personal memberships for those in related industries are
available at \$50.00 annual dues.**

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MEMBERS IS \$14.00 per year.**
If you are not presently a subscriber and wish a new
subscription, enclose \$18.00 for you CATJ magazine.

Resolution



Mr. and Mrs. G.H. "Bunk" Dodson



WHEREAS,

the purpose upon the foundation of the Community Antenna Television Association was to provide a voice and representation for the independent cable operator and to assist in the perpetuation of independent business operations in the United States;

AND WHEREAS,

the founding directors assumed the initiative for leadership, support, and guidance for the goals and purposes of the Community Antenna Television Association to benefit and assist independent cable operations, serving as examples for the entire cable industry as purposeful spokesmen on behalf of their mutual principals;

AND WHEREAS,

G.H. "Bunk" Dodson, as one of the founding fathers and directors of the Community Antenna Television Association has served as an Officer as Vice President and subsequently Secretary/Treasurer since the organization of the association, and has been an exemplary leader and inspiration for cable operators throughout the industry;

THEREFORE,

BE IT RESOLVED that the General Membership of the Community Antenna Television Association, in general session this 4th day of July, 1982, appropriately a day of celebration of the birth and independence of our nation, extend its appreciation and gratitude to G.H. "Bunk" Dodson for his vision, foresight, courage and integrity for the years dedicated to the service of the Community Antenna Television Association and those it represents.

Adopted July 4, 1982

A TRIBUTE TO KERWIN McMAHON AND THIRTY YEARS IN CABLE TV.



CATJ congratulates RMS' Kerwin McMahon for thirty years in the cable television industry, making him a true pioneer. Not only by his years of service to the industry is he a pioneer, but by his courage to become involved in new frontiers and marketing areas. This was recently demonstrated by RMS' development of a subsidiary company, the POLELINE CORPORATION, which was started by RMS' President, Don Edelman, and Kerwin McMahon. With this new line, we see an example of first class hardware, emphasizing non-corrosive materials in the area of plastic "last almost forever".

You see the influence of Kerwin McMahon in the production and concept of the RMS and Poleline ads as well, stressing not only originality, but quality products too.

Kerwin, or better known among the Trade Show as "Mac", is one of those suppliers who is respected among the cable operators and competitive salesmen too, and is known for his understanding and willingness to assist others. Not everyone would have a CATV product named for him, but RMS' "Mac" does in a die electric coring tool, called the "Mac Grip".

How fortunate our industry is to have a leader dedicated to its progress and advancement; how fortunate we are to have Kerwin McMahon for thirty years; his many friends in CATA and at CATJ offer him our warmest congratulations and best wishes for continued success in cable.

How to offer tomorrow's services with today's equipment

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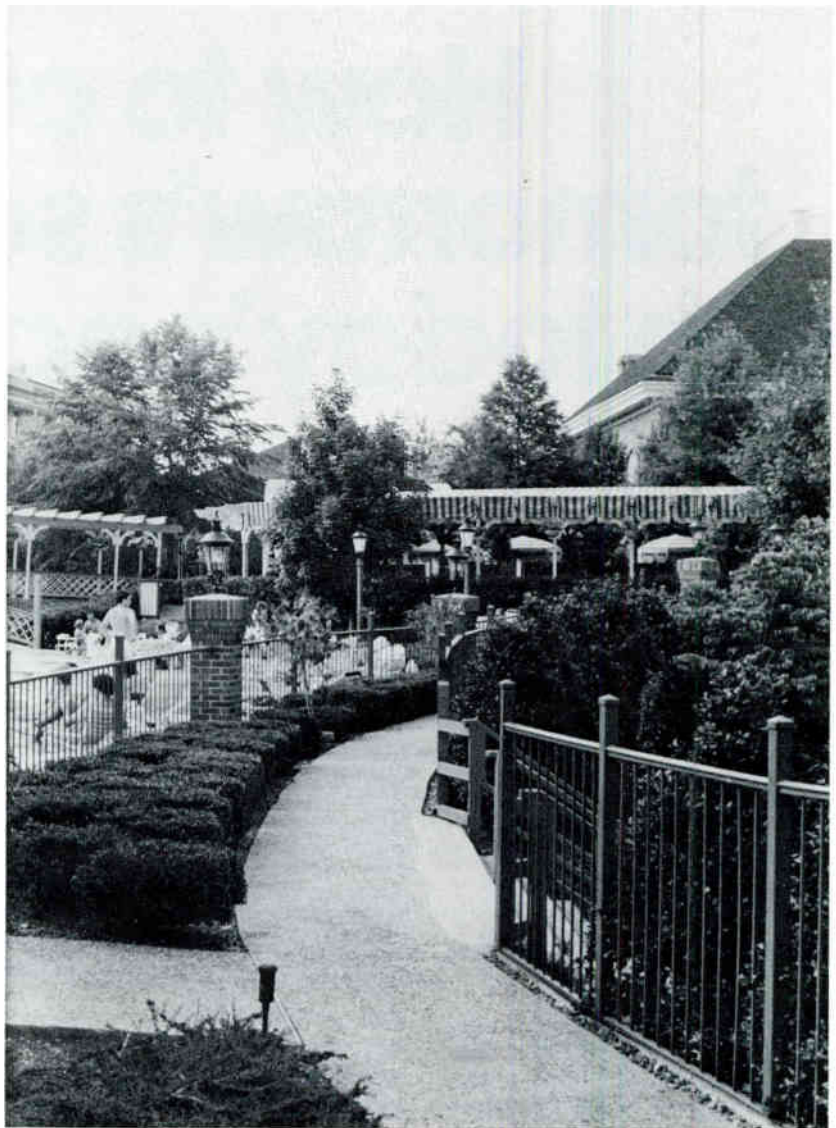


CCOS '82 was great! That's the only way to put it. While there was some conversation about its being planned over the 4th of July weekend, the families that came to Nashville took advantage of the area and the events planned to add another memorable CCOS to their family records. Understandably, some of the suppliers were displeased about the holiday weekend, but many of them showed up with their own families and got into the swing of the "Family Cable" which CATA represents. We don't think any of them were sorry.

The sessions were well attended — all of them — and it was interesting to see how many women numbered in the management sessions, particularly, but we noticed there were some even attending the technical sessions as well. As we visited with some of these ladies, we find that there is an incredible number who go on to actually help repair the lines, take trouble calls with an understanding of the problem, and assist in the technical end of their cable operation. These were the ladies attending the technical sessions. But the management sessions attracted a good number of ladies (they even chose these over a sight-seeing tour we had planned for them), because they are active members of their cable operation.

As the schedule was planned, the scheme was to leave the weekend free for taking advantage of all the surrounding attractions, and many, many people went to the Opryland Park over that time. That way, when Monday morning rolled around with the beginning of the sessions, the distraction would be taken care of, and the attendees would be ready for business, and that they were!

For those of you who **did not** attend, the tapes would be a worthwhile investment for you, because all comments were that the sessions were **excellent - superb — very helpful**. And for those of you who **did** attend, these tapes would be excellent back-up as you go over your notes



or need to call on them for verification of information. These tapes would be considered an educational program purchase, thus a legitimate business deduction expense.

We have been asked to give more explanation about the program for future years so that the attendees will better understand what material is being presented at the sessions. Even though we had gone over these specifics in past issues of CATJ and in the CATA CABLE, which the CATA members receive monthly, still when the program was in their hands, there were questions. We will remember to do that in future years.

CATA GENERAL MEMBERSHIP MEETING

On Sunday evening, the Annual General CATA Membership Meet-

ing was held; at this time, the election of new officers was held, as well as recognizing the Directors which comprise the Board of CATA. Recognition of three retiring directors was given and thanks from the group extended to Neil Webster, Pat McConnell, and Ed Smith for their service on the Board. G.H. "Bunk" Dodson, one of the founding fathers of CATA, was also recognized as he retired from the slate of officers, having served as Vice President of CATA from the beginning of the association in 1973 and then as Secretary/Treasurer from 1978 until the present time. A resolution from the Board was presented for adoption in honor of Mr. Dodson, and a standing ovation given to him for his years of service.

tors, and where they need assistance in planning a complete and protective insurance plan, both for their properties and their employees. They were warned of certain exclusions in their coverage, and examples were cited that made the cable operators cringe, but both Mr. Webb and Ms. Jones were teaching realistically and suggesting ways and means to protect the things that are critical to your business.

WHAT IS A CABLE SYSTEM, a repeat from the 1979 CCOS at Snowmass and one popularly requested, as presented by Ralph Haimowitz, CATA's Director of Engineering. Again, not only were there many ladies in this crowd, but many suppliers attended along with the attendees. This session was planned to give those attending a very basic idea of what cable is all about — and the comments were that this material was very helpful and explained a whole lot about the initial vernacular that seems to prevail in the cable business — LNA, TVRO, MHz, dB, etc. now has some meaning!



CCOS '82 WRAP UP

(See page 6 for Resolution). For an update of business matters presented at the Annual Board meeting and the General Membership meeting, see Mr. Effros' **Washington Update** in this issue.

MANAGEMENT AND TECHNICAL SESSIONS

So that you may better understand what material is presented on the tapes, we will go over the program session by session:

The **SOLVING BAD DEBT PROBLEMS**, conducted by Dr. Michael Angus of Transworld Systems, dealt with the mechanics of collections, prevention of getting into a bad debt situation, etc. Dr.

Angus had prepared notebooks for each of the attendees so that they would have something to refer to as he presented his material and to take back to their cable system, as well. This material included policy and procedure books for subscribers, as well as definite schedules for payment. This was one of the sessions where the crowd included many ladies.

Another popular one for the ladies was the session immediately following the Bad Debt presentation, and that dealt with **SURELY INSURED**, presented by Bill Webb of Franey & Parr Insurance Company, and Linda Jones of the National Farmers Union Insurance Companies. This session brought out the liabilities of the cable opera-

In 1976 when the first CCOS was held, on the program were several "hands-on" sessions and labs, but because of the space requirement and the restriction of the number that could participate in such a lab, the program rather drifted away from that concept. However, because of the request for the return of that type session, we appealed to the master teacher of them all — Raleigh Stelle of TEXSCAN and CATA's Associate Director — to teach a spectrum analyzer session, to which he agreed. This session was presented twice, and the crowd was thick, so much so that there wasn't room for everyone to get their hands on the equipment. We had asked for advance registration on this class to avoid being too crowded, but many



A

A The Sunday morning buffet in the Galleria in the Opryland Hotel is a very grand affair and certainly abundant. Proved a lovely spot for a delightful brunch.



B

B SRO prevailed in Monday's session on LET'S ANALYZE THE SITUATION, taught by Raleigh Stelle III, TEXSCAN and CATA's Associates' Director.



D

C A trip to Nashville just wouldn't be complete without taking in a performance of the GRAND OLE OPRY; and we did just that for the late Saturday evening performance.



E

D Mildred Fox was the lady that put all this together and talks here with the tour guide who provided so many interesting details to make the tours truly interesting and educational.

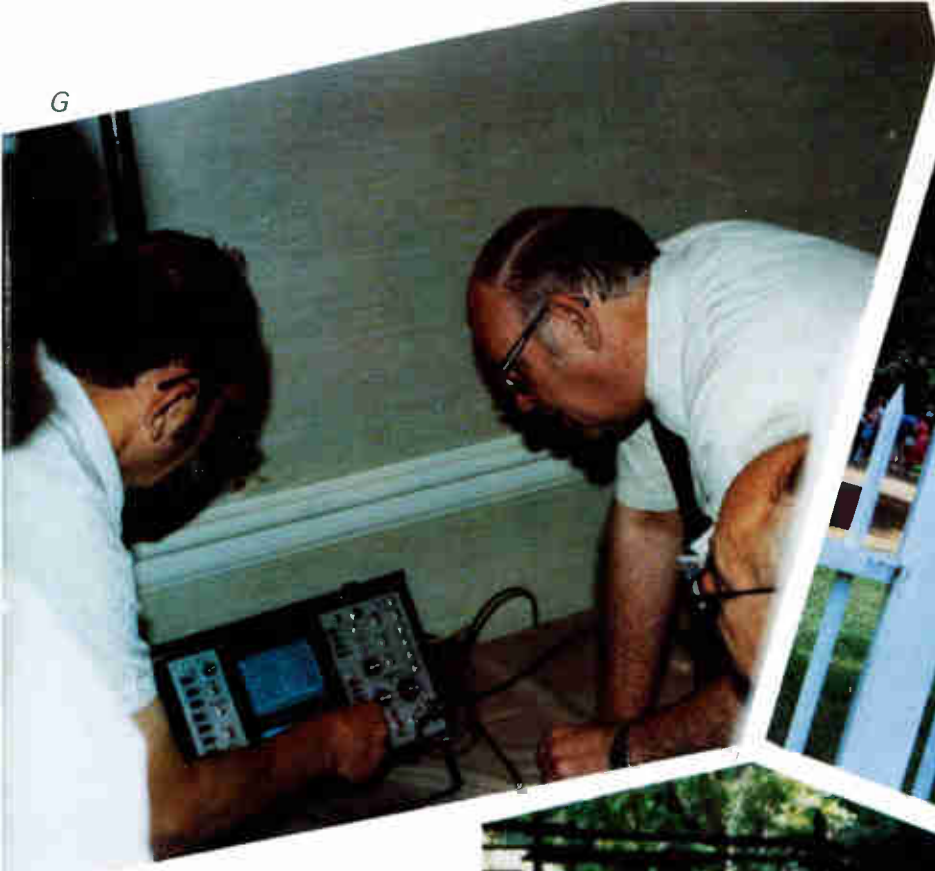
E A large group attended Ralph Haimowitz' session on WHAT IS A CABLE SYSTEM, including many of the ladies who are involved in the management of their cable systems.

F

F Head Table Personalities — David and Mildred Fox, Gilbert, West Virginia, and Carl and Ardith Schmauder, Lincoln City, Oregon. David served as General Chairman for CCOS '82 with Mildred ramrodding the Ladies Activities. Carl Schmauder was elected Vice President of CATA at the 1982 General Membership Meeting.



G



G Clarence Dow, newly elected Secretary/Treasurer for CATA, from Caribou, Maine, really got involved in this equipment demonstration.

H Dorothy Willie, wife of the outgoing CATA President, Ben Willie, and Lucille Dodson rest in the garden area of the Hermitage Plantation of President Andrew Jackson. This tour was sponsored by HBO and was followed by a lovely smorgasbord lunch.



H



F



H

others turned up and both sessions were very well attended; we know that the material was helpful, even though some didn't get to operate at a lab station.

The REFRANCHISING OPEN FORUM, conducted by CATA Executive Director, Steve Effros, included a panel including Susan McAdams of the National League of Cities, Dennis Zimmerman of the Centel Communications Company, Art Hill of Cardiff Publishing Co., and Selman Kramer of Southern Satellite Systems. Needless to say, with this touchy subject, the dialogue got HOT, but remained a very interesting and informative session. Ms. McAdams asked for

CATA to submit an article stating the view on refranchising for their newsletter.

BIG BUCKS IN A SMALL TOWN, presented by Richard Kirn of Wire Teleview Corporation, outlined just that — how to make money with a very, very small system. You may remember that Dick Kirn presented an article on the subject of an inexpensive decoder in the May issue of CATJ. We understand that this session brought out a lot of comments and conversation from the crowd, and that added to the merit of this session. We have always felt that the cable operators getting together to

continued

A



A
John Ferguson from the Virgin Islands had to win the prize for coming the farthest; he was interested in all the sessions and the technology presented, and seems to be engrossed with Dr. Snowden Bunch as he demonstrated his computer program for cable.

B
The panel on REFRANCHISING, presented in the Open Forum format, got into the subject hot and heavy, with both sides subsequently agreeing to disagree. The National



B

exchange ideas was one of the biggest pluses for CCOS, and this year seemed to substantiate that position entirely. There's always a lot of conversation going on!

Those were the Monday sessions — now for the Tuesday sessions. The program for the Management Session for this day were all geared to one subject — ADVERTISING. It began with ADVERTISING ON CABLE PAYS with Saralee Hymen from the Cabletelevision Advertis-

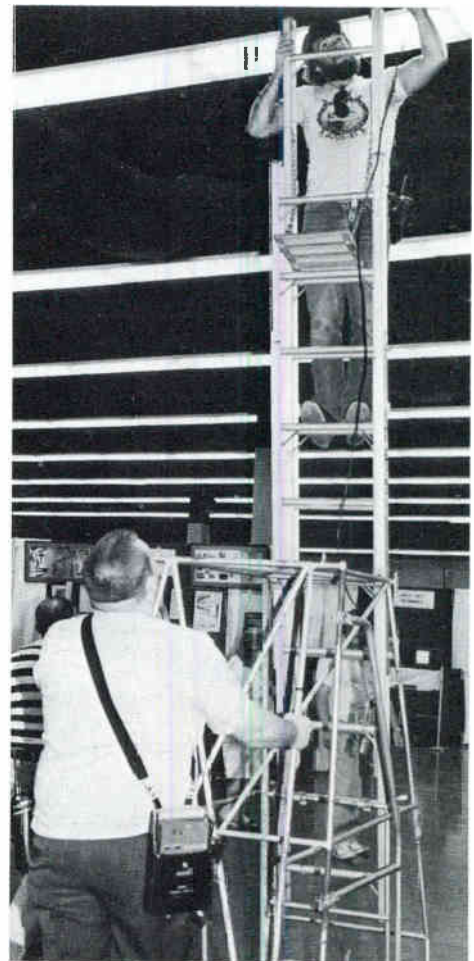
D



D
League of Cities has asked for an article to run in their publication on the CATA viewpoint on refranchising, so perhaps this will give an opportunity to air the position of the cable industry.

C
Kurt Bester, Pete Athanas' Chief Technician from Lake Geneva, Wisconsin, has helped with the Exhibit Hall set up for the past few years; Ed's holding the ladder and directing while Kurt does the climbing.

C



D
Hal Mathews of Anixter cornered Bunk Dodson who was shopping for receivers

A&B →
Steve Effros, along with his wife, Lucia, looked very happy at the banquet — perhaps because that meant the whole thing was just about over. They didn't look quite complete without their little son, Jamie, who accompanied his mother to every event and stole the show everywhere. Jamie even took in the Exhibit Hall several times.

ing Bureau at the helm, followed by AD SPOTS ON SATELLITE PROGRAMMING explored by Shirley Rohn of ESPN and Jane Greenburg of Turner Broadcasting. The comments from these two sessions were that it was superb and the best presentation on this subject that any of them had ever seen.

Following this was the session on EQUIPMENT AND INTERFACE. Bruce Uerling and Bob Kuopus of Gardiner Communications explored

this technical aspect of the advertising program with the cable operators. This was one area where the program needed extra explanation so that it would have designated that this session was a logical one to follow the previous sessions of the day on advertising.

FIND OUT WHAT'S NEW ON THE BIRDS gave the programmers an opportunity to describe all the services and programming available and what was planned for the years

ahead. Don Andersson of the Cable Health Network, Jim Britain of Group W Satellite Communications, and Mark Henderson of The Entertainment Channel combined their talents on this session, and it proved to be very informative and helpful.

Along this same subject, the matter of two or three degree spacing,

wasn't a whole lot of things changed on the copyright problem, and adjourned the group to the Equipment and Interface session where they could learn another way to make some dollars. There were some amusing comments to Steve about that — some couldn't believe a Washington attorney could surrender floor time to anyone, but

Steve chose to do just that. He took the ribbing good-naturedly, as is his way always.

B



That was a lot of information to be passed on in two days, wasn't it? That's the reason we arranged for the taping because there was no repeat of the sessions, so there had to be a choice as to which sessions one attended. We recommend that these tapes would be an invaluable tool for you and your cable company personnel.

continued

A



being considered a problem, was discussed in a session conducted by Gene Augustin of Antenna Technology Corporation, Jim Grabenstine of the Microdyne Corporation, and Paul Fox of HBO entitled **WHAT WILL TWO OR THREE DEGREE SATELLITE SPACING DO TO YOUR TVRO RECEPTION?** You need to check this out for sure!

And, back by popular request, was Fred Rogers of Quality RF Services, discussing proper treatment and maintenance on your cable equipment. This session was **KEEP THAT SYSTEM EQUIPMENT OPERATING PROPERLY**, and, again, Fred presented the material in a most interesting way and gave the operators a lot to think about and digest as they operate their systems. (CATJ will be running an article by Mr. Rogers in the very near future — again, by popular request — he's another acknowledged teacher and writer.)

You may have noticed that Steve Effros' session on Copyright was not mentioned. Well, everyone was so enthralled with the series of sessions on Advertising that when Steve got to his Copyright session, he very quickly told them there

TCA CABLE TV, INC.

Has acquired the assets of

TECHE TELECABLE, INCORPORATED

Sale represents more than 3,700 subscribers in the system serving St. Martinville, Parks, Henderson and St. Martin Parish, Louisiana.

The undersigned represented the sellers.

AMCOM, INC.

Charles Greene, President
Building E, Suite 200
5775 Peachtree-Dunwoody Road, N.E.
Atlanta, Georgia 30342
(404) 256-0228

This notice appears as a matter of record only.

July, 1982

**At last, a big idea
in addressability for
the smaller system
operator.**



The new Oak MiniCon™ System. It's affordable addressability for operators with 8,000 or fewer subscribers—operators who need the cost savings, management information and marketing opportunities that come with addressability, despite their smaller systems.

MiniCon delivers the most important capabilities of Oak's larger TotalControl™ addressable system at a lower cost suitable for smaller operations. Like TotalControl, MiniCon allows headend control of every terminal in the system with up to 56 channels and 16 tiered program levels.

It helps smaller systems build revenue through more program options and better control.

It offers a much shorter payback period than other

addressable systems because it costs just \$21,000 to install with two scrambled channels.

And it's a way to enter the addressability market with a smaller operation, then upgrade to TotalControl when your customer base demands a larger system. All you do is change the headend hardware with no terminal or distribution changes.

Like any addressable system, MiniCon offers complete security. The decoders will unscramble only authorized programs. Any terminal can be activated or deactivated from your central office, eliminating late payment problems and pirated decoders.

MiniCon is a truly integrated system, including individually-coded home terminals, a secure scrambler, a computer system

and home terminal control hardware. It comes with fully documented computer software and is used in conjunction with standard frequency synthesized 300 or 400 MHz TotalControl home terminals.

Since we've miniaturized the size and cost of our MiniCon System, there's no reason for you to forego the advantages of addressability because your operation is limited in size. For more information write or call us today and ask for the Oak Communications Systems Information Desk.

We're Oak Communications Systems, formerly Oak Communications CATV Division, and we haven't forgotten operators of smaller cable systems. After all, we were once a small company ourselves.

OAK

Oak Communications Systems

P.O. Box 517 Crystal Lake, Illinois 60014
815/459-5000

Subsidiary of Oak Communications Inc.





ABOVE — BUSY BOOTHS!

EXHIBIT FLOOR

There were over thirteen hours of exhibit time, scheduled when there were no sessions so that the suppliers would have the undivided attention of the attendees. From the comments we received, there were good, solid sales and good prospective leads on future sales. We intend to do a survey which will be presented some time later on the dollar investment as opposed to the return from our CCOS meetings. We arrange for the booth space as nominally as we can and have felt that the return for the actual amount of dollars invested has been good.

CATJ hosted a Sandwich Bar for the attendees and suppliers on Monday and Tuesday when the Exhibit Floor was open so that they would have an opportunity for a lunch break and still have time to visit with the suppliers. It seemed to work out very well and was actively attended. Again, we noticed a lot of ladies in this crowd too, and maybe that was on purpose because she was carrying the checkbook while they shopped around with the vendors. The beverages served during this time were furnished by the Exhibitors of CCOS '82.

One of the added attractions on the Exhibit Floor on Monday night and again on Tuesday noon was the presence of Bill Anderson in the Group W Booth. He was most gracious in visiting with the crowds, signing autographs, and having his picture taken with the visitors. Also The Entertainment Channel had a chef carving a Southern Baked Ham for sandwiches during the Monday lunch break; the aroma of that ham drifted all over the Exhibit Floor and drew the crowds to that area.

HOW ABOUT FUN?

Now you know there was lots of that too! The hot, humid days of Nashville made the pool at the Opryland Hotel a crowded place when the schedule allowed it. A lot of the families took advantage of the lovely pool and garden area for day-time swimming, sunbathing and relaxing.

On Saturday night, the Welcoming Reception was hosted by Group

continued

ORDER YOUR '82 SESSION TAPES NOW!

CATA commissioned a cassette service to tape all the sessions to afford all attendees and those who were not able to attend to benefit from the educational material presented.

Cassette Tapes are \$6.50 each, except for the sessions that were 1 1/2 hour in duration, requiring two or more cassettes. These extended sessions are \$10.50 each.

Monday, July 5th Sessions

QUANTITY	MANAGEMENT		QUANTITY	TECHNICAL	
___	1. SOLVING BAD DEBT PROBLEMS	-\$ 6.50	___	2. WHAT IS A CABLE SYSTEM	-\$10.50
___	3. SURELY INSURED	-\$ 6.50	___	4. LET'S ANALYZE THE SITUATION	-\$ 6.50
___	5. REFRANCHISING OPEN FORUM	-\$10.50	___	6. BIG BUCKS IN A SMALL TOWN	-\$10.50

Tuesday, July 6th Sessions

QUANTITY	MANAGEMENT		QUANTITY	TECHNICAL	
___	7. ADVERTISING ON CABLE PAYS	-\$ 6.50	___	8. WHAT WILL TWO OR THREE DEGREE SPACING DO TO YOUR TVRO RECEPTION?	-\$10.50
___	9. AD SPOTS ON SATELLITE PROGRAMMING	-\$ 6.50	___	10. KEEP THAT SYSTEM EQUIPMENT OPERATING PROPERLY	-\$10.50
___	11. EQUIPMENT AND INTERFACE	-\$ 6.50			
___	12. FIND OUT WHAT'S NEW ON THE BIRDS	-\$ 6.50			

___ ENTIRE SET OF CONVENTION TAPES SPECIALLY PRICED IN ONE ORDER FOR \$88.00.

TOTAL ORDER _____

5% Postage Charge _____

Amount Enclosed _____

Enclosed you will find our check for \$_____ to cover the tapes and mailing charges. Please send the tapes to the following:

SEND ORDER FORM AND CHECK TO:

**PERSONALIZED CASSETTE SERVICE
5600 Brookwood Terrace
Nashville, TN. 37205**

NAME _____

COMPANY _____

MAILING ADDRESS _____

CITY/STATE/ZIP _____

AREA CODE/TELEPHONE NO. _____

PAYMENT MUST ACCOMPANY ORDER

KEEP PACE with the Industry All New 1982

SUBSCRIBE

Name

Address

City

State

Zip

CATA MEMBER

NON-MEMBER

* \$14.00 enclosed for 1 year

\$18.00 enclosed for 1 year

* \$40.00 enclosed for 3 year

\$50.00 enclosed for 3 year

NOTE: CANADA/MEXICO SUBSCRIBERS: Add \$4.00 per year to rates given above. All other Foreign Countries add \$7.00 per year to rates given above. Special handling arranged upon request. U.S. CURRENCY ONLY.

CATJ

* MUST FURNISH SYSTEM NAME:

WorldRadioHistory

A



A
 Yes, there are contracts signed at CCOS — evidence by Ben Willie's signing with The Entertainment Channel's service with their representative, Mark Henderson.

B
 The day's sessions on Advertising on Cable was superbly presented; Shirley Rohn of ESPN and TBS' Jane Greenburg participated to present the session on AD SPOTS ON SATELLITE programming.

C
 Black Hats, table laden with good food, and visiting highlighted the HBO "Hoe-Down" on Monday night

D
 The Rutherford County Dancers got the crowd involved in their dancing; here we see CATA's Associate Vice Director, Ernie Larson, as part of the dancing group. These dancers provide great entertainment and the crowd loved their routines.

E
 Something in SHOWTIME's booth surely attracted this bevy of ladies — could it have been the tape of the male strippers??

B



C



D

E

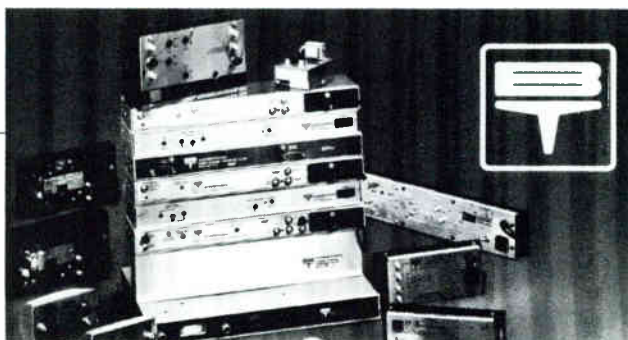


accompanied by a very nice breakfast and an amusing program, involving participation from the audience.

Lovely hospitality suites were maintained by some more very gracious folks — John Fagan from **WARNER AMEX** hosted a hospitality suite on Sunday evening. Some of the best food ever presented was found in **THE ENTERTAINMENT CHANNEL** suite, which was in full swing Saturday, Sunday, and Monday evenings; the menu changed each night, and got better and better. Joe Carmona, Manager of Special Services for The Entertainment Channel, and his group from New York, ably assisted by Chuck Klein and Susan Eisenberg of Rathe Productions, also from New York, worked to make this suite a highlight of the entire convention, and certainly succeeded in extending their hospitality to the group. Everyone was talking about the **SHOWTIME** suite and their entertainment; first their suite was the beautiful Presidential suite, complete with the spiral staircase (I think that was an added attraction), but Jason the Magician entertaining in the suite was a phenomenon — watches disappeared, rings got on key rings — you wouldn't have believed it. Card tricks, galore. **SHOWTIME** is to be congratulated on this outstanding entertainment, and the group really did enjoy his many feats of slight of hand.

Monday night, **HOME BOX OFFICE**, along with Cinemax and the USA Cable Network, hosted a "Country Hoe-Down", transforming that beautiful Knoxville Room of the hotel into a barn-like atmosphere, complete with bales of hay, hats, wagons, buggy seats, country storefront complete with rocking chairs, and western attire on the HBO people. A Western Band played for dancing and accompaniment for the Rutherford County Square Dancers who entertained with their "clogger dancing". The length of their dances was amazing because of the strenuous activity and their endurance. We thought they were through, but no — they went into the crowd and picked dancing partners from the group.

continued



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Blonder-Tongue stock items include: antennas, amplifiers, modulators, converters, filters, headend accessories, traps, processors, preamps, and more. Call us for what you need.

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- Everything you need in one stop
- In business since 1949!



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Blonder-Tongue
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Distributor

P.O. Box 2456

Batesville, Arkansas 72501

(501) 793-3816

June 1982

SOLD

SATELLITE CABLE TELEVISION, INC.
Shaw Air Force Base, Fort Jackson, and
a portion of Sumter County, South Carolina

The undersigned represented the seller in this transaction.
This notice appears as a matter of record only.



Communications
Equity
Associates

851 Lincoln Center • 5401 W. Kennedy Blvd.
Tampa, Florida 33609 • 813/877-8844



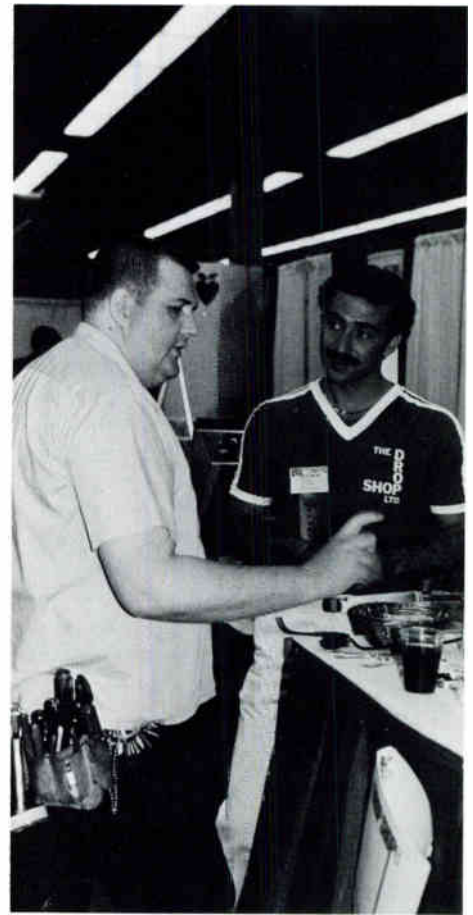
A

*A
Marion Gammey of Klungness Electronics is shown with the head end equipment furnished by KES and Triple Crown. Too many busy hands wanted to make adjustments; hence the HANDS OFF sign.*

*B
Ed Smith, now retired CATA Director, in getting the Exhibit Hall technically set up, prevailed upon David Wank of The Drop Shop, to furnish those last minute parts and fittings to make everything work.*

*C
Ernie Larson and his large "I Love Orders" button stood out in the Larson Electronics booth as he visited with the attendees. Ernie really looks serious, doesn't he?*

*D
Buses loading for the HBO tour to the Hermitage Plantation*



B



C



D

Now these young people ranged in age from 8 to 18, but when they picked their partners, they looked just for friendly faces, and the performance was great. Not to say they are experienced "cloggers" but Ernie Larson, young David Fox, and Patti Haimowitz can at least say they've had experience dancing with professional cloggers. This entertainment was great, and really was a crowd pleaser. Eileen Rivard from HBO's Special Promotions Office in New York made a special trip to Nashville to make plans, and then was on hand through the convention to see it to completion. She and her group are to be complimented on a great party and special activities. The buffet tables were laden with good stuff — hot ham and roast beef for sandwiches, vegetable and fruit relish trays, chips and dip, assorted cheese — you name it, and it was there. This was a great party hosted by HBO, and the dancing went on until the band just had to quit. Good time!!!

Tuesday the Ladies and Young People had special events planned for them and sponsored by HBO. The plantation of President Andrew Jackson was featured in the Hermitage Tour which the ladies (and some men went too) visited and it is one of the featured attractions in the Nashville area, reported to be an excellent tour. The group was also taken to the Hermitage Smorgasbord for lunch before returning to the hotel. While the ladies were visiting the Hermitage, the young people were taken to Wave Country for a day of water recreation and lunch, also chaperoned and sponsored by HBO. This was a big day for both the ladies and the young people, but they were returned to the hotel laden with HBO souvenirs in time to rest before the Family Gala and Entertainment later that evening.

A cocktail party was sponsored by a group of CATA Associate Members (a list follows this story) prior to the banquet served to the entire group. Peter Athanas, newly elected President of CATA, made a few acknowledgements and introductions, and then turned the pro-

continued

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Discover what compact performance
can mean to you!!

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WARD** CORP.

157 Seneca Creek Rd. Buffalo, N.Y. 14224
Phone 716-675-7373

June 1982

\$1,000,000 Senior Secured Debt Due 1990

NICO CABLE, INC.
Great Lakes Naval Base
Great Lakes, Illinois

The undersigned represented the borrower in this transaction.
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A



A Steve Effros presided over the CATA GENERAL MEMBERSHIP meeting when the new slate of officers was elected and matters discussed with the general membership.

B The taping service for this year's session proved to be doing good business along with serving a useful purpose as the sessions were not repeated this year and many important ones ran simultaneously. See the sub card for tape order information.

C Warner Amex, along with The Movie Channel and the Music Channel, used the spaces to display their services; lots of people stopped by to get those souvenirs from Nickelodeon and to sign up for the drawing of those three televisions.

B



D Microwave Filter Co. was a busy place too; looks like Kurt Bester is trying to talk them out of some set up materials.

E Automation Techniques, a new CATA Associate Member, displayed their Toy Sat earth station, but we understand they had good sales on some receivers as well.

C



E



D



gram over to Jim Britain of Group W who introduced the featured entertainment for the entire show — Whispering Bill Anderson and his Po' Folks Band. David Hall, General Manager of The Nashville Network, had arranged for this outstanding performer to entertain at the CCOS '82 banquet, and all expectations were certainly fulfilled — Bill Anderson was fantastic and the crowd left with such a good feeling as this event climaxed CCOS '82. Mr. Anderson presented many of the songs he had written and featured his musical group. A slide presentation, which many performers are using these days, was very effectively done and featured many of the great pioneers in the country western music industry. This truly was an outstanding performance, and one which the attendees will long remember.

Months and months of work, telephone calls, correspondence, planning, etc. go into the execution of a program such as this; the cooperation received by all facets of the industry is greatly appreciated. Many people are responsible for the successful CCOS '82 just described, and we would like to mention them at this time.

David Fox, CATA Director from Gilbert, West Virginia, representing District #3 who served as General Chairman of CCOS '82. David is the type person who is always there to work out details, make plans, and help solve problems. This particular Business Manager for CATA could not have functioned without the guidance and counsel of David Fox, who, in spite of his health problems, never skipped a beat to help and is responsible for the success of the Nashville version of CCOS.

Mildred Fox, wife of David, and better known to all of us in CATA as "Little Bit", was the Chairman of the Ladies Activities and acted to help David in his capacity as General Chairman. Being originally from Nashville, Mildred was especially helpful as she work-

continued

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Specify the SCT Tool for full Cost Effectiveness!

- Strips and Cores in one quick operation (Saves Time!)
- Longer Work Life (Saves Money!)
- No replacement blades required, just re-hone the blade (Saves Money!)
- Just one purchase — No accessories to buy or assemble (Saves Time and Money!)
- Hardened Tool Steel blade which gives a clean cut every time (Saves Work!)
- And . . . It lasts and lasts and lasts (Saves Money!)

Ben Hughes Communication Products Co.
P.O. Box AS, Old Saybrook, CT 06475
203/388-3559



**Cable
Prep®**

June 1982

SOLD

CLEAR CABLEVISION, INC.
Cities of Dora and Sumiton, Alabama
including Walker and West Jefferson Counties

The undersigned represented the seller in this transaction.
This notice appears as a matter of record only.



**Communications
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Associates**

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ed with the hotel and tour groups making the plans. The registration desk also found Mildred busy there everyday helping with the Park, Grand Ole Opry and other tickets; we really appreciate Little Bit and thank her for her efforts.

Peter Athanas, newly elected CATA President, served as the Chairman of Social Activities and provided that needed counsel and input as the plans were formulated. Pete is

always a cooperative worker and we look forward to his Presidency. You may remember his being General Chairman at the Lake Geneva CCOS, and what a tremendous job he did there. Thanks to Pete for his efforts on behalf of the success of CCOS '82.

Steve Effros, CATA's Executive Director, always provides the staff with that steady hand

and calm reassurance as the seminar takes shape. We can always count on Steve for guidance and counsel, and we appreciate the wonderful rapport existing with his office, obvious not only during seminar time, but throughout all the activities and projects upon which we cooperate.

Ralph Haimowitz, who served as the Program Coordinator. Ralph's job is one very complicated; trying to arrange for the most requested topics, scheduling the sessions, and finding the most knowledgeable speakers to present the material is not easy, but the results were most successful as this year's sessions indicate.

Ed Smith, retired CATA Director as of this year's Board Meeting, from Canisteo, N.Y. who struggled against his health problems to assist us once more in the intricate technical set-up required in the Exhibit Hall for the suppliers, as well as the satellite feeds servicing the hotel's television system. We wish Ed the very best recovery and thank him for his loyalty through the years to CCOS.

Kurt Bester, Chief Technician for Southern Wisconsin Cable Company, Lake Geneva, Wisconsin, who once again came to CCOS to assist with the technical set-up in the Exhibit Hall and for the satellite feeds. Kurt has been invaluable to CATA in its CCOS technical operation, and we appreciate his coming to Nashville for the '82 version.

Wayne Sheldon, CATA Director from District #6, is one that you can depend on to bring his tools and work clothes and get after it. You may remember that Mr. Sheldon was responsible for the research and writing of the outstanding series CATJ carried on "Underground Construction". We appreciate Wayne's

continued on P. 31



The PHASECOM MODULATOR & The SAW FILTER. A perfect match.

They're a natural. The Phasecom 2000 Series Modulator and the new solid state SAW (Surface Acoustic Wave) Filter.

Top technical performance. Exceptional reliability. It's what they're both all about. We had to put them together.

So now, every Phasecom Modulator has a SAW Filter at IF. For a perfectly shaped vestigial sideband signal. For flat group delay. Without tuning or

maintenance.

And better yet...at no increase in price. It's all part of our ongoing efforts to bring you the best value in headend electronics in the industry today.

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The Headend Experts
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The Immaculate Reception— now available for your existing system.



The AvanteK Simulchannel™ Receiver system is now available with integral downconverter to save you space and dollars.

With AvanteK's new downconverter, in the AR1000 Simulchannel™ Receiving System, you can share one downconverter with up to five receivers, all in a single mainframe. You've saved space over self-contained receivers, and reduced per-channel cost at the same time.

This system is fully compatible with your current equipment that has LNAs installed on the dish. It's based on our proven AR1000 video receiver, but instead of putting the downconverter at the dish, as we would in a new installation, we've made it a plug-in to fit the rack-mounted mainframe. The downconverter occupies the first slot, leaving room for five additional receivers.

The mainframe includes touch-pad tuning control that allows each receiver to be easily set to any of 24 transponder

channels. And since each receiver is a plug-in unit, they can be added as needed.

We invite you to compare cost and quality of adding channels any other way. And if the specifications confuse you, just take a look at the picture. Then you'll know how much you're getting for your money.

New Optional Feature

If your receivers are located remotely, another AvanteK innovation will be of

interest. We've added "refresh memory" to our tuning control so that if the power is lost, the receiver memories won't forget what channel they're tuned to. It holds the information until power is restored—up to 24 hours—so there is no necessity to reset channel allocations.

In all, these are just some examples of AvanteK's continuing engineering program that builds customer benefits around sound product ideas. AvanteK is a complete supplier of products for the CATV Industry providing state-of-the-art electronics for quality satellite TVRO and test equipment to maintain a quality system.



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. . . and you have **freedom of phone movement** like never before! Your phone goes where you go! Take it from room to room — anywhere in your office. Take a break in the patio, pool or garden. Work way out in the garage, basement or driveway. The Interstate Phone is there at your side.

EXTENDED RANGE

Here is truly the ultimate in cordless phones. The Interstate Phone has unbelievable sound fidelity — with an extended range of up to 600 feet. The entire unit — 10.5 ounces — attaches lightly and easily to a belt, or slips into a pocket. Yet you can receive or place calls to any corner of the world.

YOU OWN IT

The Interstate Phone is wholly independent of the phone company. Even its installation. FCC registered and U.S. Government approved for direct connection to any existing phone jack. Installation and monthly charges are eliminated.

STILL MORE FEATURES

The Interstate Phone unit includes everything you need: Phone • base station • compatibility with all rotary or pushbutton systems • easy installation with standard phone jacks.



MEMORY SYSTEM

The last number called is stored in the memory and is **automatically redialed** — just push **one** button — great to reach forever busy numbers — saves redialing a string of codes.

BATTERY RECHARGING CORD

Still another Interstate Phone **exclusive!** A great new way to keep your phone charged — with no need to return it to its base unit. A **charge cord** is provided, to plug into any AC outlet in the house. Which means the base can be tucked permanently out of sight AND the phone is anywhere you want it — being charged.

GUARANTEE satisfaction is completely guaranteed! Use the Interstate Phone for 15 days in your office, or home. Not pleased? You owe nothing — not even an explanation. Just return for complete, prompt refund. Please note: Equipment used for business purposes is tax deductible. You have everything to gain, and nothing to lose (in fact, you'll wonder how you ever got along without one).

YES The Cordless telephone is the sound answer for me
Please send me _____ units at only \$189.00 each
(California residents, please add 6% sales tax)
Total \$ _____ enclosed.

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

SEND TO: INTERSTATE TELEPHONE

18210 Sherman Way, Reseda, Ca 91335

CCOS EXHIB

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Alpha Technologies
Apple 1 Store
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Automation Techniques, Inc.
B.E.I.
Broadband Engineering, Inc.
CBS Cable
CWY Electronics
CableBus Systems Corp.
Cable Health Network
Cable-Text Instruments Corp.
Cable TV of Carolina, Inc.
Capscan Cable Co.
Century III Electronics International, Inc.
Communications Equity Associates
Comm/Scope
Computer Video Systems, Inc.
ComSonics, Inc.
The Drop Shop
ESPN
Electron Consulting Associates
Elephant Industries
The Entertainment Channel
Durnell Engineering, Inc.
Eastern Microwave, Inc.
GTE Products Corp.
Group W Satellite Communications
Gardiner Communications Corp.
HBO/Cinemax
USA Cable Network
H & R Communications, Inc.
Hughes Aircraft Co.
Klungness Electronic Supply

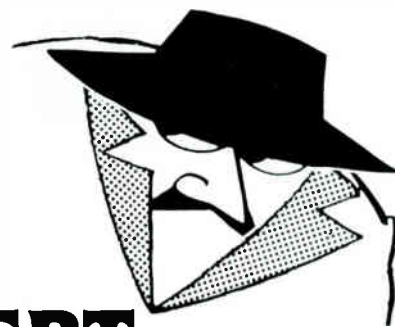
'82 ITORS

for CCOS '82; we appreciate their
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Texscan Corp.
Times Fiber Communications, Inc.
Tocom, Inc.
Toner Cable Equipment, Inc.
Toner Cable Computer Co., Inc.
Triple Crown Electronics, Inc.
Turner Broadcasting System, Inc.
United Press International
United Video, Inc.
Video Data Systems
Vitek Electronics, Inc.
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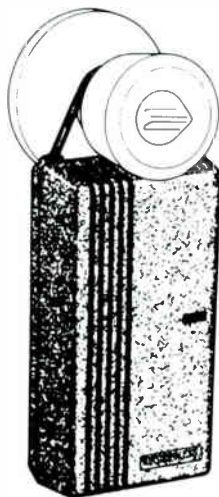
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Keep the thieves and rapists out of your home! Protect yourself and your loved ones with DOOR-ALERT. Simply slip DOOR-ALERT over the inside door knob. If anyone touches the door with his hand, with a key, or with a tool, DOOR-ALERT will let out a piercing alarm and send the intruder on his way. And then it turns off automatically so that it won't keep alarming the neighbors.

DOOR-ALERT has a 3-second built-in delay.

This has two purposes:

1. So the alarm won't sound if someone just casually touches the door, and
2. To give you time to deactivate the alarm.

Keep DOOR-ALERT on the inside of your front door both while you are at home and while you are away. Nobody will be able to enter your home. And, of course, it is something you should have with you on your travels. DOOR-ALERT is beautifully styled. It measures 4½ x 2 x 1 and takes up almost no room. It works on one 9-volt cell (not included). It costs just \$19.50. (you get two for \$34.50) plus \$2.00 postage and handling — a great investment for PEACE OF MIND.

GUARANTEE: Satisfaction is completely guaranteed! Use DOOR-ALERT for 15 days. Not pleased? You owe nothing — not even an explanation. Just return for complete, prompt refund. You have everything to gain, and nothing to lose. In fact you'll wonder how you ever got along without DOOR-ALERT.

Yes! DOOR-ALERT is for me. Please send me _____ units at only \$19.50 each, plus \$2.00 postage and handling (California residents please add 6% sales tax).
Total \$ _____ enclosed.

NAME _____

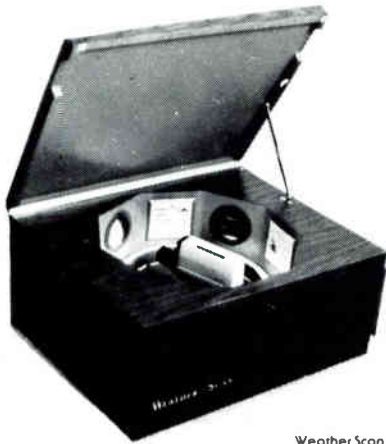
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CITY _____ STATE _____ ZIP _____

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First In Reliability



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S.J. Birkill on Experimental Terminals

“Why,” the CATJ readers ask in unison, **“is Birkill still in England when we were told he’d be coming to live in the States this year?”** You didn’t ask? Well I’m going to tell you anyway.

But I have to start with a little history. When I was a kid I played with TV sets. I would go along to the local TV dealer in Barnsley and beg any non-working TVs he’d taken as trade-in for new models. I’d generally pay around a dollar for a 14-inch set, drag it home and try to make it work. I learned how to cannibalize. Two or three of the same make and model and at least one good one would emerge, provided there was a decent picture tube among them. In those days British TV was VHF, black and white, 405 lines. Making them work meant I could sell them, for maybe \$25.00 a time — a useful supplement to pocket money.

But I liked the sensitive ones. If they had enough gain that the screen filled with “snow” when I disconnected the antenna, they offered the promise of reception from farther afield than the local BBC and ITV transmitters. I built antennas — first, great contraptions of dowel rod and aluminum foil that were suspended inside the roof of my parents’ home. Then real all-metal ones that looked so

proud upon the chimney stack. I started by pulling in the ITV alternative programs from adjacent regions 100 or 150 miles away. Then I discovered Sporadic-E propagation and the range expanded by a factor of ten. Spain, Italy, Russia, Poland, Hungary, Czechoslovakia, Yugoslavia appeared on the screen, using the new high-definition 625-line standard. I had become a DX-TV freak!

Soon a 60-foot rotatable mast sprouted from my long-suffering parents’ roof, carrying a whole battery of antennas for different bands and different polarizations, even for the new UHF band which would be the home of color TV. The extended tropo propagation mode became the big thrill — strong, rock-steady signals over hundreds of miles, lasting for days if the weather was right. Dutch, Danish and German TV coming in like a local. Equally fascinating were the weak but always-present tropo-scatter signals from France, Holland and Ireland. Low-noise amplifiers were built, changed, dismantled and rebuilt in attempts to better resolve these weak signals.

The quest for new horizons led me to amateur TV. By the time I left school for university, I was transmitting TV pictures over those ranges, at 430 MHz, as well as receiving

The Steve Birkill Story

So Far

them. Though, by the end of the 1960s, broadcasting had become my profession and I found less appeal in radiating test transmissions from home for the local hams to tune up on.

The years passed, and 1975 saw me living in Sheffield with a family of my own. I think it was reading some statement such as “reception outside India is impossible” that made me think about ATS-6. NASA’s Applications Technology Satellite was on loan to the Indian Government for a one-year period to conduct the Satellite Instructional Television Experiment, a program of agricultural, health and welfare advice transmitted by satellite to 2400 remote villages in rural India. The satellite transmitted by 52.5 dBw EIRP at 860 MHz in a 2.6 degree spot beam covering the Indian subcontinent. The village antennas were 10 ft dishes of aluminum mesh construction. Impossible? We’d see about that?

In storage at Barnsley was the 5-foot mesh dish I’d built some eight years previously for experimentation on the amateur 1296 MHz band. And I had some nice quiet bipolars left over from my UHF LNA experiments. I calculated the look angle to the bird, at 35°E. Elevation 21°, azimuth 137°. No problem there. FM video huh? Why not try one of the integrated PLL chips like the NE561. Assumptions were made about the likely EIRP towards England and the threshold bandwidth worked out to some ridiculously small figure like 300 kHz. Undeterred I tried, with various IF and RF filters, and a whole selection of feed elements from dipoles through helices and quads to a small yagi. The attempts spanned three months of effort, while for much of the time the 5-foot dish was supported above the top of the stairs, looking out the landing window. On December 13, 1975, with a 3 MHz RF bandpass filter in circuit, TV signals were seen in the noise. Having acquired a signal, it was but a brief period until the system was developed to give quite fair results. It turned out that much of my searching had been done at the wrong time of day, and I had been missing the 2½ hour early evening broadcast.

But the satellite bug had bitten, the seemingly unattainable had been grasped. TV signals from 23,000 miles out in space. I was hungry for more. I don’t think there were many home TVROs around in 75/76, but a few enthusiasts in the U.K. heeded my encouragement and pulled in the Indian programs. What next? It was but a small step to

990 MHz and the Russian Molniya-1 downlinks from the northeastern sky. But I found no TV there, only data and telephony. The 4 GHz band had to be tackled.

The rest has already been told in **CATJ**, concerning the development of the feed system, LNA and integrated downconverter, acquisition of an 8-foot spun aluminum dish, fabrication of el/az mount and reception of the first 4 GHz signals in 1977 (excluding the terrestrial ones I used for receiver alignment through 76/77 — remember this was a spare-time thing.) Spain and Russia. Lots of Russia, and strong signals, though still much weaker at that time than those put down in the USA by the American domestic satellites.

One of the DX enthusiasts who followed my example and received ATS-6 during its second six months of SITE transmission in 1976 was Roger Bunney. Through a DX TV column he wrote for a U.K. magazine, he was acquainted with Bob Cooper Jr. At that time Bob was the guy who ran **CATJ** for CATA, and he was keen on small TVRO development. He had seen TVRO terminals for Cable go from 6 metres to 4.5 metres, and was naturally interested in a British character using a 2.4 metre antenna to pull in global beam downlinks. Through Cooper, CATA invited me along to CCOS-78 at Eufaula, to talk about small TVRO. There I met a lot of really nice Cable TV people, had a marvellous time and even had the opportunity to help put together a 6 GHz uplink with an 11-meter antenna, feeding the seminar proceedings to cable operators coast to coast.

That was the start of this regular column, in the days when home terminals were just something that hams put together in the back yard, and seemed to pose no threat to anyone. A big bucks industry has grown up since then, to the chagrin of cable operators, cable programmers and broadcasters alike.

It was this industry which eventually beckoned. By 1980 my career in broadcast engineering had done what most successful engineers find in the U.K. — it had turned into engineering management. Rather than electronics, my skills needed to be with men and with paperwork. As a BBC Transmitter Manager, I had unrivalled security and the chance to progress through Transmitter Group Head Office in London to perhaps Assistant Chief Engineer of the department. I needed advancement in that it would

continued on P. 40

GENERAL COOKBOOK NOTE
 Cookbook designs are selected for their general purpose applicability and for quick construction, using easy-to-get parts. Explicit theory is avoided and is implicit in the simple formulas for circuit elements. We will present each design in "stand alone" form: no need to go to any other technical references!

Power Passing **PART 3:** General Purpose **Filter**

CABLE TECH'S FILTER

APPLICATION

You want to pass the upper portion of the VHF spectrum (5-300 MHz) and suppress the lower portion. Perhaps you want a temporary trunk filter to suppress the lower band while you get poletraps in place.

This simple, nine branch filter will generally give less than 1 db loss in the passband (above F_c). It snaps off sharply to give 40 db at a frequency only 10% below F_c . It does not pass power.

This design can be put together with readily available ceramic disk capacitors and hand-wound inductors.

DESIGN PROCEDURE

- (1) Select your cut-off frequency, F_c . This is the lowest frequency you want to pass with low loss.
- (2) Go to Figure 1 and compute the circuit elements (in Pfd, for capacitors and uh, for inductances).
- (3) Select capacitors from Standard Values. (See Figure 1). If calculated values are non-standard (not within 5% of standard values), parallel two or more standard values which add up to the correct value.
- (4) Wind your coil inductors. See the formula on Figure 2.
 Compute the number of turns required and round up to the

nearest halfturn. To make the circuit layout easier: you can always stretch the coil to reduplicate to the nearest correct value.

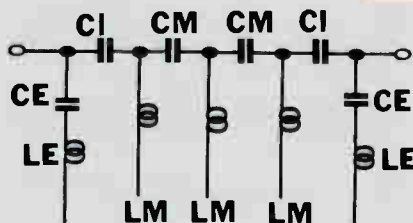
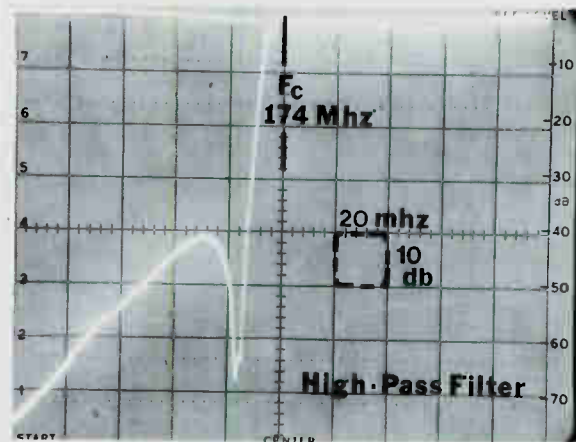
- (5) Circuit layout. Position coils for

low mutual coupling: adjacent coil axes should be at right angles to one another, if possible. Layout for minimum lead length on CM (doesn't matter on CE).

DESIGN OF 75 OHM HIGH-PASS FILTER

CIRCUIT ELEMENTS

- [LE]: $43.82/(F_c\text{-MHz})$ uh
- [LM]: $7.6243/(F_c\text{-MHz})$ uh
- [CE]: $712.26/(F_c\text{-MHz})$ Pfd
- [CI]: $1334.6/(F_c\text{-MHz})$ Pfd
- [CM]: $899.48/F_c\text{-MHz}$ Pfd



SCHEMATIC—High-Pass Filter
 75 ohms

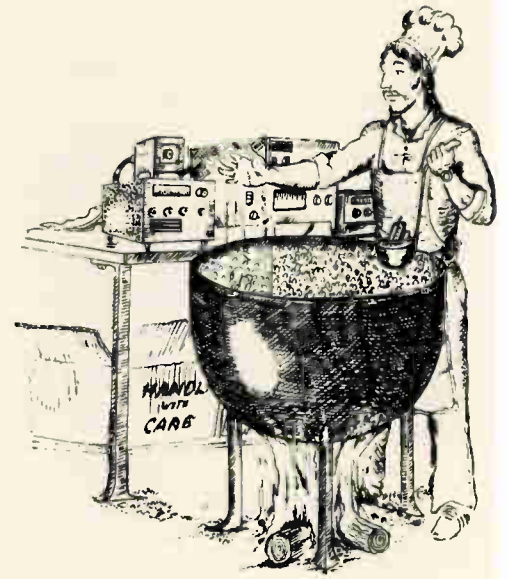
STANDARD CAPACITANCE VALUES		
Primary standard values are:		
1.0	2.7	5.0
1.2	3.0	5.6
1.5	3.3	6.8
1.8	3.9	7.5
2.2	4.7	8.2

MULTIPLY THESE BY 10, 100, etc AND GET OTHER STANDARD VALUES

FIGURE 1

High Pass Filter

COOKBOOK



BY: Glyn Bostick
Laurie Goldman
Daniel Bostick
Don Shatrow
Microwave Filter Company

TUNING UP

- (1) Sweeping insertion loss (on an analyzer, for instance), "tweek" LE (both ends) for maximum notch at $0.9 \times F_c$.
- (2) Optimize return loss. Sweeping for return loss, "tweek" LM for

highest return loss in the pass-band. Rolloff should be sharp, as shown in example. If not, CI needs adjusting (up or down). If available, use a trimer for CI.

DESIGN EXAMPLE

- (1) We want to suppress as much of the low and mid band (54-174

MHz) as possible while passing the highband (174-300 MHz). So here, our F_c is 174 MHz).

- (2/ (4) We go to Figures 1 and 2 to compute the required circuit element values:

LE = .2518 uH (computed 6.725T, used 7 turns)

LM = .043818 uH (computed 2.161T, used 2.5 turns)

CE = 4.0934 Pfd (used 3.9 Pfd)

CI = 7.670 Pfd (used 7.5 Pfd)

CM = 5.1694 Pfd (used 5.0 Pfd)

- (5) We now lay out the elements as per Figure 3. Note that coil axes are at nearly right angles between adjacent coils. This minimizes mutual coupling.

Figure 1 is a spectrum sweep of the completed filter.

NEXT TIME

Basic low pass & high pass filters can be used to construct many useful assemblies for CATV. We'll do that in future issues. But in the next issue, we'll detour to fulfill a request to show how to construct a special kind of filter: A CATV system amplitude equalizer.

ACKNOWLEDGEMENTS

Many thanks to John Greatrex, for art, Dave Skeval for photography, and Melanie Di Lella and Doris Gravelle for typing. □

Design of 75 ohm High-Pass Filter

FIGURE 2

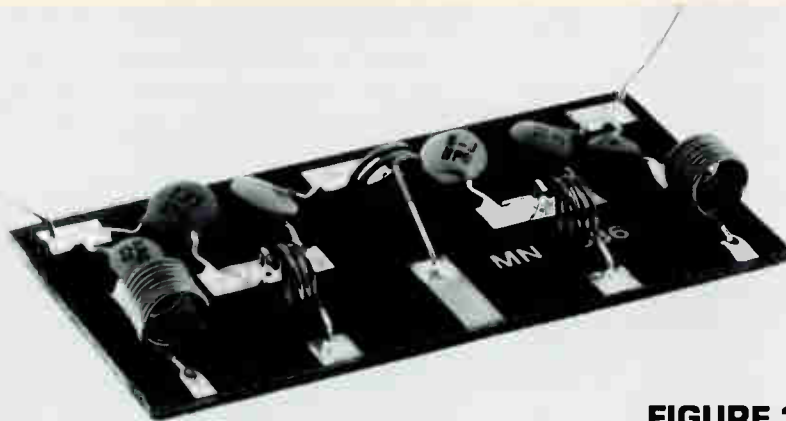
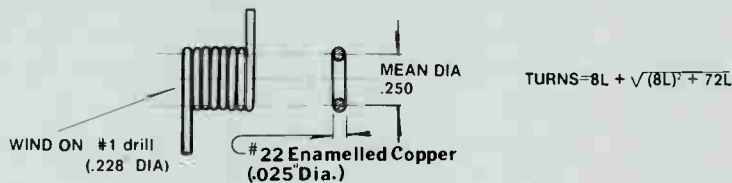


FIGURE 3

CIRCUIT BOARD WITH COMPUTED ELEMENTS MOUNTED

bring a comfortable standard of living, but a desk engineer's life was not for me. I had skills and innovations in RF and video engineering I wanted to work out, for myself. To move into an industry which had grown around my spare-time interest seemed a way to achieve my personal goals.

The first approach was unsolicited, but timely. I had already visited Dallas, Texas in 1980 doing consultancy work for a receiver manufacturer wishing to expand into an international marketplace, but this call came from Canada. A CATV equipment company wanted to move into the receiver equipment market and saw me as director of their new microwave R & D facility. It wasn't the south-east USA I'd so much enjoyed visiting, but it was an opportunity in satellite TV — there was absolutely zero interest in England at that time. The Canadian company offered to match my BBC salary but not the BBC conditions of service. (The BBC operates a 40-hour working week where the 40 includes meal breaks, and annual leave is five weeks on full pay. I believe such conditions are rare in North America.) I knew salaries were generally higher in Canada and the USA, but was prepared to accept the figure offered knowing that it would go further in Canada than back home. The two weeks leave entitlement was hard to take, particularly with family to visit back home, which would consume any vacation. But I accepted the assurance that something better might be negotiable, and steps were taken to obtain an immigrant visa while discussions continued.

Then, just after the Canadian formalities were completed in early summer 1981 I got a call from an acquaintance I'd made in the USA. Drop everything, he said, and fly out to Tulsa next month, talk to these guys at SatFinder. Since all expenses were to be paid, I reckoned I had nothing to lose. June 1980 saw my wife and I arriving in Tulsa to meet David MacZura and Larry James, who had really laid the red carpet for us. We stayed at the Hilton Inn, had a luxury car provided for our own use, and were received in style. The SatFinder antenna was perhaps the best-engineered steerable 3-meter I've seen, and I was impressed by their commitment to quality in their installations, something rare in the home TVRO industry.

David and Larry explained their proposition, which involved my heading an R & D facility to produce SatFinder receivers, based on my own block downconversion concept. The first project would be to "clean up" and re-engineer an ultra-low cost receiver approach which SatFinder was backing. Beyond that I would define the R & D direction. A new building had been leased and equipped with lab and office areas, in south-east Tulsa. I would set my own working patterns, as a director, and would have shares in the company. All relocation expenses would be paid, and salary would be in the region of twice that of BBC Transmitter Manager. To expedite relocation when visas had been obtained, I was invited to leave the BBC as soon as possible on my return home. SatFinder would then pay the equivalent of my BBC salary until I was able to travel. I insisted on full immigrant status if I was to give up a home and a career in England, so it was understood that proceedings would take several months.

At the end of a week in Tulsa, we left for home to con-

sider their offer. No obligation was attached to the trip. It seemed too good to refuse. We agreed to go along with SatFinder, and I had the unfortunate task of telling the Canadian company we had decided to decline their offer. I quit the BBC at the end of July and busied myself with freelance consultant work while awaiting the pleasure of Uncle Sam.

SatFinder went through the required labor certification process, short-circuited by immigration Preference 3, while I gave them a \$100,000 "shopping list" for initial lab equipment. The visa application reached the U.S. Embassy in London in November, and shortly afterwards they sent me a long list of essential documents they required before a visa could be issued. Government employees' strikes in England delayed the acquisition of some of the documents, but, by January 1982, I was able to notify the Embassy that they were all in my possession. My application then had to wait in line in London, and I was eventually called to attend on May 17.

During the early part of 1982, there had been some delays in paying my monthly check, and David and Larry, honest as ever, had explained that the company had been in financial trouble but recovery was in sight. On May 18 I returned with my family from London, clutching that rare document, a U.S. immigrant visa, only to discover that SatFinder had suspended trading and there was no money available. That at a point where salary was already two months in arrears, and I had already paid out for the visas.

So I was no longer bound by my agreement with SatFinder, but what to do now? The visa is absolutely not transferable. The U.S. Embassy advised that a new application would take just as long as the first one. I was not going to find another SatFinder, who would pay me a retainer while those months elapsed. And my bargaining position was not now so strong. Two U.S. companies and one (new) Canadian outfit were interested. I liked the sound of one of the U.S. outfits — the position offered was not ideal but at least offered another opportunity of immigration. Surprisingly they did not expect loyalty, suggesting that I would be successfully wooed away from them as soon as I was established Stateside. The other company had a good offer, but weren't in a part of the States I particularly favored. The Canadians seemed very committed and sincere, but a U.S. location was preferred.

If I went to one of these they must be prepared to wait until a new visa was issued. And since I would have to take fresh employment in the U.K. to pay the bills, they'd have also to wait out a reasonable notice period.

The alternative was a new venture here in England, where satellite television has begun to be taken seriously by government, industry and public. With DBS three or four years away, and 11 GHz satellite cable feeds already in existence, there is room for some home grown hardware, as well as companies to supply and install imported equipment. Even 4 GHz has its market, as reported in June. I shall be describing the European 11/12 GHz scene in a future article.

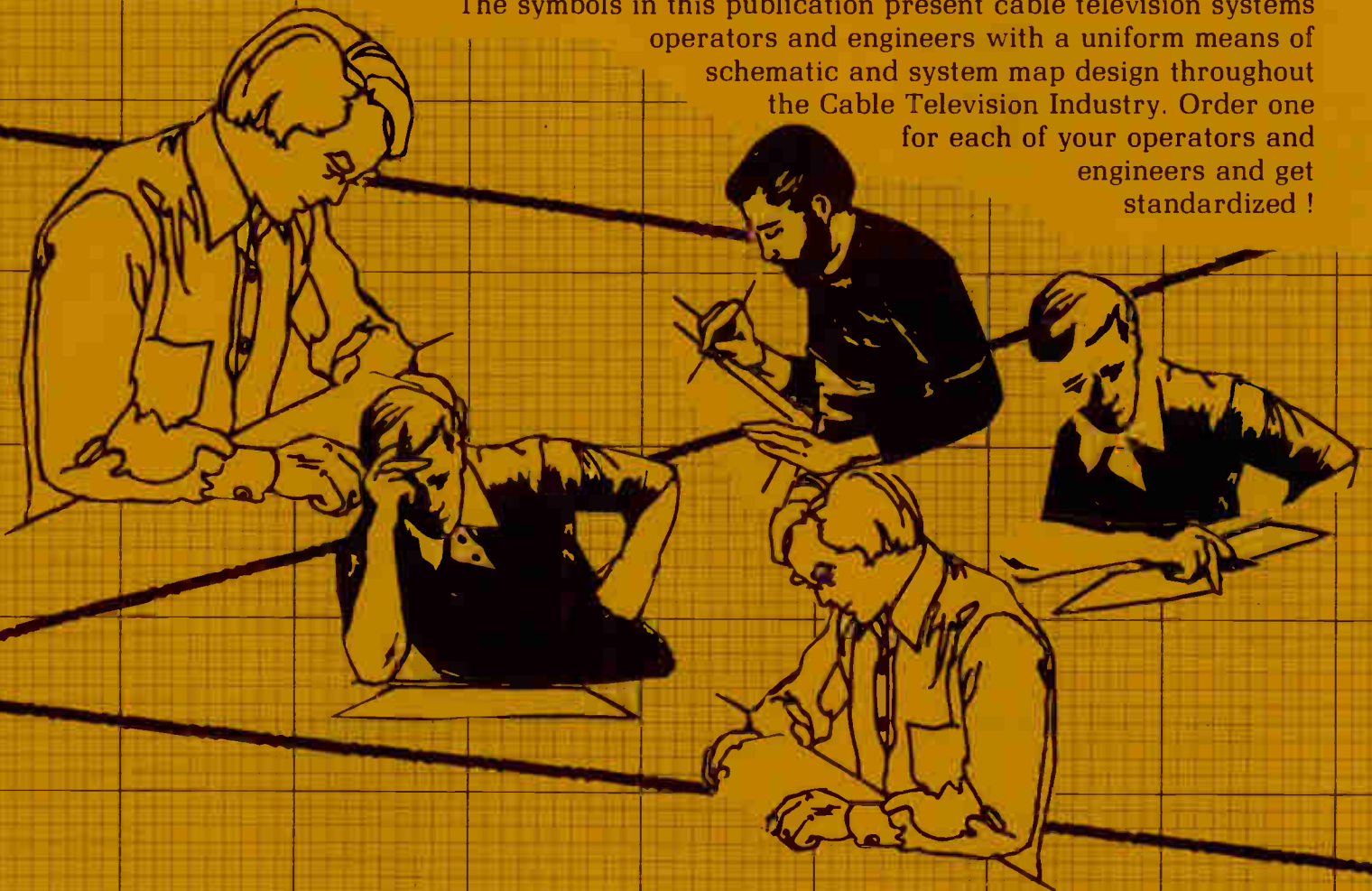
So it seems that, for the immediate future at least I shall be remaining here in the U.K. I shall continue to negotiate with the interested American companies, while considering the prospect of permanent involvement in the British scene, as an alternative. □

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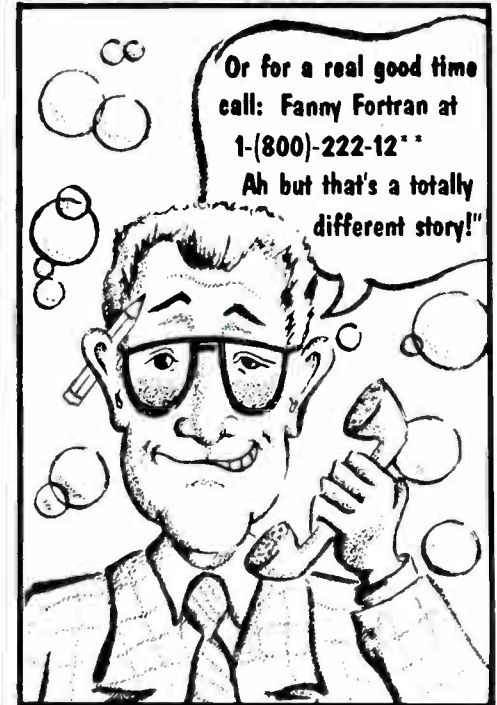
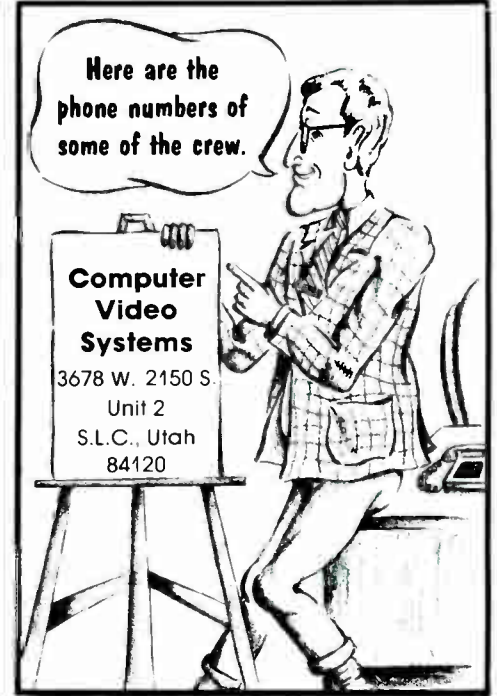
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CATA Supports Amended "Goldwater Bill"

Washington update Washington update

PETER ATHANAS NAMED NEW CATA PRESIDENT — CARL SCHMAUDER TO BE VICE PRESIDENT

At the CATA Annual Membership Meeting held in conjunction with CCOS-82 Peter Athanas of Southern Wisconsin Cable was elected to a two year term as President of CATA. Pete has been Vice President for the past two years and will succeed Ben Willie who now automatically becomes Chairman of the Board.

The Board of Directors met immediately after the election and named Carl Schmauder of Lincoln, Ore. as the new Vice President and Clarence Dow of Caribou, Maine as Secretary/Treasurer. G.H. "Bunk" Dodson, one of CATA's founders, and the last one on the Board, announced that the Board meeting held just before CCOS-82 that he wanted to relinquish the post. The Board also named its Executive Board for the coming year, which will comprise the three new officers and David Fox, who also served on the Executive Board for the past two years.

Three members of the Board ended their service with this term, Pat McConnell from District Four, Ed Smith from

District Two, and Neil Webster from District Nine. Replacements are being sought and nominations are welcome. All of the departing Board Members were given a hearty "Thank you" for work well done at the Annual Meeting.

CATA BOARD CALLS FOR NATIONAL CLEARINGHOUSE FOR SIGNAL LEAKAGE COMPLAINTS — TAKES OTHER ACTIONS AT ANNUAL MEETING

In response to increasing complaints, particularly from ham radio operators represented by the American Radio Relay League (ARRL), the CATA Board has called on the cable industry to form a national clearinghouse for signal leakage complaints (see related stories about the "leakage" problem in recent issues of CATJ). The Board said that the clearinghouse, which would be jointly sponsored by all national cable groups, would not only collect information about where problems existed, but also provide technical help to those system operators who were having trouble solving leakage problems. Hopefully such an organization would also act as a point of contact for groups such as the ARRL so that we could work out our problems without more governmental interference. Right now the ARRL has a petition pending at the FCC to limit the frequencies cable operators are allowed to use because they claim signal leakage is preventing them from using frequencies assigned to them. The CATA Board is seeking ways of solving the problems that they



Steve Effros
Executive Director, CATA

te Washington

update W

acknowledge exist through industry efforts, rather than government controls.

**CATA SUPPORTS AMENDED "GOLDWATER BILL"
S. 2172 INCLUDES FRANCHISE RENEWAL
PROVISIONS**

As promised, Senator Goldwater has introduced an amended version of S. 2172, — the "Cable Telecommunications Act of 1982" in the Communications Subcommittee of the Senate Committee on Commerce, Science and Transportation. The new version of the bill is strongly supported by all segments of the cable television industry. All CATA members are urged to contact their Senators, and the members of the full Senate Commerce Committee immediately to indicate your support (see list in this issue).

What's all the fuss about? Well, as we mentioned to you in the last issue of the CATAcable, there were, and still are

two bills being considered by the Goldwater subcommittee. One is S. 2172 — the Goldwater bill, which we will discuss in depth in a minute. The other is S. 2445, an alternative legislative package offered by the Democratic minority and sponsored by Senators Hollings and Cannon.

Interestingly, both bills aim to do roughly the same thing; deregulate cable television by limiting the powers of the franchising authorities as well as prohibiting regulation by any level of government of certain new services offered by cable operators. The main differences in the two bills had to do with the appropriate approach to accomplishing that goal. The goal, however, appeared to be the same.

As you all know, Senator Goldwater held several days of hearings on the cable bills, and solicited a great deal of comment. CATA participated in those hearings and had some suggestions on how the bill could be improved. Naturally there were a lot of other folks (54, to be precise) who had a thing or two to say as well. The Subcommittee staff then digested all that material and issued a revised version of S. 2172 just before the July 4 weekend — just in time for the CATA CCOS-82 in Nashville. What we saw in the revised bill we liked. It goes to the heart of the problems that we are all now facing in the refranchising arena — and it does so in a very reasonable manner. While the bill retains most of the provisions discussed last month, with some modification, the most important addition states the following:

continued

RENEWALS AND EXTENSIONS

SEC 609. (a) In any case in which a cable system operator submits an application to the franchisor for the renewal or other extension of such operator's franchise authorization, the franchisor shall grant such renewal or other extension if it finds that —

(1) the cable system operator has substantially complied with the material terms of such franchise and with applicable law;

(2) there has been no material change in the legal, technical, or financial qualifications of the cable system operator that would substantially impair the continued provision of service by such operator; and

(3) the services and facilities to be provided by such operator are reasonable in light of the size, nature, needs, and interests of the community to be served, the age and status of the existing system, the current availability of facilities and services in communities of comparable size and characteristics, and the costs of construction and operation of cable facilities.

(b) Nothing in this Act shall be construed as prohibiting the filing of competing applications for cable franchises, or as requiring or prohibiting the award of multiple cable franchises by a State or political subdivision or agency thereof, or franchising authority.

There is no question, from CATA's point of view, that the language you just read could be the most important legislation the cable industry has ever been involved with on Capitol Hill. S. 2172 has the potential to nip in the bud the increasing chaos being visited on the established cable television industry by well meaning city officials who have now lost sight of the reality of cable television because of the major-city hype that we have discussed in the past.

In another article in this issue, reviewing what happened at CCOS-82 we will go into more detail about the arguments made for the city's point of view by one of the panelists at the Seminar who works with the National League of Cities. Briefly, what she said was that the city has the right to seek the most they can from any franchisee, and if that means letting the bidders "out-bid" each other — even if the city knows that the bids are unrealistic, so be it! That attitude is what is now causing the chaos. It is for that reason that the power of life and death over the cable television medium that is now held by the franchise authorities must be deregulated. The Goldwater bill proposes to do just that. CATA wholeheartedly supports it and asks that ALL CATA members do likewise, in writing, today!

Lest you think that we are overstating the case with regard to the problem of franchise renewals, we can point to a recent RFP that was issued by a city. The city presently has a cable system that is in the process of upgrading to 35 channels. 80 percent of the upgrade is completed — it is all underground. The franchise expires in 1983 and now the city is demanding a minimum of 54 channel capacity! This is for a community with about 4000 subscribers that is fully penetrated. When CATA asked some of the city officials why they were now demanding 54 channels when the system was just rebuilt, their general reply was that they were very proud of their "unique" community, and that they deserved "the best". Their conclusion, of course, is that "more is better". So much for the "reasoned" thinking of local officials when it comes to cable television franchising! Passage of the Goldwater Bill is essential to the continued health of the cable television industry.

Naturally there are a lot of other provisions in the Goldwater Bill. S. 2172 is, basically, a deregulation bill. It takes most aspects of cable television and either restricts or prohibits regulation of them by any level of government — with some exceptions. In general terms, the bill does the following;

continued

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written by

Dr. Snowden Bunch

President of Cable TV of Carolina, Inc.

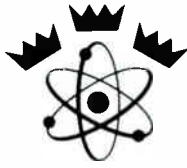
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"WE DELIVER"

* IT — Innovative Technology

* Gives jurisdiction of cable television regulation to the FCC

* Prohibits media cross-ownership restrictions

* Imposes a "reciprocity" requirement, to be spelled out by the FCC, on "foreign ownership" — however it grandfathers all existing foreign-owned systems and those that might come about through franchise proceedings already under way and any renewals of those franchises. (CATA still objects to this provision, as we stated in the testimony regarding the original S. 2172)

* Restricts municipal ownership of cable systems — the municipality may not have any ownership or control, directly or indirectly of the content of any of the programming of such municipally owned system (we'd like to see how THAT is going to be done!) Also, a municipality may only acquire an ownership interest at not less than fair market value based upon the ongoing business value of the system, including good will.

* Access channels are required for all systems having 20 or more channel capacity. 10 percent of such capacity shall be dedicated to public, educational and governmental channels, and another 10 percent shall be dedicated to leased channels. However, "available capacity" is defined to mean those channels that are actually technically available and not subject to other use requirements (such as the "must carry" rules).

* The FCC can eliminate the access requirements if it finds that there are reasonably available alternative sources of program delivery.

* The franchise authority can regulate the public, educational and governmental access channels, but the cable operator will not be regulated as to the leased channels.

* Until they are used for the dedicated purposes, the cable operator may use the dedicated channels, and may combine dedicated uses on one channel.

* Franchises that do not comply with the access provisions do not have to be modified until they are terminated, modified, or renewed.

* Rate regulation of "basic service" is allowed — that includes only broadcast signals and public educational and governmental access channels. All other rate regulation, or regulation in any other manner of other cable or telecommunications service is prohibited.

* The FCC shall set franchise fee ceilings and the fees are limited to the recovery of regulatory costs.

* The bill contains an extensive provision on subscriber privacy, and one on signal piracy.

* Any State or local laws or franchises that are inconsistent with the proposed new law would have to be amended within 60 days of enactment.

That's it. You can see why we support the bill! You might also notice that there are some things in there that we do not like, and some things are missing completely. For instance, there is no mention of telephone cross ownership. That is left up to the FCC. Also, there is no mention of signal carriage jurisdiction — the "must carry" situation. However, even with these infirmities, this is a far better start on cable legislation than we have ever had before.

New
Low Prices

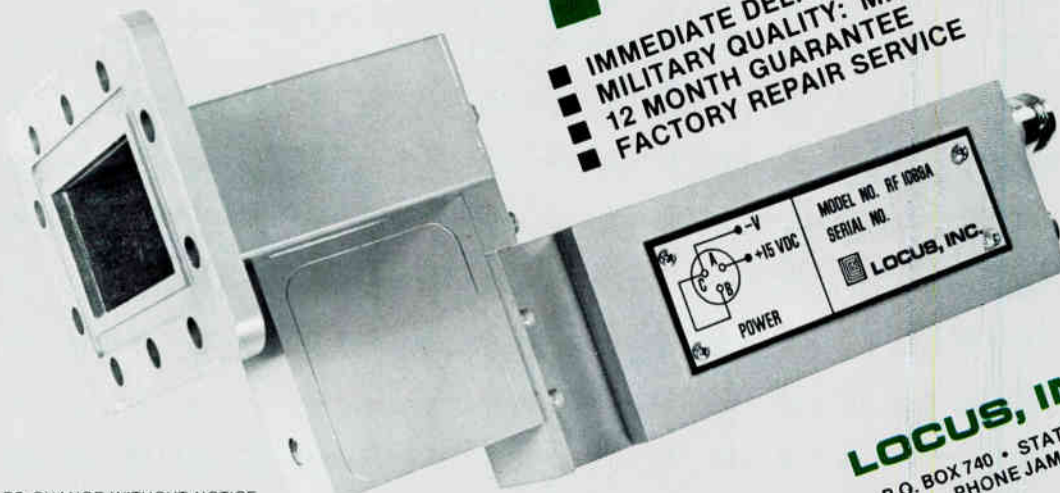
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Where is it going from here? Well, the "mark-up" of the bill by the Subcommittee should have happened before you read this. Then the full committee gets to look at the bill and then it goes to the Senate floor. It could very well be that this bill will be adopted by the Senate this year. Will it go through the House? Probably not. There is already too big a backlog of communications legislation over there. But if it does get through the Senate it will mean that we have an important first step toward actual passage of cable legislation by the Congress next year. The time to begin the fight is right now!

Needless to say, there are others in this fight too. Principally, the National League of Cities, which, as you might suspect, totally opposes this bill — or any other cable legislation for that matter. However this year, unlike the situation last year with S. 898, the shoe is on the other foot. Mr. Goldwater has already sent a blistering letter to the cities regarding what he considers to be out and out lying on the part of the NLC's lobbyist. There is no question that the cities will scream, but this time they have had their "day in court" and they made a very poor showing — further, the cable industry is united, and has lots of evidence to back up our claim that something must be done, and done soon to stop the chaos in the cities. The only possible "stopper" to this bill on the Senate side is if partisan politics started to rear its ugly head. Hopefully members on both sides of the aisle will be convinced that there is a real problem, and something must be done about it NOW. That is your job. Contact your Senators immediately, especially if you have been having any problems in areas that are covered by the bill — tell them what is going on and they will soon see that there is a real reason to vote in favor of S. 2172 — the sooner the better.

SHORT TAKES:

COPYRIGHT FILINGS DUE AUG. 29

Don't forget that your half-yearly copyright filing is due on August 29. You may have gotten forms from the Copyright Office recently that use the old numbers rather than the "new" inflation-adjusted numbers for calculation purposes. The reason for this is that the new numbers are being appealed in Court. Our advice is to use whichever numbers benefit you most. The betting is that the new numbers will eventually be approved.

TVRO RENEWALS — WHAT IF YOU MISSED THE DEADLINE?

In a recent CATAcable we mentioned that you should renew your TVRO license with the form 405 available from us. We have gotten lots of questions since then from folks who now notice that they have already missed their renewal date. What then? Well the FCC says that IF you have continued your coordination protection through Compucon, ComSearch or whoever, and they can send a letter saying that there are still no conflicting users in the area of your dish then you may request a "reinstitution" of your license by letter, including the letter from the coordinating company and a completed FCC Form 405. Remember to put in your letter that your facility has not changed in any way from the original license. Now isn't that a sensible way to deal with the problem? □

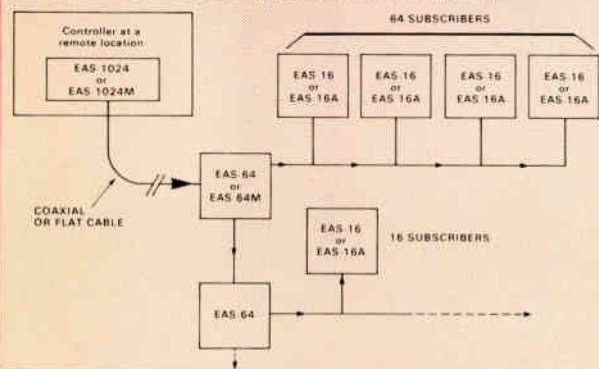
EAS ELECTROLINE'S ADDRESSABLE SYSTEM

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Designed to control access or premium service to subscribers in multidrop buildings. The system is modular in design. Security is maintained by means of continuous scanning. EAS is ideal for apartments, hotels, hospitals or other such location where constant control is needed and to provide visual audit of each subscriber's status.

ADDRESSABLE SYSTEM



The above system is composed of 3 units — a microprocessor control (EAS-1024); a decoder (EAS-64); and a wide-band, multitap switch assembly (EAS-16). The system can be installed in 2 alternative configurations and is most compatible with other systems. *Illustrated folder with specifications upon request.*



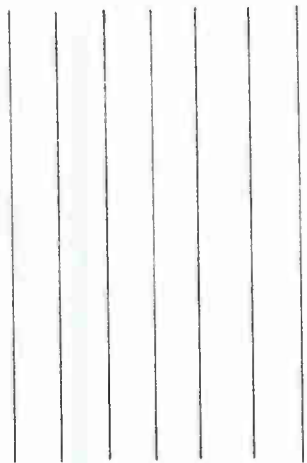
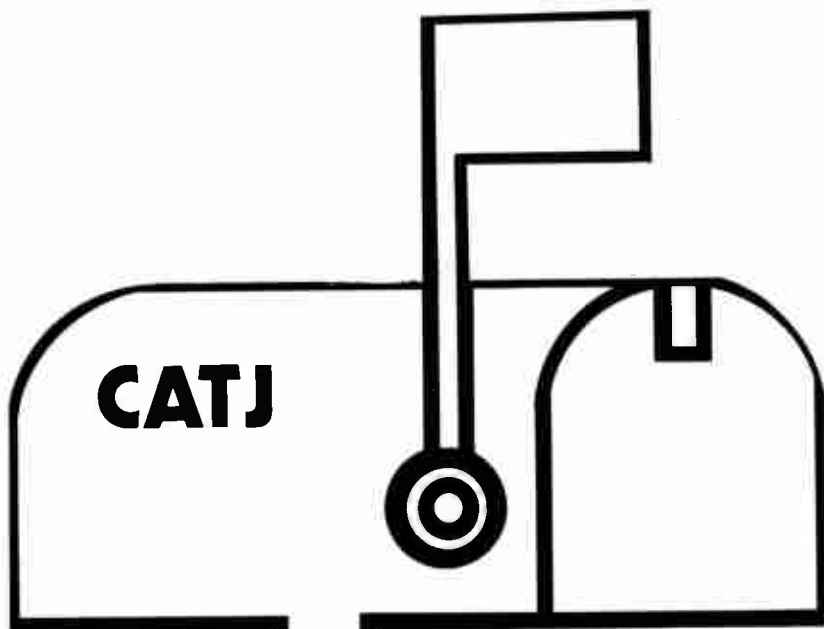
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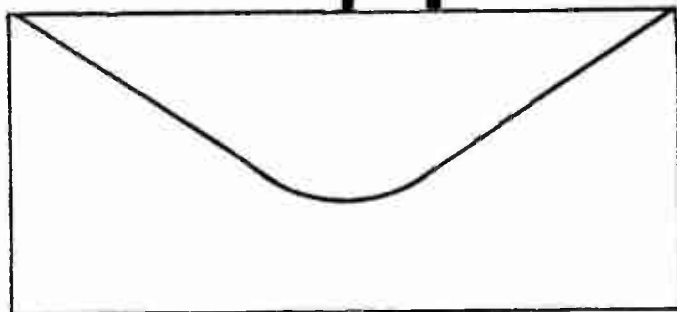
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Mail to:
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Address _____

Occupation _____

Signature _____

Date _____

ALL REPLYS BECOME THE PROPERTY OF CATA/CATJ AND WILL BE USED TO FURTHER
EVALUATE OUR PROGRAMS AND ARTICLES. YOUR NAME WILL BE WITHHELD ON REQUEST.

Letters Letters Letters Memoriam

Below are some letters that we felt were worthy of sharing with our readers and that invited comment from you.

We would like to express our thanks to CATA and Ralph and Patti Haimowitz. They took in two dummies from Iowa and started them on the right track, so that they could better understand the cable business!

We didn't expect to come out professional technicians in just 3 days, maybe 4!, but the technical training seminar gave us a head start towards our future cable endeavors.

We definitely recommend this basic course to those that want to be kept up to date in the ever-changing cable industry!

Respectfully yours,
Tom Evans
Jon Read

Dear Celeste:

Just wanted to say we had a wonderful time in Nashville. You and your staff did a super job again!

We appreciate so much all that you, Steve Effros, and all the rest are doing for us. Thanks so very much.

Jewell Bell

Dear Jewell:

Your kind words are very much appreciated, and since you and Steve (CATA members from Dexter, Missouri) have been at CCOS meetings since day one, we very much value your opinions as you have all the years from which to judge. Steve and the rest of us will continue to strive to represent our CATA members, and thanks for the encouragement.

Memo - re CATV courses given by CATA

Since usually the employers pay for the courses, both tuition, payroll and expenses, it might be advisable for CATA to institute a system of reporting to the employer just how a student/employee has made out.

Nobody has a better opportunity than an instructor to judge a student, and Ralph is perhaps better equipped that way than many!

Perhaps it might be helpful to have a short quiz for both the beginning and the end of a course, together with a report to an employer; the student must be aware of this.

Perhaps these comments are helpful.

Best regards,
J.J. Mueller

Mr. Mueller, this is an excellent idea and one that certainly merits some consideration. As you say, by the time the technician is registered and his trip sponsored, there is quite an investment in that person. A test might conceivably be designed to reliably update the management on the status of expertise, both going in and coming out of the technical training seminar. Thanks for this comment; Ralph will certainly want to act on this.

Editor



KAY STIDHAM
July 7, 1957 - July 12, 1982

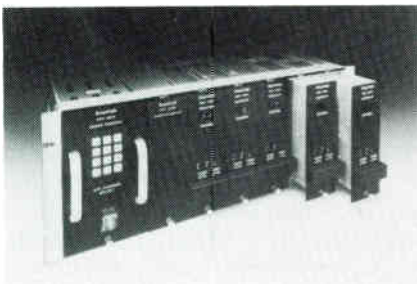
Tragedy struck the CATA/CATJ office upon returning from CCOS '82 with the untimely death of our Circulation Manager and Computer Operator, Kay Stidham, whom many of you met in Nashville. There is small consolation in discussing all of her good qualities — her lovely appearance and personality, her abilities and capabilities professionally, her enjoyment of her work and associates. For one so young to lose her life makes you pause to consider the thin thread of living and to point out how important each day should be. She made the very best of her days with us, and we know that she is surrounded by the loving embrace of our Father in Heaven. □

SHOWCASE

NEW DOWNCONVERTERS, FEEDLINE DIPLEXER AND MEMORY BACKUP FOR AVANTEK TVRO RECEIVER

Avantek, Inc., Santa Clara, CA is introducing three new options for its six-simultaneous-channel AR1000 Simulchannel™ earth station video receiver. These are: block downconverters that are mounted at the receiver to permit operation without antenna-mounted downconverters, a feedline diplexer which permits 3.7-4.2 GHz RF, and 940-1440 MHz IF signals to be transmitted on the same feedline, and a memory backup system to maintain channel tuning commands for up to 24 hours during power failures.

The ADC-4220 downconverter plugs into one of the AR1000 receiver's six IF demodulator slots (two units are required for simultaneous horizontal and vertical reception) permitting the receiver to operate directly from 3.7-4.2 GHz downlink signals rather than with the usual antenna-mounted LNA/block downconverters (LNCs). This permits the AR1000 to be economically retrofitted into present earth stations, for six-channel simultaneous reception without the need for replacing expensive LNAs. Also available are rack-mounted single (ADC-4230) and dual (ADC-4240) block downconverters that perform the same function without using-up demodulator slots in the receiver itself. All ADC Series downconverters are self-contained and are powered from the receiver.



Also primarily intended for retrofitting existing earth stations, the ADA-4200 RF/IF diplexer combines 3.7-4.2 GHz signals with the 940-1440 MHz IF band for transmission down a single feedline. If one polarization is downconverted with an antenna-mounted LNC, and the other is simply amplified in a conventional LNA, both may be carried on the same feedline to the receiver, then separated using a second ADA-4200 diplexer. An ADC-Series downconverter at the receiver is then used to translate the 3.7-4.2 GHz signals to the 940-1440 MHz IF band for processing in the receiver.

Avantek now offers a "refresh memory" option which allows AR1000

receivers to maintain their channel programming during power failures lasting up to 24 hours, and to automatically resume operation on the selected channels when power is restored. This is particularly valuable for remotely-located earth stations and those in areas where the commercial power source is subject to frequent interruption.

The Avantek AR1000 Simulchannel™ earth station video receiving system is specifically designed for performance, reliability and economy in installations requiring "broadcast quality" simultaneous reception of two or more program channels. A single AR-1000 receiver will demodulate up to six channels (any mixture of horizontal and vertical polarization) at a significantly lower cost than installations using six separate receivers. AR1000 receivers may also be stacked to provide complete, simultaneous reception of all 24 satellite channels using one set of downconverters.

A standard system combines the AR1000 receiver with the Avantek ACA-4220 antenna-mounted LNC, but with the optional receiver-located downconverters and diplexers, many unusual installations are possible.

AR1000 receivers, ADC Series downconverters and ADA-4200 RF/IF feedline diplexers are available for immediate delivery. An AR1000 Simulchannel™ data sheet is available detailing the performance and applications of the receiver and all presently-available options and accessories. For a copy, contact Jonnie Danielson at Avantek: (408) 946-3080, ext. 2516.

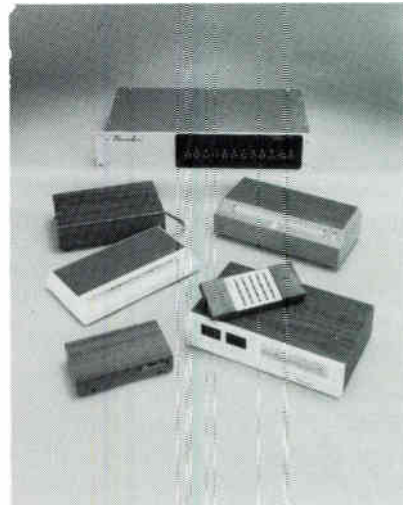
ANIXTER OFFERING TERMINALS AND 400 MHz TAPS

A wide range of subscriber terminals for Cable TV and Pay TV are now being stocked by Anixter Communications Supply for immediate delivery in the U.S. and Canada.

Terminals include a full line of Hamlin Convertors distributed exclusively by Anixter Communications Supply: The Hamlin MLE 1200 Encoder, the Hamlin SPC 4000 Single Piece Convertor, the Hamline CR 4000 Cordless Convertor, the Hamlin MLD 1200 Decoder and the Hamlin MCC 4000 Remote Convertor with cord.

Also available through Anixter are the Pioneer and Standard Component Block Convertors, and the Pico Positive and Negative Taps.

The Hamlin MLD-1200 Multi-Level Descrambler, the latest and most advanced field-proven scrambling equipment in the Cable-TV industry, is now being stocked for immediate delivery by Anixter Communications Supply.



Clockwise, starting from top center:

The Hamlin MLE 1200 Encoder; the Hamlin SPC 4000 Single Piece Convertor; The Hamlin CR 4000 Cordless Remote Convertor; The Hamlin MLD 1200 Decoder; The Hamlin MCC 4000 Remote Convertor with cord. All available through Anixter Communications Supply.

This Hamlin Multi-Level Descrambler adds 12 levels of scrambled Pay TV and offers operators an easy, reliable way to keep pace with the growing variety of pay programming. The MLD 1200 is compatible with such multichannel converters as Oak, Jerrold and Sylvania, and offers control information in the vertical interval. The Hamlin system provides the best signal to noise ratio available, wastes no spectrum space and needs no pilot carrier.



Anixter is also now stocking the Colormax 400 MHz taps for immediate delivery in the U.S. and Canada. This represents Anixter's commitment to supplying Cable-TV passive electronics to today's growing market.

The Colormax/4 series of multi-taps

provides 4-way subscriber taps over a broad range of tap values to meet almost very conceivable Cable-TV system requirement.

Modular design enables the operator to remove the base plate and circuit board as a unit without removing the center seize or strand mounting. Interchangeable tap plates can be changed without effect to downstream operation. These plates are color coded to show their db value.

The CMT/4 housing is fabricated for a corrosion resistant aluminum alloy. Stainless steel hardware is used throughout. Housing and ports have separate moisture sealing gaskets, and puncture sealing rubber membrane on "F" connectors. All connector ports, including subscriber ports, have large shoulders and anti-slip ribs for use with shrink sleeving. The unit can be either messenger or pedestal mounted.

The Colormax taps adds to Anixter's complete inventory of Cable TV products stocked throughout a nationwide on-line computer linked network of distribution centers in the U.S. and Canada. Anixter Communications Supply is a unit of Anixter Bros., Inc., a New York Stock Exchange company.

For further information call the Anixter Hotline toll free at 800-323-0436.

NOW, "CASH AND CARRY" PAY PER VIEW FROM TEST

TEST, Inc. has announced the introduction of a limited life decoder for Pay Per View events. According to TEST's sales manager, Jack Schnabel, this new development now enables non-addressable CATV, MATV, MDS, and LPTV systems to simply mail Pay Per View accessibility to subscribers. Designed for one-time use only, the new Test Single Event Decoder is so easy to use that TEST pre-packages it for systems to mail to their subscribers. When the subscriber receives the



TEST's new Single Event Decoder offers non-addressable CATV, MATV, MDS, and LPTV systems a secure, cost-effective way to take immediate advantage of Pay Per View revenues.

decoder, it is simply attached to the television and prior to the PPV event it is "turned on" by the subscriber. Because the decoder is factory tuned, no subscriber adjustment is needed. Hours after the event, the decoder literally "shuts off" and must be removed to restore normal television reception. Schnabel emphasized that this unit is engineered for one use only, is factory sealed, and highly tamper resistant. He added that, "requests for samples have been pouring in from system operators. What we are offering CATV, MATV, MDS and LPTV systems is an extremely low-cost way for them to take immediate advantage of the Pay Per View events scheduled for airing. And, we're geared up to delivery Pay Per View to them to meet their subscriber demand." TEST guarantees that this new low-cost Single Event Decoder will deliver the same high level of performance as the standard test decoders now in use in over 4500 CATV and MATV systems. Schnabel is encouraging system managers to call for samples and pricing information and to place "first call" future production orders for their Single Event Decoders. For more information, call TEST at (213) 989-4535.

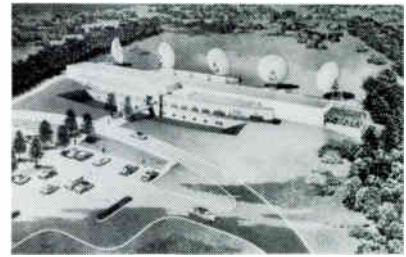
HOME BOX OFFICE STARTS CONSTRUCTION OF MULTI-MILLION DOLLAR SATELLITE COMMUNICATIONS CENTER ON HAUPPAUGE, LONG ISLAND SITE

Hauppauge, Long Island, June 14 — Home Box Office, Inc. began construction this week of its new multi-purpose Satellite Communications Center on 12.8 acres of land in Hauppauge, Long Island. Plans call for the center, located in Heartland Industrial Park 50 miles from New York, to become operational in mid-1983.

The 60,000 square-foot facility will handle transmission of all HBO program services to more than 3,600 local cable TV systems throughout the United States, Puerto Rico and the Virgin Islands. It will also serve the transmission needs of other Time Inc. Video Group subsidiaries which will be introducing new cable services such as teletext.

Edward D. Horowitz, HBO vice president, studio and network operations said the center will replace leased RCA facilities at Vernon Valley, N.J. It will also handle program origination operations now located at the HBO 23rd Street studio in New York.

After the new center becomes operational, the New York studio will continue to be used for production, post-production and editing functions and will interconnect with the new site by microwave.



"The new center will incorporate the most advanced state-of-the-art equipment available," said Horowitz. "Both in design and function, the center will be technologically and architecturally a showplace for our industry and will have the capacity to expand for future needs of the company."

With the new center, HBO and Cinemax affiliates will be assured of greater operations reliability, Horowitz added.

"By originating the HBO and Cinemax feeds from the new site, and by co-locating the uplink with the origination facility, we can shorten the transmission path and gain greater technical control over transmission of the signal, which in turn further enhances signal quality," he said.

The new facility will also give HBO more transmission flexibility. "Currently we're using only RCA satellites in transmitting our programming," he said. "With the new center, we'll be able to access satellites owned by other carriers such as Hughes."

Initially four 11-meter uplink antennae will be used to access HBO's leased or owned satellite transponders.

The center, a two-level building, where about 150 people will be employed, will house control rooms, video recording facilities, microprocessor-controlled computerized switching equipment, a videotape library with capacity to store 20,000 tapes, offices, conference rooms and screening areas. A specially designed air conditioning system will maintain temperature and humidity controls in each of the technical operating areas.

The center will also be self-contained so that standby generators will completely maintain the facility in case of a power failure.

HBO vice president and general manager of studio productions and originations Dominic Serio will serve as project director. Serio and ABCON Associates, Inc. will serve as project managers for the facility. Scientific Atlanta will supply the uplink and radio frequency equipment, and Lehr Associates of New York will design the HVAC systems.

**COMSEARCH, INC., ANNOUNCES
CELLULAR RADIO ENGINEERING
SERVICES.**

Comsearch, Inc. announces its offering of Cellular Radio engineering services. The new service will provide frequency selection, cell coverage prediction, and FCC form 401 preparation. Comsearch currently provides frequency coordination services for the control interconnect paths for the cellular system.

Frequency selection will provide sufficient frequencies for immediate and future market projections. Frequencies will be chosen and distributed in such a manner as to allow orderly growth of the system (cell splitting) as the demand for additional capacity increases. In this manner the system will be compatible with the nationwide cellular system.

Using sophisticated, computerized terrain mapping techniques, Comsearch will analyze the terrain of the intended market as a prelude to the selection of cell transmitter sites. In recommending areas for the location of cell sites, Comsearch will seek to optimize spectral efficiency with coverage objectives. Comsearch will prepare the engineering requirements of FCC Form 401 for each cell. Significant elements will include:

- A) Selection of cell transmitter sites.
- B) Specification of cell transmission equipments, including transmitter, transmission line, antenna, tower, remote control.
- C) Preparation of topographical profiles from 7.5 minute maps.
- D) Predictions of Coverage
 - 1) FCC 39 dBu Contour based upon Carey Model.
 - 2) "Real World" model.
- E) Preparation of FAA Form 7460-1 and supporting exhibits for new tower construction.

Comsearch will offer dial-up computer access for coverage predictions. Also, field work and site acquisition assistance will be available.

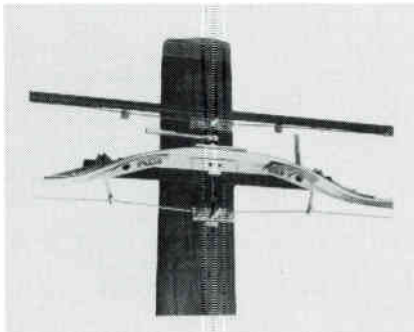
For more information contact: Jerry Schulman, P.E., Comsearch, Inc., 11503 Sunrise Valley Drive, Reston, VA 22091 (703) 620-6300.

**LEMCO INTRODUCES MECHANICAL
LOOP TOOL**

LEMCO Tool Corporation recently introduced a mechanical loop forming tool which they have engineered, field tested and are now manufacturing.

The Model G-120 "Lemco Looper" forms 12 inch flat bottom loops which are 6 inches deep with a maximum capacity of forming dual .750 trunk and dual .500 feeder at one time. A unique combination of simple mechanics guides the cables into the accepted flat

bottom configuration. This combined tool action moves the cables into the loop form with minimum force and eliminates stretching, rippling and premature cracking of the aluminum conductor.



Made of plated steel the Lemco Looper is 44 inches long and weighs 22½ pounds.

Additional information available from:
LEMCO TOOL CORPORATION
R.D. 2
Box 330A
Cogan Station, PA 17728
Phone: 800-233-8713
717-494-0620 in Pennsylvania

**450 MHz CATV EQUIPMENT
FROM C-COR**

James R. Palmer, President, C-COR Electronics, Inc., has announced the presentation of the C-COR line of 450 MHz cable TV equipment. The 450 MHz line presently consists of the model T-507 Trunk Station (2-way, 22 dB spacing), the Bridger (BA) Amplifier, Model E-507 Extender Amplifier (2-way, 28 dB gain), and the Model D-507 Distribution Amplifier (2-way, 28 dB gain).

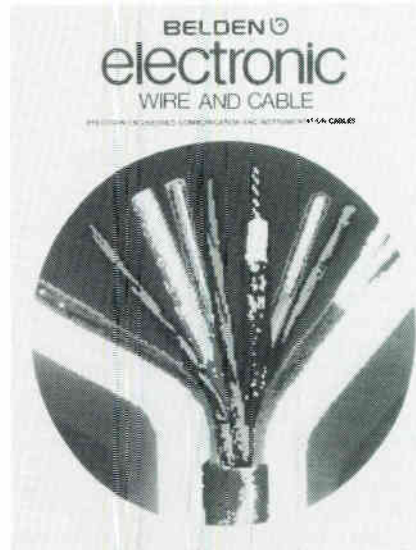
C-COR designs and manufactures broadband amplifiers and other electronic equipment, including passive devices (these have been out to 450 MHz for sometime) and special amplifiers with laboratory, industrial and military applications. The company, one of the earliest in the manufacture of cable television equipment, also designs the coaxial communications/distribution systems that use their distribution equipment. While C-COR primarily serves the cable television industry, it also applies its equipment and engineering expertise to data transmission and coaxial telephone system markets.

**BELDEN PUBLISHES NEW 208-PAGE
ELECTRONIC WIRE/CABLE CATALOG**

Belden Corporation's Electronic Division has published a new illustrated, Electronic Wire and Cable Catalog (No. 882). This catalog is a comprehensive source of cable information and products for data communications, in-

strumentation, broadcast, computer and other electronics application.

The new catalog describes standard product lines in ten individually indexed categories: multi-conductor cables; computer cables; molded cable assemblies; fiber optic cables; coaxial and broadcast cables; plenum cables; high temperature cables; hook-up wire, cords and portable cordage; and convenience-packaged wire and cable products.



New product lines featured in this catalog include fiber optic cables for use in light wave data transmissions; special low-smoke, low-flame spread cables for installation in air plenums without conduit; high temperature cables; and complete molded cable assemblies. There are also listings for new computer cables for local area networks; expanded video cable lines; computer cable lines; and coaxial cables now certified to MIL-C-17E.

Construction details are provided, as well as physical specifications and electrical characteristics in both conventional and metric units. Compliance with applicable UL, CSA, and related requirements as indicated.

The technical information section has been expanded to include additional tables, graphs and supplementary data to aid in specifying the electronic cable best suited for a particular application.

For a copy of the 1982 Electronic Wire and Cable Catalog (No. 882), write: Manager, Marketing Communications, Belden Corp., 2000 S. Batavia Ave., Geneva, IL 60134.

**BELDEN/ISO INTRODUCES
RS-232C 25-POSITION
30° MOLDED CABLE ASSEMBLY**

The Belden Corporation Interconnect Systems Operation (ISO) has introduced an RS-232C 25-position 30° molded cable assembly (Style CL) for space-saving cable entry. The 30° angle molded

handle permits vertical mounting, thus decreasing the depth behind panels.

The Style CL molded handle terminal will accept the 25-position sub-miniature D connector. Connector pins and sockets feature 30 microinch gold over copper-flashed beryllium copper. Handle retention systems offered include friction, screw mount, vertical slide lock, and horizontal slide lock.

This cable assembly meets all requirements of EIA RS-232C and is commonly used with computers, data terminals and data communications equipment. It is particularly effective with modems, CRTs and other terminal devices.

The Style CL 30° handle terminal can be molded onto any length of Belden cable. It is available on special order.

Custom features include handle and cable colors, molded-in logo or other



work, wiring patterns, retentions, additional shielded and unshielded cables, and custom terminations.

For additional information, write Joe Prechodnik, Sales and Marketing Manager, Belden Corp., Interconnect Systems Operation, 105 Wolfpack Rd., Gastonia, NC 28052.

AUTOMATION TECHNIQUES ANNOUNCES NEW SATELLITE RECEIVER LINE

Automation Techniques, Inc. has introduced a new rack mount line of its GLR-500 imageless satellite receiver series with modifications featuring detent tuning and tunable audio, according to ATI President Ted Anderson.

The addition of the features to the standard GLR-501, GLR-502, and GLR-504 units represents ATI's next generation of receivers, and will be called the GLR-511, GLR-512, and GLR-514 to signify the modification of the original series.

The new units will allow the user to adjust the audio output to specific frequencies from 5 to 8 MHz unlike the original units which were preset at 6.2 and 6.8 MHz. The new detent or "click" transponder tuning is a variation of the original receiver with continuous tuning.

The GLR-511 is a single rack, single piece receiver with a built-in down converter similar to the original GLR-501 unit. The GLR-512 is a single rack, two piece unit with unattached down converter, as is the GLR-514, which is a dual receiver rack unit. All other features are carried from the original 500 series.



According to Anderson, the addition of detent tuning and tunable audio will increase the GLR's appeal because of more precise control, versatility and simpler operation.

For more information, contact Automation Techniques, Inc., 1846 North 106th East Avenue, Tulsa, Oklahoma 74116, or call 1-918-836-2584.

MAGNAVOX CATV INTRODUCES THE MAGNA 6400 . . .

A new 64-channel 440 MHz converter has been introduced by Magnavox CATV. The design of the Magna 6400 incorporates standard features that are optional on other converters. For example, the remote IR receiver built-in and parental control are standard features of the unit.



Magna 6400 uses state-of-the-art digital technology for reliability and flexibility. With the interaction of our PROM (Programmable Read Only Memory) and microprocessor, one unit can provide customer requested features at no additional cost, thus relieving the operator's inventory burden. These customer features include: Most Favorite Channel Memory, Parental Discretion Code, Programmable Forced Tuning to Directory Channel, and Programmable High Channel Limit.

The optional hand-held remote control unit has the same keyboard design as the converter for simple operation. Plus, the flexibility of buying the hand-held unit either with the purchase of the converter or later, gives the operator a powerful marketing tool.

For further information, call toll free 800-448-5171 or 800-522-7464 (New York State).

BLONDER-TONGUE SEMINARS

September 1, 2, 3: A Blonder-Tongue MATV/CATV/Earth Station Technical Seminar will be held in New Orleans, LA in conjunction with Spivey-LeBoeuf Associates. Contact Glenn Stawicki or Gloria Rothfuss (201) 679-4000.

October 6, 7, 8: A Blonder-Tongue MATV/CATV/Earth Station Technical Seminar will be held in Miami, FL in conjunction with Singer-Products Co., Export Sales Representative. Contact Steve Schiffman (516) 683-3000 or Glen Stawicki (201) 679-4000.

November 2, 3, 4: A Blonder-Tongue MATV/CATV/Earth Station Technical Seminar will be held in Palm Beach, FL in conjunction with Enjay Associates, Inc. Contact Glenn Stawicki or Gloria Rothfuss (201) 679-4000.

TEXSCAN CORPORATION ANNOUNCES ITS NEW TEXTOP CONVERTER LINE

Texscan's new converter line includes three levels of set top converter capabilities, including: the Textop 60, Textop Plus and Textop Ultra. Each unit is enclosed in a high-impact attractive ABS woodgrain housing, supported by a rugged steel chassis frame.

Performance features include: up to 60 channel capability, 11dB typical noise figure and cross modulation, intermodulation and composite triple beats below 60dB. All units feature frequency synthesized tuning with bright LED read outs.

The Textop 60 is available for immediate delivery and features a two speed scan-up/scan-down control with an add-on wireless remote option.

The Textop Plus offers all of the features available in the Textop 60, plus AB cable switching and descrambling. A variety of channel capacity options are also available.

The Textop Ultra is a microprocessor based unit with a 20-key direct access IR wireless remote transmitter and memory capable of storing up to 60 favorite channels.

For more information, contact Raleigh Stelle at TEXSCAN, 2960 Grand Avenue, Phoenix, Arizona or call (602) 252-5021. □

Associate Roster

ADT Security Systems, One World Trade Center, 92nd Fl., New York, NY 10048 (M9 Security Equipment) 212—558-1444
Alpha Technologies, 1305 Fraser St. D-G, Bellingham, WA 98225 (M9, Standby Power Supplies) 206—671-7703
AMCOM, Inc., Bldg. E, Suite 200, 5775 Peachtree-Dunwoody Rd., N.E., Atlanta, GA 30342 (S9, Brokering & Consulting) 404—256-0228
Amplica, Inc., 950 Lawrence Dr., Newbury Park, CA 91320 (M4) 805—498-9671
Anixter-Pruzan, Inc., 4711 Golf Road, Skokie, IL 60076 (D1) 312—677-2600
Apple 1 Store, Rte. #1, Box 156, Beaver Dam, WI 53916 414—885-6249
The Associated Press, 50 Rockefeller Plaza, New York, NY 10020 (S9 Automated News SVC) 212—262-4014
Automation Techniques, Inc., 1846 N. 106th E. Ave., Tulsa, OK 74116 (M9) 918—836-2584
Avantek, Inc., 481 Cottonwood Dr., Milpitas, CA 95035 (M8, 9 TVRO Components) 408—946-3080
B E I (Beston Electronics, Inc.), P.O. Box 937, Olathe, KS 66061 (M9 Character Generators) 913—764-1900
Ben Hughes Communications Products Co., P.O. Box AS, Old Saybrook, CT 06475 (M6, M9) 203—388-3559
Blonder-Tongue Labs, Inc., 1 Jake Brown Rd., Old Bridge, NJ 08857 (M1, 2, 4, 5) 201—679-4000
Broadband Engineering, Inc., P.O. Box 1247, Jupiter, FL 33458 (D9, replacement parts) 1-800-327-6690
Broadcast Equipment Leasing, 7 Wood Street, Pittsburgh, PA 15222 (S3), 412—765-0690
Budco, Inc., 4910 East Admiral Place, Tulsa, OK 74115, (D9, Security & Identification Devices), 800-331-2246
CATEL-Division of United Scientific Corp., 1400-D Stierling Rd., Mountain View, CA 94043, 415—969-9400
C-COR Electronics, Inc., 60 Decibel Rd., State College, PA 16801 (M1, M4, M5, S1, S2, S8) 814—238-2461
CBS Cable, 1211 Avenue of the Americas, 2nd Floor, New York, NY 10019 (S4) 212—975-1766
CCS Hatfield/CATV Div., 5707 W. Buckeye Rd., Phoenix, AZ 85063 (M3) 201—272-3850
CRC Electronics, Inc., 2669 Kilihou St., Honolulu, HI 96819 (M9 Videotape & Headend Automation Equipment) 808—836-0811
CWY Electronics, 405 N. Earl Ave., Lafayette, IN 74904 (M9, D1) 317—447-4617
CableBus Systems Corporation, 7869 S.W. Nimbus Avenue, Beaverton, OR 97005, (M1) 503—543-3329
Cable Health Network, 2840 Mt. Wilkinson Pkwy., Atlanta, GA 30339 (S4) 404—436-0886
Cable-Text Instruments Corp., 705 Avenue K, Suite #4, Plano, TX 75074 (M9 Generators) 214—422-2554
Cable TV Supply Company, 5933 Bowcroft Street, Los Angeles, CA 90016 (D1, D2, D3, D4, D5, D6, D7, D8, M5, M6) 213—204-4440
Century III Electronics, Inc., 3880 E. Eagle Drive, Anaheim, CA 92807 (M1, M3, M4, M5, M7, M8, S1, S2, S8) 630-3714
Capscan, Inc., P.O. Box 36, Adelphia, NJ 07710, (M1, M3, M4, M5)
Channel Master, Div. of Avnet, Inc., Ellenville, NY 12428 (M2, 3, 4, 5, 6, 7) 914—647-5000
Collins Commercial Telecommunications, MP-402-101, Dallas, TX 75207 (M9, Microwave) 214—690-5954
Comm/Scope Company, Rt. 1, Box 199A, Catawba, NC 28609 (M3) 704—241-3142
Communications Equity Associates, 651 Lincoln Center, 5401 W. Kennedy Blvd., Tampa FL 33609 (S3) 813—877-8844
Communications Supply/Communications Construction, Inc., 319 J Westtown Rd., P.O. Box 1538, West Chester, PA 19380, (D1, 3, 4, 5, 6, 7, 8, 9, S1, 2, 8, 9) 800—345-8286
Computer Video Systems, Inc., 3678 W. 2105 S. Unit 2, Salt Lake City, UT 84120 (M9) 801—974-5380
ComSearch Inc., 11503 Sunrise Valley Drive, Reston, VA 22091 (S8, S9, Earth station placement frequency coordination) 703—620-6300
ComSonics, Inc., P.O. Box 1106, Harrisonburg, VA 22801 (M8, M9, S8, S9) 703—434-5965
DF Countryman Co., 1821 University Ave., St. Paul, MN 55104 (D1, S1, S8) 612—645-9153
Davco, Inc., P.O. Box 861, Batesville, AR 72501 (D1, S1, S2, S8) 501—793-3816
Ditch Witch, P.O. Box 66, Perry, OK 73077, (M9), 405—336-4402
The Drop Shop Ltd., Inc., Box 284, Roselle, NJ 07203 (D3, 4, 5, 6, 7, 8, 9, M5, 6, 7, 8, 9 Plastics) 800—526-4100
Durnell Engineering Inc., Hwy 4 So. Emmetsburg, IA 50536 (M9) 712—852-2611
Eagle Com-Tronics, Inc., 4562 Waterhouse Rd., Clay, NY 13041 (M9 Pay TV Delivery Systems & Products) 313—622-3402 and 800-448-7474
Eales Comm & Antenna Serv., 2904 N.W. 23rd, Oklahoma City, OK 73107 (D1, 2, 3, 4, 5, 6, 7, S1, 2, S7, 8) 405—946-3788
Eastern Microwave, Inc., 3 Northern Concourse, P.O. Box 4872, Syracuse, NY 13221 (S4) 315—455-5955
Electroline TV Equipment, Inc., 8750-8th Ave., St. Michel, Montreal, Canada H1Z 2W4 (M4, 5, 7, 9, D7, 9) 514—725-2471
Electron Consulting Associates, Box 2029, Grove, OK 74344, (M2, D1, S1, 8) 918—786-5349
Elephant Industries, P.O. Box 3949, N. Ft. Myers, FL 33903 (M9) 813—995-7383
Entertainment and Sports Programming Network, ESPN Plaza, Bristol, CT 06010 (S9) 203—584-8477
The Entertainment Channel, 1133 Avenue of the Americas, New York, NY 10036 (S4) 212—930-4900
Ferguson Communications Corp., P.O. Drawer 1599, Henderson, TX 75652 (S1, 2, 7, 8, 9) 214—854-2405
Franey & Parr of Texas, Inc., (Formerly Doherty & Co.), One Turtle Creek Village, Suite 524, Dallas, TX (S9, Insurance) 214—528-4820
GTE Products Corp., Sylvania CATV Trans. Systems, 10841 Pellicano Dr., El Paso, TX 79935 (D7, M4, M5, M6, S4, S8) 800—351-2345
Gardiner Communications Corp., 3605 Security St., Garland, TX 75042 (M9 TVRO Packages, S1, S2, S8) 214—348-4747
General Cable Corp., 1 Woodbridge Center, P.O. Box 700 Woodbridge, NJ 07095 (M3) 201—636-5500
Gilbert Engineering Co., P.O. Box 23189, Phoenix, AZ 85063 (M7) 1-800-528-5567, TWX 910-951-1380
Group W Satellite Communications, 41 Harbor Plaza Dr., P.O. Box 10210, Stamford, CT 06904 (S4) 203—965-6219
H & R Communications, Rt. 3, Box 102G, Pochontas, AK 72455 (M2, D1, S2, S3, S8) 501—647-2291
Harris Corporation-Satellite Communications Division, P.O. Box 1700, Melbourne, FL 32901 (M2, M9, S2) 305—724-3401
Heller-Oak Communications Finance Corp., 105 W. Adams St., Chicago, IL 60603 (S3) 312—621-7661
Hoarty & Raines Assoc., Inc., 8637 O'Neal Rd., Raleigh, NC 27612 (S7, S9 Consultants) 919—781-1734
Home Box Office, Inc. 7839 Churchill Way—Suite 133, Box 63, Dallas, TX 75251 (S4) 214—387-8557
Hughes Microwave Communications Products, 3060 W. Lomita Blvd., Torrance, CA 90505 (M9) 213—517-6233
Jerry Conn Associates, Inc., P.O. Box 444, Chambersburg, PA 17201 (D3, D4, D5, D6, D7, D8) 717—263-8258
KMP Computer Services, Inc., 703 Central Ave., Los Alamos, NM 87544, (S4, 5) 505—662-5545

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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 billing 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

Karnath Corporation, 2001 Westridge, Plano, TX 75075 (S1, 2, 8, 9) 214—422-7981 or 7055
 Katek, Inc., 134 Wood Ave., Middlesex, NJ 08846 201—356-8940
 Klungness Electronic Supply, P.O. Box 547, 107 Kent Street, Iron Mountain, MI 49801 (D1, D8, S2, S8) 906—774-1755
 LRC Electronics, Inc., 901 South Ave., Horseheads, NY 14845 (M7) 607—739-3844
 Larson Electronics, 311 S. Locust St., Denton, TX 76201 (M9 Standby Power) 817—387-0002
 Lemco Tool Corporation, Box 330A, Cogan Station, PA 17728 (M6, 9 Tools) 717—494-0620
 Lester Kamin & Company, 2020 North Loop West, Suite 111, Houston, TX 77018 (S9 Brokers, Consultants) 713—957-0310
 Lindsay Specialty Products, Ltd., 50 Mary Street West, Lindsay, Ontario, Canada, K9V 4S7 (M1, 2, 4, 5, 7, 9) 705—324-2196
 Magnavox CATV Division, 100 Fairgrounds Drive, Manlius, NY 13104 (D4, 5, 7, M4, 5, 6, 7, S3, 8) 315—682-9105
 McCullough Satellite Equipment Route 5, Box 97, Salem, AR 72576 (M2, 9, D3, 4, 6, 7) 501—895-3167
 Microdyne Corporation, 471 Oak Road, Ocala, FL 32672 (M9 Satellite TV Receivers) 904—687-4633
 Microwave Associates Communications Co., 777 S. Central Expwy., Suite 1G, Richardson, TX 75080 (M9 Microwave Radio Systems) 214—234-3522
Microwave Filter Co., 6743 Kinne St., Box 103, E. Syracuse, NY 10357 (M5 Bandpass Filters) 315—437-4529
 Midwest Corp., CATV, Divn., P.O. Box 226, Clarksburg, W. VA. 26301 (D1, 2, 3, 4, 5, 6, 7, 8) 304—624-5459
 Miralite Corp., 1331 E. St. Gertrude P1, Santa Ana, CA 92705 (M2) 714—641-7000
 Modern Cable Programs, 5000 Park St. N., St. Petersburg, FL 33709 (S4)
 Mullen Communications Construction Co., Inc., P.O. Box 1387A, Green Bay, WI 54305 (S2) 414—468-4649
 National Com-Service, Inc., 2255-E Wyandotte Rd., Willow Grove, PA 19090 (D1, 2, S8, 9 repair service) 215—657-4690
 National Screen Service Corp., 1600 Broadway, New York, NY 10019 (M9) 212—246-5700
 North Supply Company, 10951 Lakeview Ave., Lenexa, KS 66219 (D1, 2, 3, 4, 5, 6, 7, 8) 913—888-9800
 Oak Industries Inc/CATV Div., Crystal Lake, IL 60014 (M1, M9 Converters, S3) 815—459-5000
 Octagon Scientific, Inc., 476 E. Brighton Ave., Syracuse, NY 13210 (M9) 315—476-0660
 Power and Telephone Supply Company, Inc., 530 Interchange Drive N.W., Atlanta, GA 30336 (D1) 404—691-6813
 Prodelin, Inc., 1350 Duane Avenue, Santa Clara, CA 95050 (M2, M3, M7, S2) 408—244-4720
 Pyramid Industries, Inc., P.O. Box 23169, Phoenix, AZ 85063 (M7, 8) 602—269-6431
RMS CATV Division, 50 Antin Place, Bronx, NY 10462 (M4, M5, M6, M7, M9), 212-892-1000
 Reuters, 1212 Avenue of the Americas, 16th Floor, New York, NY 10036 (D9) 212—730-2715
 Rockwell International, Collins Transmission Systems Division, M.S. 402-101, Dallas, TX 75207 (M9, Microwave/Satellite) 214—996-5954
 S.A.L. Communications, Inc., P.O. Box 794, Melville, NY 11747 (D1) 516—694-7110
 Sadelco, Inc., 75 West Forest Ave., Englewood, NJ 07631 (M8) 201—569-3323
 Scientific Atlanta Inc., 3845 Pleasantdale Rd., Atlanta, GA 30340 (M1, M2, M4, M8, S1, S2, S3, S8) 404—449-2000
 Shafer Associates, Inc., 9501 Briar Glen Way, Gaithersburg, MD 20760 (S9, consultant) 301—869-4477
 Showtime Entertainment Inc., 1633 Broadway, NY 10019 (S4) 212—708-1600
 Southern Satellite Systems, Inc., P.O. Box 45684, Tulsa, OK 74145 (S9) 918—481-0881
 Station Business Systems, 600 West Putnam, Greenwich, CT 06830 (S4, 5, 9) 203—622-2400
 TVC Supply Co., Inc., 1746 E. Chocolate Ave., Hershey, PA 17033 (D1, 2, 3, 4, 5, 6, 7, 8) 717—533-4982
 TeleCom Systems, Inc., P.O. Box 5214, Charlotte, NC (S1, 2, 7, 8, 9) 704—332-6064
 Teledac, In., 1575 Taschereau Blvd., Longueuil, Quebec, Canada J4K 2X8 (M9 Character Generators) 514—651-3716
 Tele-Wire Supply Corp., 122 Cutter Mill Rd., Great Neck, NY 11021 (D1, 2, 3, 5, 6, 7, 8, 9) 516—829-8484
Texscan Corp. 2446 N. Shadeland Ave., Indianapolis, IN 46219 (M8 Bandpass Filters) 317—357-8781
Theta-Com CATV, Division of Texscan Corporation, 2960 Grand Avenue, Phoenix, AZ 85061 (M1, M4, M5, M7, M8) 602—252-5021
Times Fiber Communications 358 Hall Avenue, Wallingford, CT 06492 (M3) 203—265-2361
 Tocom, Inc., P.O. Box 47066, Dallas, TX 75247 (M1, M4, M5, Converters) 214—438-7691
 Tomco Communications, Inc., 1145 Tasmin Dr., Sunnyvale, CA 94086 (M4, M5, M9)
Toner Cable Equipment, Inc., 969 Horsham Rd., Horsham, PA 19044 (D2, D3, D4, D5, D6, D7) 800—523-5947, In Penna. 800—492-2512
 Triple Crown Electronics Inc., 4560 Fieldgate Dr., Mississauga, Ontario, Canada, L4W 3W6 (M4, M8) 416—629-1111, Telex 06-960-456
 Turner Communications Corp. (WTBS-TV) 1050 Techwood Dr., Atlanta, GA 30318 404—898-8500
 Tyton Corp., P.O. Box 23055, Milwaukee, WI 53223 (M6, 7) 414—355-1130
 USA Network, 208 Harristown Rd., Glen Rock, NJ (S4) 201—445-8550
 United Press International, 220 East 42nd St., New York, NY 10017 (S9 Automated News Svc.) 212—682-0400
 United States Tower & Fab Co., P.O. Box 1438, Miami, OK 74354 (M2, M9) 918—540-1574
 United Video, Inc., 3801 South Sheridan Rd., Tulsa, OK 74145 (S9) 918—749-8811
 Video Data Systems, 40 Oser Avenue, Hauppauge, NY 11787 (M9) 516—231-4400
 Viewstar, Inc., 705 Progress Ave., Unite 53, Scarborough, Ontario, Canada M1H 2X1 (M9 Cable Converter) 416—439-3170
 Vitek Electronics, Inc., 4 Gladys Court, Edison, NJ 08817 201—287-3200
 Warner Amex Satellite Entertainment Corporation, 1211 Avenue of the Americas, New York, NY 10036, (S4) 212—944-4250
Wavetek Indiana, 5808 Churchman, Beech Grove, IN 46107 (M8) 800—428-4424 TWIX 810—341-3226
 Weatherscan, Loop 132, Throckmorton Hwy., Olney, TX 76374 (D9, Sony Equip. Dist., M9 Weather Channel Displays) 817—564-5688
 Western Communication Service, Box 347, San Angelo, TX 76901 (M2, Towers) 915—655-6262/653-3363
 Winegard Company, 3000 Kirkwood Street, Burlington, IA 52601 (M1, M2, M3, M4, M5, M7) 319—753-0121

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R. Jerry Staggs, General Manager, Guam Cable TV, 530 W. O'Brien Drive, Agana, Guam 96910. Tel. 477-9334.

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1105	H	2
7776	I	1
82	I	2
214	E	4
3600	E	2
1706	B	2
1318	I-1	4
	DUALS	
36	H-2 / I-1	4

CONTACT:

Ms. Linda Ellis
United Cable Television Corporation
P.O. Box 5840
Denver, CO 80217
(303) 779-5999

TECHNICAL OPPORTUNITIES

CHIEF TECH/SYSTEM ENGINEER

Liberty Cable TV has two West Coast positions available for applicants with at least 5 years of cable experience, two of those years in a supervisory position.

Knowledge of head-end, earth stations, system maintenance and testing, construction and personnel supervision a must.

Salary commensurate with experience and education + a good benefits package.

For consideration forward a resume and salary requirements to: Liberty Cable TV, Attn. Jerry O. Bybee, Director of Eng./Western Div., P.O. Box T, Corvallis, OR. 97330.

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Strong hands on experience with system plant, design, maintenance and TVRO. Supervisory experience helpful. Two year Associate Engineering degree very desirable. Top 50 MSO, locations available in West Virginia, Kentucky, and Maryland. Salary commensurate with experience. May lead to a chief technician position. Reply to Box 8182, CATJ, 4209 N.W. 23rd, Suite 106, Okla. City, Okla. 73107.

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Excellent opportunity for system managers and technicians for our systems in Colorado, Texas, and Oklahoma. Need qualified personnel for these Southwestern locations; good working conditions and opportunity for the right people who want to work and stay actively involved in the cable business. These systems have good equipment to work with and offer excellent situations to grow in the cable business. If interested, send resume to the box number indicated below.

Box 71080
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Okla. City, OK 73107

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THE THING TO DO

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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IT'S CONVERTER COMPATIBLE
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IT'S TOTAL SERVICE DISCONNECT**

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Addressability is here and Eagle's addressable descrambler is ready now for systems seeking return-on-investment addressability.

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