

alone decoders has never been decreased by GIC despite GIC's public assurances that volume production would bring lower prices. The price of modules, in fact, has increased from \$150 to \$180. Similarly, the price of programming is unnecessarily high for HSD users. NRTC has been required to pay up to 800% more for programming than cable operators. See, NRTC's Comments in response to the Commission's companion inquiry into discrimination by satellite carriers. (Gen. Docket No. 89-88). This type of pricing disparity is discriminatory to rural Americans, and acts as a further incentive toward signal piracy.

25. GIC's announcement of VCII Plus as the "solution" to the piracy problem has exacerbated confusion and uncertainty about the future of VCII. Several satellite dealer groups have provided alarming information to the public and Congress about the introduction of VCII Plus, the obsolescence of VCII equipment, and their mistrust of GIC. Major programmers such as ESPN and HBO have issued requests for proposals for new scrambling technology. Other programmers have refused to distribute their product to the HSD market using VCII. As a result of the uncertainty over the descrambler technology and the future of VCII, the HSD market has slowed considerably in recent months.

26. Without Government intervention to correct these types of market deficiencies, NRTC anticipates that these and related problems will worsen. We believe GIC's

goal is to maximize profits by selling decoder modules and equipment while maintaining VCII or some other GIC scrambling technology as the de facto industry standard. With GIC's unfettered position in the marketplace, it will undoubtedly continue to address the piracy problem consistent only with its commercial objectives.

V. GIC's Actions in the Marketplace

27. NRTC's experiences to date with GIC have been frustrating. As described below, GIC's past actions in the marketplace reinforce the need for Commission intervention.

A) Descrambler Purchases

28. In June of 1987, NRTC began purchasing VideoCipher 2100 E stand-alone satellite descramblers and distributing them to NRTC members. The agreement NRTC executed with GIC was not a negotiated agreement, but an adhesion contract presented on a "take it or leave it"

basis. No other suppliers were available to NRTC because Channel Master, GIC's sole second source manufacturer of VCII descrambler modules, refused to provide stand-alone units to NRTC unless NRTC also agreed to distribute the full line of Channel Master products.

29. Over the course of the past 2 1/2 years, NRTC has purchased and distributed approximately 12,698 stand-alone descrambler units from GIC. No price reduction occurred during this period, despite public assurances from GIC of future reductions based upon increased manufacturing volume. The Commission should inquire further into GIC's cost of production and ability to supply the industry adequately.

B) Lease Flag

30. In March 1987, GIC advised NRTC by letter that it could provide a software enhancement to the VCII system that would provide security for leased equipment owned and serviced by NRTC's members. This "lease-flag" was designed to facilitate NRTC's plan to provide both equipment and programming to customers on an easy, affordable monthly basis. The software would allow NRTC members, as owners of

the descrambling equipment, to authorize programming services. If the units were relocated, stolen or tampered with, NRTC members owning the leased equipment could electronically retire the equipment from service.

31. GIC agreed in writing to provide this enhancement to NRTC and, in return, NRTC agreed to financially participate in the DBS Center as a program packager, just like HBO, Showtime and others. Later, GIC advised NRTC that GIC would not be able to complete the software enhancement. Apparently, other DBS Center users objected to GIC providing the software enhancement needed for lease flag and had threatened to sue GIC if GIC provided it. This demonstrates how key players in this industry -- in this case programmers -- can leverage their positions. GIC is dependent upon the programmers' use of GIC technology. NRTC's efforts to bring affordability and security to the home dish market have suffered as a result.

32. NRTC notes with great interest the recent trade press accounts revealing that several large multiple cable system operators (MSO's) may be close to launching a Ku band DBS Service. It appears that GIC is involved in these discussions and that VCII Plus is being considered as the

scrambling technology. These reports indicate that the MSO's are considering controlling the distribution and use of the VCII Plus equipment through a new and separate authorization center. This approach would provide the MSO's with the same kind of lease flag security requested by NRTC and rejected by GIC.

33. NRTC is concerned that GIC, the programmers and the most powerful MSO's will join together and use their combined market power to control access to Ku band service. We request that the Commission inquire further concerning GIC's plans regarding VCII Plus technology in the Ku band DBS marketplace.

C) DBS Center Agreement

34. In order to provide NRTC's members with instant ability to authorize programming services, NRTC entered into the DBS Center Users Agreement. In addition to the lease flag issue, numerous other points were raised by NRTC in preliminary negotiations with GIC, such as performance obligations, user participation in the Center and financial criteria for participation. GIC refused to modify any

necessary, and how soon such an upgrade program will be implemented.

H. VCII Enhancements

58. The most significant enhancement to date to the VCII technology has been GIC's development of the "Video Pal" order recorder device for use in delivering impulse pay-per-view ("IPPV") programming to the HSD marketplace. In conjunction with this service, GIC plans to construct and operate a separate IPPV authorization center. This center will become the "gateway" for all IPPV transactions in the HSD marketplace, using the de facto standard.

59. GIC has agreed to license manufacturers for the "Video Pal" enhancement. GIC has indicated, however, that it will control all access to the IPPV Center. Thus, GIC will establish itself as the bottleneck which all programmers must use to distribute IPPV programming to HSD consumers. GIC has recently begun distributing home pay-per-view product. GIC is now in a position to become a direct retailer to each HSD consumer wishing to receive pay-per-view programming.

60. NRTC has discussed with GIC its own plans to develop a universal home telemetry device capable of impulse pay-per-view ordering transaction processing and other advanced functions, such as remote utility meter reading. GIC has indicated, however, that it will not allow NRTC's equipment, which is not a licensed "Video Pal" product, to interface with the IPPV Center. NRTC seeks assurance that GIC will work with NRTC so that the equipment provided rural consumers will have enhanced value and compatibility with the de facto IPPV standard technology.

V. Commission Intervention is Required

61. NRTC has demonstrated herein that the HSD marketplace is not working and that the de facto descrambling standard has failed. NRTC does not take the position, however, that a universal encryption standard must be mandated by the Commission at this time. Rather, NRTC firmly believes that the Commission must exercise its regulatory authority, in the public interest, to oversee the development, use and security of consumer video descrambling technology in the HSD marketplace.

62. NRTC is extremely concerned that a single

corporation retains sole responsibility for and control over the de facto descrambling technology and the delivery of scrambled programming services to HSD consumers. GIC holds all patents to the de facto standard technology and establishes the rules with respect to its licensing and use. GIC controls all enhancements to the technology. GIC also controls the DBS Center, the "gateway" to every HSD descrambler in the nation.

63. In order to determine the need for a universal standard that permits encryption of satellite cable programming intended for private viewing, NRTC urges the Commission to develop a full and complete record concerning GIC's activities in the HSD marketplace. The Commission should immediately seek the following information from GIC:

- The total number of encryption devices produced or manufactured using GIC technology.
- The total number of modules distributed and available to consumers.
- The total number of modules authorized through the DBS Center.
- Data concerning GIC's capability to meet market demands.
- The criteria used by GIC in determining when ECM's are initiated.

- The total number of ECM's initiated by GIC.
- The total number of wrongful ECM's initiated by GIC and reparations made.
- The total number of modules serviced under warranty and out of warranty, and the general categories of module failure.
- Reports on all operational aspects of the DBS Authorization Center, including system failures and outages and action taken in response thereto.
- GIC's plans to further develop or enhance the DBS Center, and to create additional DBS Centers and impulse-pay-per-view authorization centers.
- Copies of any current licensing agreements concerning the de facto descrambling technology.
- Further enhancements planned regarding the de facto standard.

64. Only with this type of information in hand can the Commission determine what, if any, regulatory response is appropriate. At a minimum, GIC must not be permitted to take any action which will render obsolete descrambling equipment purchased and used in good faith by legitimate consumers. The FCC must assure that licensing practices relative to descrambling technology are implemented fairly. DBS Center operations must be monitored. All anti-piracy

activities and counter piracy initiatives must be responsibly and equitably administered. Wrongful ECMS or similar service disruptions must be compensated by GIC.

VI. Conclusion

Legitimate consumer investment in GIC licensed products must be protected. The Commission must not allow scrambling technology to be employed in a manner which discriminates unfairly against any party. GIC must not be allowed to leverage its existing position for its sole commercial gain.

Those who are required to rely on GIC technology to promote and to extend the diversity of video programming must be protected by the Commission from potential abuses by GIC. The Commission must obtain adequate information and take appropriate regulatory action to ensure that this does not occur. The public interest, convenience and necessity requires no less.

WHEREFORE, THE PREMISES CONSIDERED, NRTC urges the Commission to proceed in a manner consistent with the views expressed herein.

Respectfully submitted,

NATIONAL RURAL TELECOMMUNICATIONS
COOPERATIVE

By:



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Dated: June 19, 1989

Summary
Statement of Bob Phillips of the
National Rural Telecommunications Cooperative
Communications Subcommittee
U.S. Senate Committee on
Commerce, Science, and Transportation
November 17, 1989

NRTC is committed to fairness in access and service to rural America. Our members have demonstrated this commitment through their track record of successful universal electric and telephone service to America's rural reaches.

From our utility perspective and 50 years of experience in providing stable service to consumers, we see in the cable industry patterns of control without a conscience, rates out of reason, and selfish greed before service.

I have outlined our proposals in this testimony. In brief, the home satellite dish market problem is clear:

- o the home satellite dish market is floundering as a cable competitor and an effective delivery technology for rural America;
- o concentrated cable power is the major factor in the downfall of the dish industry through cable's programming control;
- o rural Americans remain at a distinct disadvantage in the maturing Information Age;
- o Congress must act to insure that cable has an effective competitor and that rural Americans are not left behind.

The time for Congressional response to this abuse of the Cable Television Act of 1984 is now. NRTC believes three things must be done to bring balance and competition back into the television distribution. They are:

1. Mandate equal access to programming on technology-neutral terms, conditions and pricing.
2. Restrict cable from control and ownership of both the content and the conduit of information to rural America.
3. Provide regulatory oversight of encryption technology.

Many areas of rural America have not seen improved television selection or reception in thirty years. Rural consumers that received one or two channels in the '50s, often receive the same limited channel selection today.

But consumers are aware of the changes in television. They know that a great and growing selection of programming is available in areas where population densities can support program delivery. But in the consumer's mind, that is not the issue. Universal television access is the issue.

The consumer does not care if their programming is delivered by cable, satellites, or microwave, roof antenna, or fiber. They care about access and they care about price. And that is what Congress should address, non-discriminatory universal access to affordable programming.

carriers should be necessary. However, Congressional action will continue to be needed to address cable programmers' control of the home dish market.

In our submissions before the FCC, NRTC pointed out that the FCC has the regulatory authority, under Section 202(a) of the Communications Act of 1934, to prevent carriers from making "any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communications service, directly or indirectly, by any means or device..."

NRTC believes that wholesale programming service to the home satellite dish market is a "like" wholesale programming service to the cable market. In all of our previous testimony we have demonstrated that the services are identical and have no functional differences whatsoever. Senators Gore and Pressler have introduced legislation that will address these issues. We support their enactment.

The 1984 Cable Act envisioned the encryption of satellite signals. The FCC is now engaged in an inquiry to determine the need for a universal encryption standard for the home dish market. However, NRTC does not believe the FCC's inquiry goes far enough. We support the language introduced by Senator Gore which would act to protect those legitimate home satellite dish viewers who have purchased General Instruments VideoCipher II technology. Industry sources indicate piracy levels are now 60 to 85 percent. It is clear that VideoCipher technology has been compromised and General Instrument is now moving to a "more secure" version called the VideoCipher II "Plus," but at the customer's expense.

We sincerely believe that the FCC must exercise its regulatory oversight in this matter. Legitimate consumers must not be left with useless equipment or with another charge, this time for \$129 to upgrade their existing VCII modules to VideoCipher II Plus. The failure of the VideoCipher II technology is the responsibility of General Instrument. (Summaries of NRTC's comments in the FCC proceedings applicable to the home dish market are attached. NRTC would be pleased to make full copies available upon request.)

If left unchecked, unfair programming prices and forced equipment upgrades will continue consumer confusion about the home dish marketplace and will fuel rampant piracy which threatens to destroy the entire home dish marketplace and the investment made by 2.4 million Americans.

This would result in clear winners and clear losers. The winner would be the cable industry with one less competitor. The losers would be every rural American left without Information Age access.

Mr. Chairman and Subcommittee members, NRTC is committed to fairness in access and service to rural America. Our members have demonstrated this commitment through their track record of successful universal electric and telephone service to America's rural reaches.

Satellite Program Information

CHANNEL GUIDE

Manufacturer Breaks M/A-COM Code

by **BARNEY PARKER**
News Editor

RAPID CITY, S.D.—Anderson Scientific recently announced that it has been able to decipher the video signals of such programmers as Home Box Office and Showtime that are being encoded by M/A-COM.

In doing so, Anderson Scientific now believes it could make a descrambling device for a lower cost than the \$395 that M/A-COM is charging for its VideoCipher 2, according to the company's president, Joe Massa.

"The point we're intending to make is to demonstrate that the technology is there to descramble the video," Massa said. "Within the tradition of our company, which is to develop portable low-cost devices for home satellite reception, we've been able to do that.

"Frankly, we're laying it out and looking for people who can tell us what there might be as far as applications of the technology."

*article of June
1986
UCI broke
before GI bought.*

FOUND A WAY TO MODIFY THE VIDEOCIPHER, FOR A PERIOD OF ONE MONTH
1987

JULY

THE HONORABLE EDWARD J. MARKEY
CHAIRMAN
SUBCOMMITTEE ON TELECOMMUNICATION & FINANCE
HOUSE OF REPRESENTATIVES
H2-316 HOUSE ANNEX 11
WASHINGTON, D.C. 20515

DEAR CHAIRMAN MARKEY:

DURING THE COURSE OF THE SUBCOMMITTEE HEARINGS ON JULY

1, 1987, ON THE SUBJECT OF SCRAMBLING OF SATELLITE VIDEO
SIGNALS TO THE HOME DISH MARKET, REPRESENTATIVE TOM TAUKE
ASKED THAT THE ANSWERS TO CERTAIN QUESTIONS BE SUBMITTED
FOR THE RECORD.

ATTACHED ARE QUESTIONS ASKED BY REPRESENTATIVE TAUKE
WHICH WERE DIRECTED TO GENERAL INSTRUMENT CORPORATION
AND OUR ANSWERS.

SINCERELY,

J. LAWRENCE DUNHAM

Attachment
cc: REPRESENTATIVE TOM TAUKE w/ attachment

QUESTIONS SUBMITTED BY CONG. TAUKE

1. I UNDERSTAND THAT A LARGE NUMBER OF VIDEOCIPHER (V) II
DECODERS HAVE BEEN COMPROMISED BY "PRIVATE" DECODING
INTEGRATED CIRCUIT CHIPS. PLEASE EXPLAIN "COMPROMISING."
WHAT IS THE CURRENT BLACK MARKET PRICE FOR THE CHIPS?
HOW MANY DECODERS HAVE BEEN COMPROMISED AND WHAT IS
THE PROCEDURE TO IDENTIFY AND CANCEL OR NULLIFY
THOSE THAT HAVE BEEN MODIFIED? WHAT IS THE POSSIBILITY
OF ERROR IN IDENTIFYING A NORMAL UNIT AS ONE THAT HAS
BEEN MODIFIED? ARE THERE ANY APPEAL PROCEDURES?

A. THE VIDEOCIPHER (V) II SYSTEM HAS NOT BEEN COMPROMISED
THERE WAS A TEMPORARY BREACH OF SECURITY, BUT WE HAVE
AN ONGOING COMPREHENSIVE PROGRAM TO ASSURE THE INTEGRITY
OF THE SYSTEM.

WHAT WAS ATTACKED WAS THE MANAGEMENT OF THE PROGRAM
KEY WITHIN ONE OF THE INTEGRATED CIRCUITS. THE
AUDIO PORTION OF VIDEOCIPHER (V) II IS DIGITALLY PROCESSED
AND ENCRYPTED USING THE DATA ENCRYPTION STANDARD
ALGORITHM. THIS ALGORITHM HAS BEEN CERTIFIED
BY THE U.S. GOVERNMENT AS BEING ESSENTIALLY UNBREAKABLE.
LATE IN 1986, SOME ENTERPRISING TECHNICAL "PRIVATE"
FOUND A WAY TO MODIFY THE VIDEOCIPHER, FOR A PERIOD OF ONE MONTH ENDING

MARCH 15, 1987, WHERE WE REPAIRED FOR FREE ANY DECODERS THAT WERE ILLEGALLY MODIFIED. WE EXPECT THAT THE VIDEOCIPHER (V) II SYSTEM SECURITY WILL CONTINUE TO BE SUBJECTED TO ATTACKS, AND WE WILL CONTINUE TO BE SUBJECTED TO ATTACKS, AND WE WILL CONTINUE TO RESPOND WITH AN APPROPRIATE COMBINATION OF LEGAL TECHNOLOGICAL MEASURES. WE OCCASIONALLY HEAR THAT MODIFIED CHIPS OR MODIFIED DECODERS HAVE BEEN SOLD FOR PRICES IN THE RANGE OF \$250.00-\$900.00. SINCE THIS IS AN ILLEGAL "MARKETPLACE," INFORMATION ON PRICES IS NOT RELIABLE.

WE HAVE NO WAY OF KNOWING FOR CERTAIN HOW MANY DECODERS HAVE BEEN COMPROMISED, BUT WE BELIEVE THAT IT DOES NOT EXCEED 30,000 BECAUSE WE CAN ACCOUNT FOR VIRTUALLY ALL OF THE DECODERS THAT WE HAVE SHIPPED EXCEPT FOR THIS NUMBER. THESE 30,000 WERE MANUFACTURED BEFORE THE BEGINNING OF 1987, WHEN WE MODIFIED THE DECODER DESIGN TO PRELUDE THE ILLEGALLY-MODIFIED DECODERS.

IN ADDITION, WE ARE CONTINUING TO INVESTIGATE AND HOPE TO SOON CONTINUE OUR ELECTRONIC COUNTERMEASURES AGAINST ADDITIONAL ILLEGALLY-MODIFIED DECODERS. WHILE THIS MAY SEEM LIKE A LARGE NUMBER, WE HAVE ALREADY TURNED OFF ABOUT 12,000 OF THE ILLEGALLY-MODIFIED DECODERS.

SPECIFIC DECODER ADDRESSES OF MODIFIED DECODERS WERE OBTAINED WHEN U.S. MARSHALS EXECUTED SEIZURE ORDERS AT THE PREMISES OF SOME OF THESE MANUFACTURERS AND PROMOTERS. USING ELECTRONIC COUNTERMEASURES IN FEBRUARY AND IN MAY, SOME 12,000 OF THESE DECODERS HAVE BEEN DEACTIVATED. OTHER DECODERS WERE DEACTIVATED BASED ON OTHER INFORMATION. MOST OF THE ILLEGALLY-MODIFIED UNITS WERE BLACKED OUT OR RECEIVED SPECIFIC MESSAGES WHEN WE INSTITUTED ELECTRONIC COUNTERMEASURES. WE ARE NOT WILLING TO DISCLOSE OUR SOURCES OF INFORMATION OR THE PROCEDURES WE USE TO DEACTIVATE THESE MODIFIED DECODERS.

WHEN A DECODER IS DEACTIVATED, THE OWNER HAS NO WAY OF KNOWING WHETHER WE HAVE DEACTIVATED IT OR IT HAS SIMPLY STOPPED WORKING DUE TO FAILURE OF A COMPONENT. THE OWNER WHO KNOWS HIS DECODER HAS BEEN MODIFIED IS LIKELY TO ASSUME THAT WE HAVE DEACTIVATED IT. IF WE MISTAKENLY DEACTIVATED A UNIT THAT WAS NOT ILLEGALLY MODIFIED, THE OWNER IS LIKELY TO ASSUME THAT IT WAS CAUSED BY COMPONENT FAILURE, AND WOULD INVOKE THE WARRANTY TO HAVE IT REPAIRED AT NO COST.

OF THE ROUGHLY 12,000 DECODERS THAT HAVE BEEN TURNED OFF, WE HAVE BEEN ABLE TO DETERMINE THAT 44 WERE NOT ILLEGALLY MODIFIED. CONSIDERING THAT THERE WERE ABOUT 120,000 AUTHORIZED CUSTOMERS AT THE TIME THE ELECTRONIC COUNTERMEASURES BEGAN, THIS IS A RATIO OF 0.04% OF THE AUTHORIZED SUBSCRIBERS. IN FACT, ONLY SOME OF THE 44 UNITS WERE IN USE BY HOME SUBSCRIBERS. IN FACT THE REMAINDER WERE SENT IN FOR REPAIR BY DEALERS, CABLE TV OPERATORS OR COMMERCIAL ENTITIES. CONSUMER SUBSCRIBERS WILL BE SHIPPING EXPENSES THEY INCURRED.

March 8, 1989

GENERAL INSTRUMENT UNVEILS VIDEOCIPHER II PLUS INTRODUCTION DESIGNED TO REVITALIZE THE HOME TVRO INDUSTRY

VideoCipher II Plus Purpose

- Introduce a significantly higher security descrambler module into consumer market as soon as practical with minimal disruption to each segment of the industry.
- Eliminate fear of product obsolescence for existing and new TVRO system owners.

VCII Plus Descrambler Module Definition

- Identical package as current VCIIIM. Backwards compatible. Security cartridge eliminated from initial VCII Plus introduction and held in reserve as a security measure if needed at a later date. Licensees still encouraged to redesign IRD rear panel for this potential future security enhancement.

New Features

- Capable of receiving up to 256 program lines, descrambling 3 encrypted data channels and multiple audio channels (support for additional features to be phased in over time). Has expanded on-screen displays and increased addressing rate.

VCII Plus Production

- Licensees placed large confirmed orders for VCII modules and now have requested delivery delays. In an attempt to accommodate these requests, 1989 VCII production will be cut back, at significant cost to Gi, to a fixed number of modules. No VCII modules will be manufactured after 12/31/89.

- Begin production of VCII Plus modules on schedule in late September and ramp up to 100% of production output by January 1990.

- Institute Order Conversion Plan which offers Licensees opportunity to adjust open orders to more closely match forecasted demand and apply for allocation of initial VCII Plus modules during ramp up.

- New orders for VCII Plus modules will be at OEM list price of \$249 beginning 1/1/90. As promised, as a special industry promotion, initial limited quantities of VCII Plus modules during October-December ramp up will be offered at current VCII price. The marketplace will determine retail prices of both VCII and VCII Plus systems during transition period. Fifteen dollars (\$15) of every new VCII Plus module ordered under the \$249 price schedule and shipped between 1/1/90 and 4/30/90 will be contributed toward EPCA-administered industry promotion campaign (excludes VCII Plus modules shipped under Consumer Upgrade Plan below). Potential campaign in excess of \$1 million.

VCI Plus Upgrade Plan

*only
untampered
undamaged
VCI*

- Legitimate VCI descrambler or IRD owner, Distributor or Dealer can trade-in an untampered, undamaged VCI module with a \$129 upgrade charge and receive in exchange a new VCI Plus module beginning 4/1/90. Eliminates fear of obsolescence among existing consumers who helped build the industry and new system purchasers by offering an upgrade should new programming appear on expanded upper tier bits.
- Licensees may trade-in untampered, undamaged VCI modules with a \$129 upgrade charge for each module in exchange for an equal quantity of new VCI Plus modules.
- VMSD Dealers may participate in upgrade program.

VCI Plus Tier Bit Marketing Plan

- As previously stated, we have no plans to allow current subscription services to abandon VCI lower tier bit in favor of new VCI Plus upper tier bit.
- VCI Plus technology provides for potential growth of new subscription services if they choose to serve HTVRO market through new upper tier bits.
- Encrypted data and audio channel capability will be marketed in the future to providers of these services.

Benefits of VCI Plus Introduction Program

- Timely introduction of higher security.
- Reduce consumer confusion over new product
- Maintain positive sales and growth through transition period
- Protect Consumer, Dealer, Distributor, Licensees against perceived descrambler obsolescence with Order Conversion and Consumer Upgrade programs.
- Major industry promotion campaign in excess of \$1 Million.
- Provides additional features and channel expansion value to home TVRO system.

The Oklahoma Observer, Frosty Troy, Editor
February 25, 1986 Issue, Page 22

TV Dishes Aren't Broken — Yet

By Jean Corley Lacy

They've done it again!

The media are paying no attention to the other side of the story on satellite dish owners rights. On January 15, when HBO/Cinemax scrambled their video, ABC News at 5:30 told the viewing public that dish owners might as well turn their dishes into barbeque pits or scramble eggs on them, etc. Also, Channel 9 News ran a piece on scrambling. A spokesperson for Multimedia said all that expensive satellite equipment was of no "earthly" use now.

What they fail to tell the public is an entirely different story.

The skies have not suddenly gone dark simply because HBO/Cinemax has scrambled, nor will it go black when others, who are planning to scramble, do so. There are still 100 channels to view with a wide choice of programming. There will soon, very soon, be three or four more movie channels with programming.

Has the media mentioned that some of the big cable companies are already selling dishes and that in 30 days others will also be in the dish business? If dish owners are such "pirates" today, will they automatically be "legal" because the cable company sells you a dish tomorrow? Could it be that the cable companies have noticed those millions (15 to 20 million, at

least) of homes, mostly rural, who have never been and never will be serviced by a cable company?

Has the media mentioned that HBO will be going to Ku-band on four transponders of K-1, just recently launched? How about a joint venture of HBO and RCA to purchase the Satcom K-3 satellite? Quoting from Satellite TV Week, "K-3 isn't scheduled for launch until late 1988 when HBO will pick up two transponders each for east and west feeds of HBO and Cinemax. The move is significant, however, because it signals a move by programmers to Ku, and puts RCA in the programming business with two K-3 transponders for hotels and motels." What happens to all the decoders on C-band type receivers not equipped to get Ku-band?

In an on-the-air interview recently with Keith LaMonica of FM America (a radio TVRO talk show, weekdays 7-11 pm Central, on Telstar 303 (T3), channel 18), a representative of HBO told Keith that HBO would not scramble until decoders were widely available. Numerous calls-ins on January 15 failed to turn up any "widely available decoders" from dealers or cable companies. (With only 25,000 decoder boxes made in the first batch, how "widely

available" could they be? A big phone bill still has not turned up one "in stock." Got lots of promises to get one to me in 24 hours.)

LaMonica has already paid \$10,000 to be the first person to successfully break the encryption code of the VideoCipherII manufactured by MVA-COM. (Keith LaMonica can be reached at P.O. Box 510261, Salt Lake City, Utah 84151, also 1-800-362-8876 or his on-the-air lines of 1-801-570-1000 or 1-801-570-5255.)

And the media have not mentioned the fact that Rep. Billy Tauzin (D-La.) and Rep. Charlie Rose (D-N.C.) have introduced HR 1840, a bill that would require fair access to and negotiations for any scrambled signal cable programmers might put into satellite. They have been joined by Rep. Lee Hamilton (D-IN.), Rep. James Weaver (D-OR.), Rep. Thomas Tauke (D-IA.), Rep. Bill Schuette (R-Mi.) and 20 others as co-sponsors. Rep. Tim Wirth (D-CO.), Chairman of the House Telecommunications Subcommittee has announced hearings on satellite viewing rights legislation in late January or early February.

Also Rep. Judd Gregg (R-N.H.) introduced HR 1769, a bill that would put a two year congressionally mandated halt to

scrambling so that provisions of HR 1840 could be worked out. He has an equal number of co-sponsors for his bill.

Further Senator Albert Gore (D-TN.) and Senator Thad Cochran (R-MS) co-authored SB 1618 which was referred to the Commerce Committee. This bill mandates fair prices for home satellite viewers in the distribution of programming.

Other powerful allies of dish owners are House Majority Leader, Jim Wright (D-TX.) and Senator Barry Goldwater (R-AZ.).

There is a big grass roots movement in support of dish owners, and the fat lady hasn't done her thing yet! She's in the backyard sprinkling salt on all those birds on her dish.

Yes, I am a dish owner. I would be in favor, as most dish owners are, of paying a "reasonable" amount for any services that I wish to receive. I will not pay the exorbitant price of \$395 for a descrambler (nor will I lease one for \$10 a month), and pay a monthly fee of \$12.95 for HBO, \$12.95 for Cinemax or \$19.95 monthly for both. The cable company does not service our satellite dish system. It seems only fair that we not pay more than the cable company does to receive any given service.

—The author lives in Lindsay.

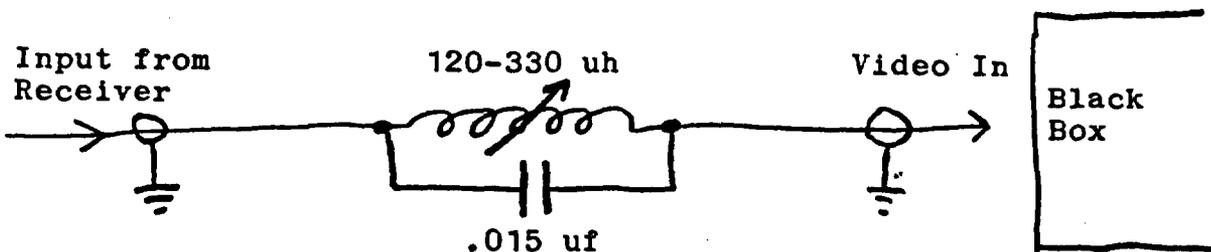
A Word About Analog Audio

In the last issue of our newsletter, we presented plans for an analog audio circuit. This circuit was intended for you "experimenters" who wanted to hear the audio on the stations using analog audio type encryption.

Since publishing those plans, some strange things have been going on at the channels that use analog audio. First, American XXX has announced that they will be dropping their current encryption method and going to the VC II format. This of course will not affect any Black Box owners, but we wonder what kind of deal the current subscribers to American XXX get after paying hundreds for a decoder, and then finding out it will be useless in the near future.

Another station, F.U.N. which had been keeping a very regular schedule of Adult XXX entertainment, has recently been missed by some of its viewers. For unknown reasons, F.U.N. missed several nights of programming, and it was feared by some that they were leaving the air. However, they are back now, and seem to be keeping some kind of a schedule.

In any case, for those of you that watch these stations, and want to experiment with a simple modification that will clear up the sine waves on the screen, try this:

Black Box Legal Problems

If you saw our previous newsletter, you saw where we provided some information that showed you how to get audio on the adult stations, how to turn on a M/A-Com VC II descrambler, and where to buy a completed black box.

Well it seems that we may have stepped on a few toes by publishing that information, because since then we have been contacted by the Attorney General, the Postmaster General, several lawyers, and a Police officer bearing a supeona for us to testify in court.

Our attorney advises us to be a little more cautious when selecting items to be printed in the newsletter, and in the future not to give technical advice concerning the VC II over the phone.

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Black Box Updates

- * Bag of Parts - I've heard that name many times this month in complaints from some of you concerning the way that they are handling parts orders. It seems that they have been very slow in filling orders, and have been shipping only some of the parts.

We contacted the folks at Bag of Parts to find out what was going on, and they told us that they simply under estimated the number of orders that they would receive, and were caught without enough parts. To further complicate matters, their bank was reluctant to let them accept Visa/MC on phone sales, and this caused them to cancel many orders.

They now say that they have almost caught up on all their backorders, and are shipping new orders on time. We suggest that if you can't get a problem resolved with Bag of Parts, that you contact Boresight (1-201-562-0087) and let them know about any problems you might be having.

- * BTW Electronics has announced that they have reduced the price of their circuit board to \$35.00. BTW makes a very good board, and ships immediately upon receipt of your order. You can order from them by mailing them a postcard requesting part # BBS021 to be shipped COD to you. Their address is BTW, RT. 4, Box 492, Eureka Springs, Ar 72632.
- * Jameco, a very reliable supplier of mail order electronics, has announced a complete Black Box Kit, which includes all the components needed to assemble your own black box, except the board, case, and power supply. This kit with a retail value of over \$125.00 is available through Jameco for under \$100.00. Also, the new Jameco catalog is out, and if you're a serious electronics builder, you need this catalog. To order call 1-415-592-8097.
- * For anyone who doesn't already know, if you plan to build the Black Box, always refer to drawing # 8. It contains all the revisions and enhancements. Yes, there are some differences between drawing # 8, and some of the other drawings. This is simply because drawing # 8 is for building the unit, the rest of the drawings explain the theory.
- * Watch Boresight (Spacenet 1, channel 17, 8:00P.M. CST). This is the only show not controlled by the "bad guys", and anyway you may be surprised by what you learn about the VC II.

Let us Know

We welcome your comments, suggestions, articles, photos or other related items that would help make our newsletter better. If you would like to submit something for us to publish, simply mail it to our offices, and if it is something we feel our readers would be interested in, we'll publish it. Thanks for your continued support!

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M/A-Com Has Its Own Legal Problems

In a surprise move, Oak Industries has filed a lawsuit against M/A-Com, alleging that the VideoCipher II encryption Technology violates Oak patents for its Sigma scrambling system. The suit, filed June 17 in the United States District Court in Norfolk, Virginia, seeks unspecified monetary damages as well as preliminary and permanent injunctive relief.

An injunction against M/A-Com could force the company to discontinue its sales of the VC II descrambler, and would also prevent the company from any further licensing of its VC II encryption technology to programmers.

This lawsuit could be a key turning point in the entire scrambling issue. If decoder sales are stopped, then it will be time for Congress to step in and stop all scrambling until there were federal scrambling standards, and parity in the marketplace for cable and satellite consumers.

M/A-Com sells out to General Instrument

General Instrument Corporation has just completed the purchase of M/A-Com's Cable and Home Communications division for \$220 million. The purchase includes the full rights for the license and manufacture of commercial and consumer VideoCipher decoders.

General Instrument, which lost over \$60 million dollars last year, has become through this purchase the largest hardware supplier in the cable or satellite industry.

Still unresolved though is the pending lawsuits filed by Oak Communications against M/A-Com concerning patent infringements by the VC II descrambler. Oak has also sued two other General Instrument divisions which are active in cable equipment manufacturing - Tocom and Jerrold. We look for General Instruments to attempt to purchase Oak Communications.

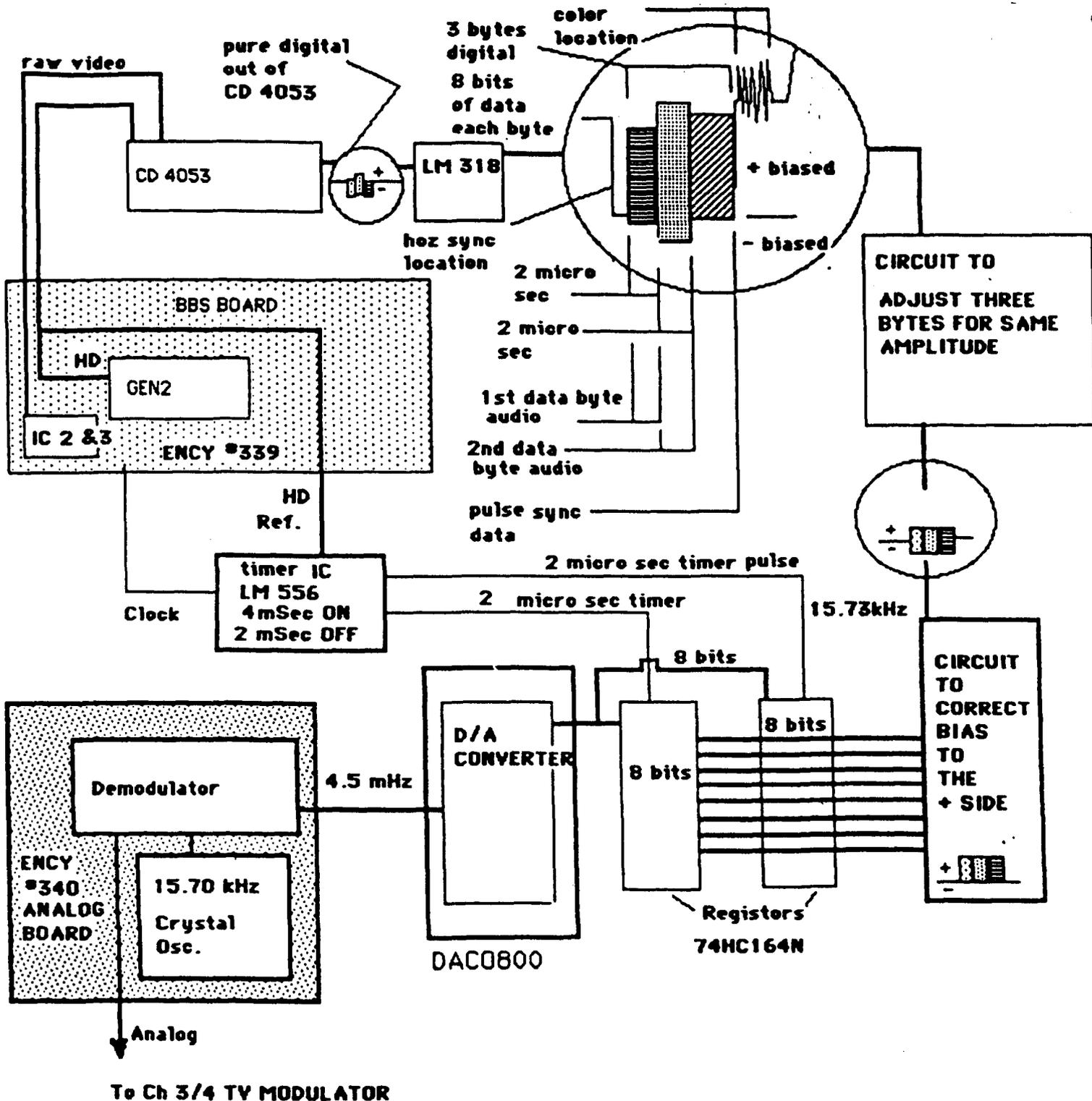
News From Encycloware

Encycloware, an engineering company that provides assembly, alignment and repair services for the Black Box, has a new phone number. The new number is (919)-746-4961. If you are having problems building your Black Box, give them a call.

Encycloware is aware of several groups working on Oak and M/A-Com audio and there is a good possibility that circuit boards for both audio boards may be available from them within the next 30 to 90 days.

Encycloware also announced the availability of a complete Black Box II kit including the circuit board, the power supply and the case for under \$149.00. For the latest in audio & video board developments, consumers will find Encycloware very helpful.

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FOR OF THOSE INTERESTED IN PLAYING WITH AN OAK AUDIO DESIGN, HERE IS SOME INFORMATION BASED ON THE OAK PATENTS, TO GET YOU STARTED.

THE SECRET IS PICKING THE DATA OFF THE HOZ SYNC AT THE CORRECT TIME AT THE CORRECT TIME INTERVAL.



Assembled Black Boxes

For those of you that want to "experiment" with the Black Box, but don't want to take the time to build it yourself, there is finally a solution for you. Sparks Unlimited, Inc., a Kerrville, Texas, company has now set up a production facility dedicated solely to the construction of Black Boxes.

Sparks Unlimited which has been heavily involved in the digital electronics field for the last five years doing research, design, and manufacture of state of the art electronic devices is now producing assembled Black Boxes using grade "A" components, a plate thru type P.C. board, and sophisticated testing and alignment procedures.

The Black Boxes are constructed on a made to order basis and delivery is generally two to three weeks after the order is placed. The Black Box built by Sparks incorporates all the latest enhancements including some of their own innovations which make provisions for the forthcoming audio boards.

Sparks also maintains an "Audio Waiting List" of those people that want to be notified as each audio circuit board becomes available and encourages anyone interested in adding audio to their Black Box to contact them.

The Sparks Black Box, pictured above, comes with a 90 day warranty against defects in materials or workmanship, and can be ordered by calling 1-512-257-2196, Monday thru Friday. They accept Visa, MasterCard, and COD.

U7 ROM Code Listing

A complete listing (about 27 pages) of the ROM code from the U7 chip within the VC II is now available. This listing is in computer code, but is fairly well documented. If you are interested in getting a copy of this, you can contact Jim Shackelford at 1-915-658-3637.

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