

Netlink will facilitate a program whereby a single 800 number is promoted for converting consumers to VCII Plus and an attractive programming package. Netlink is working with the SBCA and General Instrument and other programmers on the plan. "We hope to have the program in place during the next 30 days," said Fickle. Participating programmers could share "pro rata" in the costs and revenues of these new customers. "Many of these consumers are highly misinformed and are not aware that programming is easily available on an affordable basis," he added.

5. Netlink has requested that G.I.'s DBS Center immediately step up the intensity of Electronic Counter Measures or ECM's to deter piracy. Netlink recognizes that a small percentage of legal customers may be erroneously deauthorized as a result of the ECM. Consequently, Netlink will supply those customers authorized through Netlink with 3 months of free programming as compensation, in addition to a free upgrade to VCII Plus in conjunction with General Instrument.

6. Netlink will move their programming to a more secure technology as soon as sufficient modules of a more secure technology can be produced. Such a move would be made so that any legitimate consumer would not incur any cost. "General Instrument has informed us that they will sponsor a free upgrade from VCII to VCII Plus with "Replaceable Security" or VCRS when the VCRS has sufficient availability. "With this promise by G.I., we are more enthusiastic the VideoCipher migration will work," said Fickle.

7. Netlink supports a comprehensive approach in the use of ECM's to fight satellite piracy. "If any customer is erroneously hit with an ECM, Netlink will offer 3 free months of the programming that customer had through our port," said Fickle. "We want to make sure that we immediately shut off ECM'd units and that we provide relief for those few individuals turned off in error," he added.

8. Netlink will, over the next six months, develop a local marketing plan for use by dealers to sell against piracy and expand their market. Netlink welcomes volunteer dealers to be test sites as well as cooperative help from hardware distributors. After the program has been developed, Netlink will make it available to all satellite dealers.

Collectively, Netlink feels that these statements and positions on piracy will make clear its intentions to support the legitimate growth of the satellite industry in the 1990's.

NETLINK markets and distributes the One Stop Package, along with HBO, Cinemax, Showtime, The Movie Channel, Satellite Sports Networks and other services to a nationwide audience of home satellite television viewers and satellite dealers throughout the U.S.

NETLINK is a partnership owned by subsidiaries of WestMarc Communications Inc., Rock & Associates and Tele-Communications, Inc.

## FAST FORWARD

Michigan

~~THURS FEB. 28, 1990~~ (THURS) FEB. 28, '90 DETROIT FREE PRESS

# Decoder maker wants viewers to buy upgrade

BY CALVIN SIMS  
New York Times

**T**he satellite television industry, which for years has complained about the number of Americans watching without paying, says it finally has found a way to stop them.

But it wants the cost of its new prevention system to be borne by its customers, and that has started a battle that could affect the 2 million Americans who own satellite dishes.

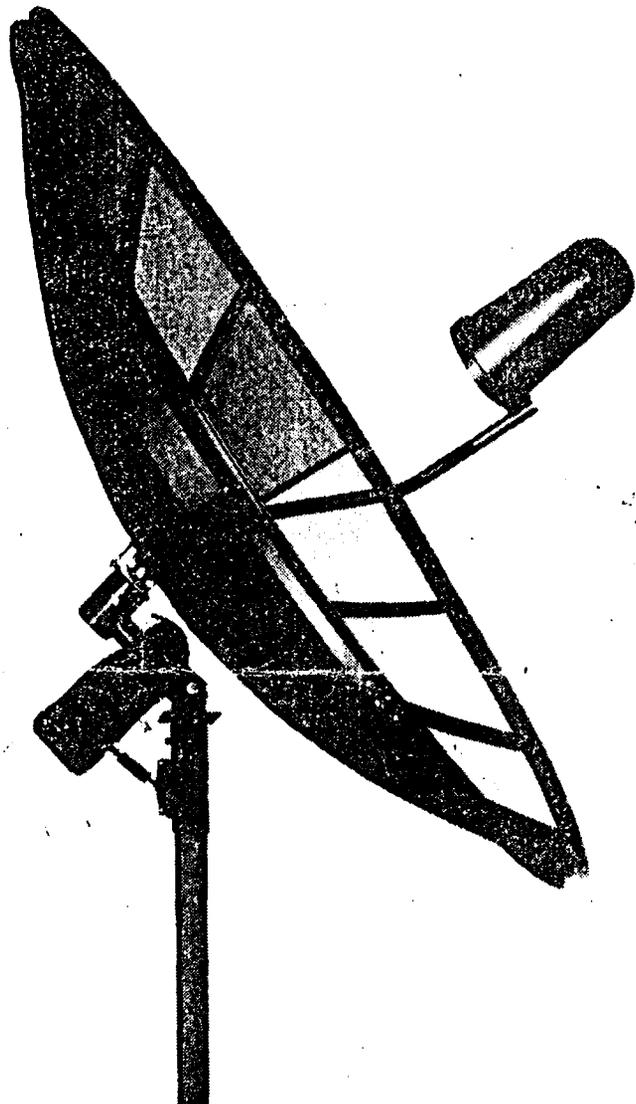
The dispute centers on a device soon to be introduced for unscrambling satellite television signals. Its manufacturer, General Instrument Corp., says it is needed to stop hundreds of thousands of people from stealing programming by using illegal versions of its existing decoder.

General Instrument wants consumers to pick up the cost of the new technology, which is expected to be at least \$500, or \$129 with the trade-in on an old decoder with an unexpired warranty.

But consumer advocates say General Instrument, which has a monopoly on such decoders, should pay for replacement decoders because it is the company's fault that the existing equipment does not foil theft and because satellite-television programmers will at some point abandon current subscribers by switching to the new decoding system.

The dispute comes at a time when satellite viewing and programming is expanding rapidly.

The more than 2.5 million satellite-dish owners in the United States have access to more than 200 channels, from the Christian



**T**he more than 2.5 million satellite-dish owners in the United States have access to more than 200 channels.

Broadcasting Network to American Ecstasy, a hard-core sex channel. Michigan has an estimated 75,000 satellite dish owners.

The number of dish owners is expected to reach about 10 million by the mid-1990s, industry analysts say.

Some satellite programming, like network shows and hobbyist, educational and foreign-language programs, costs nothing to receive, and such signals are not scrambled. But programming for which a subscription fee is charged is scrambled.

To subscribe to a scrambled satellite channel, a consumer buys and installs a decoder and then calls the program supplier to order the service. The supplier informs General Instrument, which activates the customer's decoder through a

signal from a satellite.

General Instrument's existing system has a monopoly because its technology was chosen early on by large programmers like HBO as the best to scramble and unscramble their signals.

The programmers started scrambling the signals to foil free access by the increasing number of people with dishes. More than 40 subscription program services use the General Instruments system. The decoder is so well accepted that it is included when most satellite dish systems are sold.

But within a year of its introduction in 1986, the existing decoder, called the Videocipher 2, was compromised. High-tech bandits designed computer chips that could be fitted into the decoders to unscramble signals without paying

the programmer to activate the device. Industry experts say at least half the 1.6 million existing Videocipher 2 devices are now receiving satellite signals illegally.

General Instrument's Videocipher division, which is based in San Diego, Calif., said that its new decoder, the Videocipher 2 Plus, is "99 percent foolproof" and that the new device, combined with the government's aggressive efforts to crack down on satellite television piracy, would give program suppliers incentive to offer a greater variety of programs.

But people who sell illegal decoders say that they already have figured out how to break into the Videocipher 2 Plus and that by the end of next year, consumers will have access to the pay-TV programs as easily as they do now.

# GI Drops VideoCipher Bombs

Shortly after the VideoCipher Division of General Instrument Corp. announced a month ago it was talking with programmers about a free upgrade of legal subscribers to the higher security of the VideoCipher II Plus module, it dropped a couple of other bombs, the DigiCard and a three-year upgrade warranty.

The first bomb was that any universal upgrade of current untampered VC II modules will be to a second-generation VC II Plus with a CipherCard, calling it a "low-cost, consumer friendly method to update security for satellite-delivered subscription program services."

The CipherCard will contain updated security information in a "smart" credit-card like object that can be inserted into a consumer's descrambler module. "Each CipherCard will be unique and will work only with a specific consumer descrambler unit," said GI.

Acknowledging that the only question was "when" not "if" the VC II Plus will be broken, Larry Dunham, VideoCipher Division president, said "The purpose of CipherCard is to put in place the capability to quickly counter future piracy with renewable security that can be implemented easily and on an ongoing basis."

Manufacture of the CipherCard-based VC II Plus descrambler module is scheduled for the fourth quarter of 1991. Thus the CipherCard VC II Plus module delivered to 21 licensed IRD manufacturers in 1992 will have a CipherCard slot, but will not include the actual card itself. Distribution of the CipherCard to consumers will occur "only if the current VC II Plus system is compromised and programmers using the VideoCipher II Plus technology decide to migrate to a higher security level," said GI.

The CipherCard technology has been in development for two years. GI did not say what would happen to current VC II Plus modules if and when it becomes necessary to implement CipherCard use because the VC II Plus has been broken. But such a situation would duplicate today's VC II/VC II Plus situation.

However, the second bomb GI dropped in mid-January was an announcement that a "bold and unprecedented Consumer Security Protection Program" would be offered to new home satellite TV system buyers this spring. Any consumer buying a VC II Plus manufactured after April 1, 1991 (estimated June retail availability) will receive a free VC II Plus decoder upgrade "if most cable/satellite TV programmers switch to a higher level of VideoCipher II Plus technology" within three years of date of purchase. The program applies to all integrated receiver/descramblers produced by 21 VideoCipher II Plus-licensed manufacturers.

"The criminal actions of piracy and piracy-caused technology changes cannot be allowed to hurt the legitimate home satellite TV household," said GI's Dunham.

In further GI news, satellite industry manufacturers have been informed of a price increase to them of \$72 for the VC II Plus module, effective April 1, 1991. This means consumers soon will be asked to pay at least an additional \$100 or more to get a VC II Plus module. Thus the least expensive standalone VC II Plus decoder box will retail in the vicinity of \$600 after April 1. □

Published April 7-13/1991  
ON SAT weekly TV guide,

## VC II Plus, Fact Or Fiction?

BY RICHARD MADDOX

Controversy has been a constant companion of the VideoCipher system ever since its parameters were first introduced to the satellite industry by M/A-Com in November 1984. Of course, ever since HBO scrambled in January 1986, using the VideoCipher system, it has become the number one topic whenever satellite dealers or satellite viewers talk about satellites.

General Instrument, who was smart enough to buy out the VideoCipher Division of M/A-Com shortly after the VC II system actually started to be used, has been the big winner monetarily in all of this. Unfortunately, it seems no one else is happy with the system outside of the few pirates who have made millions off bootleg boxes.

GI's response to this piracy was heightened security measures, counter-electronic sorties, so to speak, which managed to occasionally turn off bootlegs, but which also managed to turn off legitimate boxes as well. It was obvious that simply trying electronic fixes on the VC II would not work in the long run, hence work was begun on the VC II Plus shortly after the VC II system was compromised.

Of course, to hear GI's side of the story, the VC II Plus is not a product developed in response to piracy. Rather, it's an evolutionary product designed to improve subscriber capacity, to facilitate pay-per-view, and to incorporate expanded levels of programming delivery, all of which it does do.

In the long-term view, however, the VC II Plus introduction really is just an interim step in the war against piracy, with the ultimate goal being to shift programmers to

*Some little known facts, figures, and fun on the VideoCipher II Plus.*

GI's DigiCipher system (another "unbreakable" technology). DigiCipher was recently previewed at the Las Vegas satellite industry trade show and is slated for a summer 1992 rollout.

Once again the consumer is being forced to pay the tab for GI's research and development costs through a price increase on the VC II Plus module (which by GI's estimate will only add about 5 percent, or \$150, to the price of an average system).

One of the great promises made by M/A-Com during the original VideoCipher II introduction, after the VC I was dubbed too expensive for the consumer, was that it would be an inexpensive product to manufacture because it used large scale integrated circuit chips.

The original proposed manufacturer's cost for the VC II module was \$150, with no discounts for quantity. Five years later, the module cost to manufacturers has never gone down in price, but rather has increased, which defies standard electronics industry practice.

It is common in the electronics industry to see the price drop when quantities are increased and the product's research and development costs are amortized. This has never happened with the VC II and, according to GI, is not going to happen in the near future with the VC II Plus module either.

Unfortunately, there isn't an alternative (unless one views the infamous BlackCipher as an alternative). We must accept the VC II Plus

as our new "standard for scrambling systems." It is interesting to note that when you call GI and are put on hold, you hear an advertisement for their still-in-development DigiCipher system.

### UPGRADE, YES OR NO?

You should only upgrade to a VC II Plus if you want to receive those channels that are now exclusively using the VC II Plus signals. At this time, that's any of the pay-per-view channels and the SPICE channel, although other new programming services may come on-line using VC II Plus exclusively as well.

A new module is required because there is a timing difference in where the descrambling and digital audio information is found between the VC II and the VC II Plus. Basically, it boils down to where the descrambling information is placed. One system uses the horizontal sync, the other uses the vertical sync.

This physical difference between systems is why all the bootleg VC II boxes no longer receive audio on the SPICE channel. They were all muted when the SPICE channel quit sending the VC II signals. This is why you must now have a VC II Plus in order to subscribe to SPICE.

It pays to shop around if you do want to upgrade since there are some people offering free upgrades. If you go through GI for an upgrade, it will cost you \$129.00 plus shipping, in addition to any dealer charges for installation of your new module. If you have a bootlegged module, it will cost you a lot more (call GI at 800/344-6754 for more information).

Now what does this extra money get you? Beyond the capability of subscribing to the SPICE channel, you can still subscribe to any of the

other existing VC II services since they are all compatible with the VC II Plus. In order to buy any of the pay-per-view services, you must have the VIDEOpal (an extra box that must be purchased) before you can subscribe.

This brings up another factor that will influence your decision to upgrade — the imminent availability of the MOM, or Modem-On-Module VC II Plus. It will contain the VIDEOpal unit inside the module, making it easier to install since there's no extra box stuck behind your TV. The actual introduction of the MOM modules should occur by this summer and should cost around \$169 to upgrade from a VC II.

Either way, an upgrade will supposedly prepare you for the eventual phaseout of the VC II system. The only problem is nobody knows when this might occur, especially in light of GI's announcement that their DigiCipher system will be ready in 1992.

What may happen is that the VC II and the VC II Plus will be phased out together in favor of the DigiCipher. At this point, how it all washes out hinges on numerous issues. Will the VC II Plus be pirated? Will the programmers want the higher security of DigiCipher (and the multiple video channels on one transponder capability)? And, can GI handle the massive uproar over such a change? Only time will tell.

### NEW II PLUS SCREENS

If you do have, or plan to upgrade to, a VC II Plus, you'll see that the Set-Up screens are different from those in the VC II module. They have changed the 50/50 signal quality indicator which told of short and long-term signal quality and substituted a single measurement for signal quality on the bottom line of the Set-Up 1 screen.

The Diagnostic screen (accessed by pressing Set-Up, 0) can still be used to analyze your reception. It has been broken down into eight numbered lines of information, which means it is a lot easier for the GI technical help operators to evaluate your system over the phone.

Here's what the numbers mean:

V1.08 is the latest module software version I've seen. But, by the time this is printed, that may be changed to V1.09 or V1.1. It simply defines which operating software

version is being used.

Line 1 contains your unit ID number. This should be written down for reference for use when calling programmers. If this number ever changes, then it indicates a malfunction in your VC II Plus (or VC II) memory. If it reads 0000 0000 0000 0000, then it usually indicates your unit was hit by a power surge or that the memory back-up battery went dead. Either way, it means bad news sports fans.

Line 2 is a memory check for GI's internal use.

#### Set-up 0 screen

```

DIAGNOSTIC DATA
V1.10
1) 02985016-FF-34      83-0-0
2) 3:0004 2:8808 1:C910 0:1EF0
3)
4) 00                E72-909-C98 0E-1
5) 0000-0000 0000-0000.00
6) C0-45-02 0 8718 4-1-2D3A06
7) 0003 3980 8378 4 0 01 2D62C8
8) 0.00E-00/2.59E-02 00 S:S
  
```

Line 3 contains no information.

Line 4 contains two zeros for future use and two other groups of numbers that indicate the unit's location, standard time zone, and whether or not daylight savings time is observed there. This one does.

Line 5 contains just zeros and is held for future use.

Line 6 contains some useful information. The first alphanumeric pair indicates whether the module has ever been authorized (C4 = never authorized, C0 = has been authorized). The next digit pair indicates the monthly epoch change number. This will change as the new monthly key is received. The last pair in the first group is the channel ID code (Showtime East is 02, Showtime West is 03, The Movie Channel West is 04, The Movie Channel East is 05, HBO East is 10, HBO West is 11, ad nauseum).

The four digits in the middle of line 6 comprise a fast counter. It should count smoothly with a good signal.

At the far right-hand side of line 6 is the program's epoch code. It contains a sync detector, a broadcast counter, and a timer for the broadcast in frame count time. If you think of the digits as ones, tens, hundreds, etc., the ones change approximately every third of a second, the tens change approximately every 2.18 seconds, the hundreds change

every 35 seconds, the thousands every nine minutes and twenty seconds, the ten thousands every 150 minutes, and the hundred thousands every 39 hours and 50 minutes.

Line 7 contains the hit trip count in the first four digits, the computer center trip count in the next four digits, and the good frame count in the next four digits. The two single digits and the double digit are related to the broadcast (not a VC broadcast, not authorized, locked out, etc.). The last group of numbers in this line is a frame-count time code for the broadcast's ending. The group of numbers directly above this one are counting to this number. An enterprising and curious person could figure out roughly how much time remains for any given VideoCipher program with this data.

Line 8 starts with two groups of numbers separated by a slash. The numbers before the slash are 5-second bit error values and the number after the slash are 45-second bit error values. A very good signal will typically produce a reading of 0.00E-00/0.00E-00. If your system is improperly tuned, either on the satellite or frequency, these numbers will go up. We have caused higher than normal numbers here. The higher the numbers, the poorer the signal.

The two-bit alphanumeric code that follows these numbers indicates the number of audio holds that are occurring. On an authorized broadcast, this should stay at 00. If the signal is noisy, the count will fluctuate up and down.

The last letters in line 8 indicate the signal type and module status. In front of the colon will normally be found either S, for scrambled, or F for fixed key, although T for test and P for processed may also be seen. This indicates the signal status.

Behind the colon will normally be found NS for no subscription or S for subscription OK. Also seen are: -CB for circular blackout (a program blackout based on your zip code), -MP for no program rekey information (means an unaddressed module), and -OC for old category (doesn't have the latest monthly epoch change).

While watching the VC II Plus Set-Up 0 screen can produce some interesting information, watching programming is sure to produce more entertainment. ■

**NO**  
**SBCA's Reply**  
Continued from page 18



Mark C. Ellison

**SBCA's Reply**  
Continued from page 18

for distant broadcast signals.

Further, the results of a "syndex simulation" conducted by Superstar Connection, satellite carrier of WGN and other superstations, indicate average acquisition delays well in excess of seven seconds. Results of that test show that when a 32-region blackout message is contained in the signal, the acquisition time for that channel was, in some cases, as high as eight minutes. Further, Superstar Connection has advised the SBCA that customer dissatisfaction with the acquisition delays was clearly indicated by an extremely high volume of calls to Superstar Connection's customer service representatives.

Channel acquisition delays are a significant problem associated with syndex. They are particularly egregious in view of the fact that they are suffered by those viewers who are outside of the blackout region. Clearly, before the Commission can promulgate syndex rules, further testing of the characteristic must be conducted.

3) Because of technical and non-technical means of avoiding syndex, broadcasters would not be able to effectively enforce syndex rules.

It is highly unlikely that the imposition of a limited form of syndex using the existing VC II would result in any benefit to broadcast stations claiming exclusive rights. We submit that the effectiveness of syndex rules would be vitiated by the ease with which HSD owners could avoid the blackouts.

Perhaps the most glaring error of the C&G Paper is its reliance upon the supposition that the introduction of the VC II Plus by GI is an "upgrade" program. The introduction of the VC II Plus is designed to increase the technological difficulty of VideoCipher modification for the unlawful interception of encrypted television programming. However, the introduction of the VC II Plus will not in any way affect the existing VC II.

As noted in the SBCA's initial comments in this proceeding, the problem of satellite signal theft is enormous. The industry is awaiting the introduction of the VC II Plus with high hopes and great expectations. The damage which would be done to the home satellite industry by any delays in the introduction of the VC II Plus caused by this proceeding would heavily outweigh any perceived benefit by the broadcasters and copyright holders. The SBCA has been advised by GI that all materials for the production of the VC II will be

depleted at some point in November or December of this year. Any action by this Commission which impedes the production and delivery of the VC II Plus will result in extreme descrambler shortages in the market.

TVRO



# Satellite Business News

## VC II Plus To The Show

SOURCES AT ECHOSPHERE, A MAJOR IRD manufacturer, reported that as of early January they still had not received a working VC II Plus module from GI. GI had committed to supply each IRD manufacturer with operating VC II Plus modules for the industry trade show in Las Vegas which began on January 22.

"I don't think they're going to make it, unless of course we get prototypes again

that were hand doctored," our source said. After contacting several IRD manufacturers, it could not be determined what was causing the delay.

Commented one manufacturer, "They still have major interface problems and the things won't authorize." Another manufacturer said, "It has goofy graphics and won't turn on all the time."

Channel Master's Don Berg, when asked to comment on the problems, stated that Channel Master had not shipped any production models of VC II Plus as of the first week of January. Channel Master is the only manufacturer authorized to produce VC IIs other than General Instrument.

TRANSPONDER

## SBCA Viewpoint on The VideoCipher II

by Chuck Hewitt, President SBCA

You may have recently received a rather long and rambling document prepared by a group that calls itself the Satellite Dealer Communication Association. This group, which claims to represent satellite dealers, states in the report that the new VideoCipher II Plus will obsolete the existing VideoCipher II.

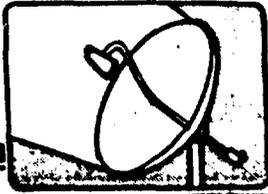
As the SBCA has previously stated in a report to Congress, based on the commitments we have received from the programmers and General Instrument Corporation, the existing VCII consumer will not be disenfranchised by the introduction of the Plus system. It is very clear that the programmers, even if they could move to the higher tier bits available on the Plus, are not going to do so. Such a move would mean an immediate loss of nearly \$200 million in current subscriber revenue. The demand for space in the lower 56 tier bits by presently unscrambled

programming services is further evidence that programmers recognize the value and importance of serving existing VCII owners.

It is very difficult to see how this group can claim to represent the interests of the satellite dealer when they are making these baseless claims of obsolescence. Such claims will only serve to cause consumer panic and dry up sales. Their so-called report is irresponsible and will do nothing but cause harm for the dealer and the entire industry.

Satellite television offers the best in terms of video and audio quality and choice. Consumers who own VCII units today or who are considering a purchase of a satellite system with a VCII unit need not be concerned about obsolescence. Consumers should simply ignore all of the ranting and raving about system obsolescence. Stated simply, there has never been a better time to invest in home satellite television.

68612



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# Satellite Business News



## News

Fig 10. Private Cable January 1990

### TNN to scramble signal in April 1990

TNN: The Nashville Network will begin full-time scrambling of its satellite television signal in the first quarter of 1990, it has been announced by David Hall, vice president, general manager, TNN.

TNN will scramble its signal on March 20, using General Instrument's VideoCipher® II + encryption system. TNN cable affiliates in the United States and Canada will descramble by using a fixed key address number, or standard code, available with the VideoCipher® II +.

According to Hall, "We believe scrambling is important to safeguard TNN's signal and to protecting the investments cable operators have made in promoting TNN."

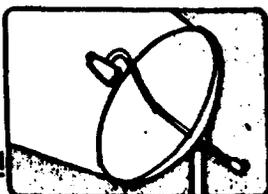
days a week, or by writing to: The Turner Store, One CNN Center, Box 105320, Atlanta, GA 30348-5320.

### VC II Plus Update

LATE OCTOBER SAW THE DELIVERY of the first new VideoCipher II Plus modules shipped by General Instrument. Module production will be increasing as part of a three-month manufacturing ramp-up to 100 percent production by the end of the year.

Several IRD manufacturers told OnSat that the design is not at all like the prototype models they were shown by GI at various stages of the design process. The board has many discrete components, not one VLSI chip, and it is not protected by epoxy.

Another problem appears to have arisen since the VC II Plus signals have been added. The dual telemetry—VC II and VC II Plus—now on several transponders is being blamed for difficulties with several of the programmers' authorization process. Canada's AnikVision told OnSat that they were unable to authorize boards on their three dual-telemetry transponders, yet when they called First Choice and had them "hit" the boards, they came on. First Choice has a single telemetry signal. A spokesman from Telesat said that while they can't conclusively blame the VC II Plus telemetry, the problem only arose after they added the Plus signal.



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# Satellite Business News

### TNN To Scramble Signal

THE NASHVILLE NETWORK (TNN), the country music entertainment channel, will begin full-time scrambling of its satellite television signal on March 20, 1990, using GI's VideoCipher® II encryption system. TNN cable affiliates in the United States and Canada will descramble by using a fixed key address number, or standard code, available with the VC II. Beginning June 20, 1990, the fixed key address number will be replaced by fully addressable key numbers for each VC II unit.

Excerpt from VideoCipher & Authorization Center - in Private Cable Magazine  
Spokes person for story is Esther Rodriguez, V.P. of DBS for General Instrument Co.

closely than when she joined the industry two years ago. She estimated that programmers' annual revenue from the TVRO industry today is about 120 million annually.

With this kind of revenue being produced, beefing up security on the existing encryption equipment has been a top priority. GI feels that the VideoCipher II Plus is the answer.

"The VideoCipher II Plus, which you have probably heard about, is an enhanced version of VideoCipher II," said Rodriguez. "We are rolling that out in the fall of '89."

#### Will not be obsolete

Field engineers are planning to spend several weeks going to each scrambling system located throughout the country and Canada to put in the new software and upgrade the system at GI's expense. The VC II equipment now owned by customers will not become obsolete with the VC II Plus.

"It's compatible," said Rodriguez. "What VC II Plus does is (allow the system to) address up to 50 million homes. It has more tiering, more packaging capacity than the first one (VC II)."

#### VC II Plus is affordable

VC II Plus will be affordable with a \$129 consumer upgrade descrambler beginning about April 1, next year. Where a cable headend requires one descrambler for each programming service, the consumer with his dish can descramble all the programming services with one unit. Work is now underway for development of a commercial VC II Plus unit.

"The main reason for this (difference) is that the cable headend has its own network computer," she said, "whereas the consumer descrambler is authorized through the DBS center."

In addition to the stability and clarity of the new piece of equipment, it also offers compact disc quality stereo, she said.

#### Pay per view not over looked

Not being overlooked is the pay-per-view capabilities and the "black out" by zip code feature. The latter allows sports programmers to omit consumers by zip code on programs for which they do not have the right to deliver to a particular address.

"Pay-per-view was not overlooked."

### Piracy situation improving, says General Instrument executive

Can piracy be eliminated? Or at least brought under control? A General Instrument executive thinks so.

Mike Walker, vice president of communications at General Instrument's San Diego, CA, facility, indicated recently that he felt the tide had turned.

"It started turning around about October or November (1988)," he said. "Just solid evidence based on authorizations, based on subscription patterns, that people buying today are using their units in a proper manner. The other trends we see are that the law enforcement actions have really kicked in. The major satellite trade association (identified as SBCA) has a full-time group to tackle this."

Walker mentioned that in addition to getting convictions, he is seeing "significant (numbers) of dealers who

have been involved in piracy either asking how they can come back, or they are leaving the business. The technology improvements... coming along have finally turned the... scale and tipped it in our direction."

"If you figure we are a part of the entertainment industry," he continued, "since the first kid (slipped) in the back door of a movie theater, it (piracy) has been with us."

Speaking of the VideoCipher II Plus, he explained that he would never say that a piece of equipment could not be compromised. "I think there will be people who will be trying to hack away at it forever," he said. "And I suspect some rocket scientist as a hobby may someday find a way. I don't think it will be widespread. Things are turning around."

purchase information and send it to the programmer for billing."

The new method is described as "store and forward", which interfaces with most of the VideoCipher units now in use.

#### Instant order taking

"It provides instant ordering," Rodriguez said. "The customer simply pushes a button and rents a movie. Because it stores and forwards, the descrambler holds all the purchase information, then it is programmed to download that information to the VIDEOpal, which is the modem.

"The VIDEOpal then uses the consumer's home telephone line. It's programmed to report that information via telephone in the middle of the night when no one is using the phones and

rates are cheapest. And with one call we can get multiple buys reported.

"Let's say a consumer made only one buy. Programmers would have to pay for the bill, and cover a lot of fixed expense. There is not a lot of margin.

"So when you are able to download multiple buys - with just a reduced transaction fee - then the economics of the business really makes sense," she added.

#### Business for profit

While the DBS center is operated on a not-for-profit basis, the pay per view authorization will be a business for profit, but not just now. "We are taking the risk - a financial risk - in order to make it happen," Rodriguez said.

They have formed a joint venture with

### Private cable industry big user of VideoCiphers

The private cable industry is a big user of commercial VideoCipher units and an important customer of General Instrument's VideoCipher division.

Where one VideoCipher unit is used

bled and descrambled at a private cable (or cable) headend.

Private cable companies tend to buy up to 15 or more VideoCiphers for each headend. With some private

for each headend. With some private



## Tighter Security with a "PLUS"

*This is not a upgrade this is a security change over*

Co-Mo Comm is preparing for the change in videocipher technology that will be coming some time next spring or early summer. One firm, General Instruments, holds the license to manufacture, or allow manufacture, of all decipher units for commercially operated C-Band satellite programming. G.I. says it is on schedule with its switch to the new "Plus" system.

This new "Plus" system involves tighter security than previous technology, and the videocipher units of today and yesterday will not decipher the signals used in the new "Plus" system. General Instruments gives assurance that legal subscribers to programming services who have regular videocipher II units will be taken care of, but units that are not legal and have been altered to receive subscription programs without a subscription are a different story.

Some time back, the National Rural Telecommunications Cooperative called "Piracy" a threat to everyone. It said "whether or not you are involved in Rural TV distribution, you should be dead-set against illegal reception of video signals by the so-called "black boxes" or pirate descramblers being sold by mail or by local sources. The reasons are simple and include: (1) Rural Electrics and Rural Telephone systems understand theft of service as applies to electric and telephone service. Signal theft is no different. It eats at the financial base of any service. (2.) If left unabated or unchallenged, it will flourish. If it flourishes, programmers may choose to abandon the TVRO (home dish) market, citing loss of control and revenue. (3.) If programmers leave the VCII technology, they will use

other encryption technology to reach their cable systems. A new system would no-doubt be expensive and more than likely not available everywhere. (4.) The rural dish owner would be hurt again and the only person benefitting would be the bandits responsible for altering the decoder and selling it"

Altering and selling those illegal units is a federal crime. Having one is a crime. The price for such an altered unit has been high, so high that it really has not made sense to pay that much extra instead of purchasing a regular unit and then paying for regular subscription; there just was not a pay-back for the consumer. And if you think crime doesn't pay, you're right. Wait until the screen goes blank. . .

### HFO Changes Channels

In order to make way for its new comedy program, HBO has moved the HBO West feed from G1 1 to F3 13. HBO East and Cinemax will remain in their current channel slots. The Comedy Channel will move into the G1 1 slot, although there is no word on a date of debate

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A Name Change at The

A Name Change at The

### "RURAL TV" OFFERS ARTS & ENTERTAINMENT CHANNEL

The Arts & Entertainment Channel (A&E) is now available as an optional additional service to those subscribers taking the "Rural TV" basic package. The cost per month is \$ .50. A&E is located on satellite G1 Channel 12 (G1 12). A&E is the 24-hour quality programming service which brings you the best in comedy, drama, movies from around the world, documentaries and the performing arts.

#### COMEDY

Improvisational shows 5 nights a week, with comedy series from overseas

#### DRAMA

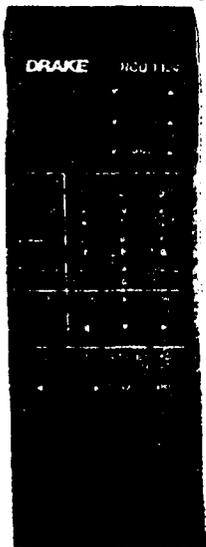
Family classics, the golden age of television, short stories, BBC drama, all-new tales and timeless classics

#### DOCUMENTARIES

#### DOCUMENTARIES

# MOVE INTO THE FUTURE... OR YOU'RE HISTORY.

Time waits for no one. As satellite technology changes, so will your consumers' buying habits. If you're not careful, time will march on... right past you.



That's why you need to carry Drake's new ESR1424 IRD. It has so many progressive features, like the new VideoCipher® II Plus Decoder. It's a descrambler so advanced, it can even bring in satellite channels from the future.

New programming will soon appear in the entertainment universe. Without an upgrade, older satellite receivers may not be able to pick these shows up. The ESR1424 can.

And it's the friendliest receiver ever. There are no programming controls on the



ESR1424. All the programming is done with the UHF remote Control, from the comfort of a chair... and from any room in the house.

Plus there are other futuristic features. Like full-color on-screen menu displays, parental lock-out, and extensive satellite microprocessor memory.

The ESR1424 even gives you the capability of pre-programming up to eight events for unattended VCR recording.

With features like these, Drake will take you into the future. So look into the Series 2 Plus today. They make other receivers look like ancient artifacts.

**Series 2 PLUS**  
**DRAKE**

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Service and Parts: (513) 866-3211 © Copyright 1990 The R.L. Drake Co.



VideoCipher® is a registered trademark of General Instrument Corporation. Ownership or possession of the Series 2 Plus receivers with a VideoCipher® II Plus Decoder does not entitle the owner or possessor to receive descrambled signals without authorization by the programmer.

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# SATELLITE

# INSIDER

## Market Research and Analysis on the Satellite Industry

June 7, 1990

vol 2, no 11

Dear Client,

Several new deals and networks on the drawing board. Turner plans to launch a separate satellite feed for distributing programs into Latin America and the Caribbean., p.1.

Also Hughes Network Systems will rollout largest private VSAT network in the world for parent company, General Motors, p. 1.

From the Consumer Electronics Show, home satellite was tied to home theater in an effort to increase highend sales market. Toshiba, Uniden, Panasonic, General Instrument, and Drake showed product at show, p.2.

SBCA said direct-to-home entertainment was no longer characterised by one de facto scrambling standard. p.4.

VSAT Industry is in an interesting state. Consolidation is forthcoming. Already, two Integrators have backed out of business, p.6.

*Karen JP Howes*

Send Comments, and Releases to:

specific marketing efforts were not available by deadline. More next time

provide the satellite technology and installations. HNS installation manager, Ron Speer, told Insider

Satellite Insider  
June 7, 1990

### SBCA Says No More de Facto Industry Decoder Standard

Following recent announcement by K Prime to use BMAC instead of videocipher to encrypt 10 channel subscription service on K1, the SBCA has taken the position that there is no longer a de facto industry standard.

# GI Corp.'s VideoCipher Division's ACM Plays Key Role In Introduction Of British Home Satellite TV

San Diego, CA - General Instrument Corp.'s VideoCipher Division today announced its Access Control Module (ACM) is now being installed into home satellite TV receivers for British Satellite Broadcasting (BSB), Ltd., in anticipation of BSB's launch this spring of home satellite TV service in the United Kingdom.

The ACM circuit board, slightly larger than a credit card, will be integrated into home satellite TV consumer receivers made by BSB's licensed manufacturers. More than a half-million ACMs are expected to be built and delivered this year, according to Dr. Mark Medress, Division vice president of new business development.

The ACM, a key part of the VideoCipher Division's Eurocypher® security system, is designed to protect pay-TV television programming by controlling the access to the encryption and descrambling of BSB's home satellite TV programming. ACM manufacturing, which began in January, is expected this month to reach full-volume production levels of about 3,000 units per day, reported the company.

"We're happy to be part of the growth and development of the home satellite TV industry in the United Kingdom," said Dr. Medress. "Our efforts will help the British TV viewer have an even wider choice of broadcast entertainment."

Development of the Eurocypher system followed BSB's May 1988 selection of the VideoCipher Division. Medress said the Division was selected to develop a security technology because of the company's extensive background in home satellite TV encryption systems. General Instrument Corp. developed and manufactures the VideoCipher® II scrambling technology, the North American encryption de-facto standard used by major programmers for the U.S. home satellite market.

## VCII Plus Upgrade Program Delayed

GI announced recently a one-month delay in the VCII Plus upgrade program.

They had hoped to begin the upgrade program on April 2. However, due to higher-than-expected demand throughout the marketplace for VCII Plus modules, the VideoCipher Division has been forced to delay an inventory build-up, which would have been necessary to support a full-fledged upgrade program in April.

They anticipate the VCII Plus upgrade program will begin on May 1.

**TRANSPONDER ANTI-PIRACY  
HOTLINE  
1-800-992-3488**

*May 1990  
VCII de-facto standard*

*Transponder / April 1990*

Dear Editor:

The undersigned satellite dealers are concerned about what is happening in the satellite industry on upgrading decoders and the unfair pricing of programming.

We have sold our customers satellite systems which have decoders. General Instrument is now "updating" this decoder module and charging the customers \$129.00 exchange plus \$15.00 freight. This "upgrade" sounds like an extra feature; however, it will do exactly what the customers present decoder does. The bottom line is that General Instrument is rendering our customers equipment obsolete and forcing them to buy new. The exchange module is also rebuilt and sold again for more profit. What a business to be in!!! We feel this is like our power companies

getting together and changing their line voltage, forcing everyone to buy new electrical appliances.

Customers and dealers also feel that programming prices for satellite dish owners are out of line and unfair. They should pay what the Cable Companies pay for programming, maybe less, as dish owners do not intend to make money. We both own and maintain equipment so why the discrimination?

Everyone forgets that it was the taxpayers money that was spent for research and development of these satellites. Where is their payback?

The satellite industry is a young industry, but it will be short lived if something isn't done about these monopolies soon.

Cordially,

*Ulysses Hodman*

Selleri Satellite  
Grand Island, NE

*George Vanden*

Video Kingdom  
Grand Island, NE

*Edwards Audio & Satellite*

Edwards Audio & Satellite  
Grand Island, NE

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Grand Island, NE

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ridiculed and insulted by  
of you are contemplating  
view is that these hackers be  
from this industry and prevent  
participating in any respect.

Thank you  
Larry L. Emdee  
Earth Stations Satellite TV

Send Your Letters to  
the Editor to:

Editor  
The Transponder  
PO Box 160  
Salama a, NY 14779

May 1990

videos that are out of stock and you don't even have to fuss with returning a video once you're done. Pay-per-view can be as easy as picking up the phone, or as elementary as pushing a button.

The process is simple. First, check out *Satellite ORBIT* for the date and time of the event you'd like to watch. Listings for pay-per-view services are marked in the guide with a "PPV" designation next to each program. PPV movies are listed separately at the end of the movies section.

Showtime Satellite Networks (SSN) is the only service which takes call-in pay-per-view orders. Dish owners either need to subscribe to



**Check out Satellite ORBIT for the event you'd like to watch.**

an SSN package or set up an account for a fee. You can do this through a special-order entry operator who will set up your account and place your movie order for the evening. You just turn your dish to the proper satellite and transponder and enjoy the show.

Other services, such as Viewer's Choice, Cable Video Store and Drive-In Cinema, are available through impulse pay-per-view, via General Instrument's Videopal. (In order to use the Videopal, you must have an IRD or a stand-alone VideoCipher II.)

Shortly before the event, check *ORBIT's* listings and move your dish to the correct satellite and transponder. Your screen will show a

# PPV'S: THE WEAPON

VideoCipher descrambling equipment. At the residence of Jerry Caufield, of Surry, N.D., agents confiscated more than 100 computer chips used to illegally modify descramblers, four illegally modified descramblers, an integrated receiver/descrambler and a VCR.

• General Instrument has announced a one-month delay in the VC II Plus consumer upgrade program. It had hoped to begin the upgrade program on April 2. However, due to higher-than-expected demand throughout the marketplace for VC II Plus modules, the VideoCipher Division has been forced to delay an inventory build-up, which would have been necessary to support a full-fledged upgrade program in April. It anticipated the VC II Plus upgrade program would begin on May 1.

Please turn to page 45

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• **Free**

• **Free**



**PLANNEL**

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**Call Right  
800-767-**

*VCII plus shortage*

page 41

**TVRO**

As Chairman of the APTF, Duffy hopes to help coordinate the different industry viewpoints on anti-piracy into a cohesive, constructive effort in 1991.

"I see my role primarily as a catalyst in moving the industry forward, while helping to ensure proper funding for our endeavors," said Duffy. "It's important to emphasize conversion to VCII-Plus so that the industry can prove to pro-

Ray Duffy, general manager for Superstar Connection, has been actively involved in the Association since October 1989, serving on both the Anti-Piracy Task Force and the Public Relations Task Force. Scott Weiss, vice president of special projects for Turner Cable Network Sales, Inc. and vice president-general manager of Turner Home Satellite, has served one year as a member of the APTF. The new elected officers will begin their one year term on January 1, 1991.

Alexandria, VA - The Satellite Broadcasting and Communications Association announced the newly elected officers for 1991's Anti-Piracy Task Force: Chairman, Ray Duffy; and 1st Vice Chairman, Scott Weiss.

*January 1991 page 17*  
**Anti-Piracy Task Force New Officers**

## TBSI Announces the Business Development Group

Turner Broadcasting Sales, Inc. has announced the formation of its Business Development Group. This move will bring together many of TBSI's top executives in an effort to renew, consolidate and maintain TBSI's ever-growing ad sales.

The Business Development Group was formed with the goal of enhancing the overall value of all Turner Broadcasting System, Inc. properties in the eyes of the advertising community; getting large orders as an aggregate; and incorporating all aspects of the company, such as licensing and merchandising, home video, etc. The Business Development Group will attempt to take a pre-emptive role in selling all four Turner networks (CCN, HLN, TBS, THT) to high-level, decision-making advertisers, while also exploring new and favorable advertising opportunities.

"The complexities of the media industry, coupled with the sophistication of today's consumer, mandates that Turner Broadcasting send its best representatives to America's corporations to learn how to help them reach their customers," said John Barbera, President

## Legitimate Consumer Upgrade to VideoCipher® II Plus Systems

*Change again + we'll be forced to pay for the mult upgrade.*

San Diego, CA - General Instrument Corporation VideoCipher Division announced that it has entered into discussions with several large satellite TV programmers on a program to upgrade their current subscribers to the new, higher-security VideoCipher® II Plus technology.

The company said the program would protect legitimate consumers and would be the initial step toward the eventual programmer-directed shutdown of the first generation VideoCipher® II transmission of subscription programming to the home satellite TV market.

The ungrade and VideoCipher II shutdown program is part of a new multifaceted security pro-

gram the Division said it is implementing in 1991. Another phase of the comprehensive program is the Division's 25% increase in its contribution to the Anti-Piracy Task Force of the Satellite Broadcasting and Communications Association announced this week.

"We believe we have developed a program which, when implemented with select programmers, protects honest TVRO consumers and provides a further boost to the home satellite TV industry," said Michael Meltzer, Division Vice President of Sales and Marketing.

"This is the first upgrade program of this kind and represents our commitment to the honest TVRO consumer. General Instru-

ment is committed to protecting the honest consumer's interests - and is backing the commitment with a free upgrade."

Meltzer declined to identify the programmers engaged in discussions with the Division about the upgrade program.

VideoCipher II Plus technology was first introduced in 1989 as a second-generation of the VideoCipher II technology now used by more than 50 subscription and pay-per-view program services in North America.

The VideoCipher II and II Plus descrambler module is now integrated into TVRO systems manufactured by General Instrument and 21 other companies.



**DBS Is Here Today!**  
From RS&I and Programmers Clearing House

**ONLY \$849**

• Uniden PS-700 XL IRD

90 Day Programming Package

# FCC Should Mandate An Encryption Standard Interface

It is time to start facing reality about scrambling technology and the satellite TV marketplace.

As the industry gathers in Nashville this week, it must start to react to certain fundamental developments on the encryption technology front: the three principal seasonably priced first generation scrambling systems—Oak Industries Inc.'s Orion, Scientific-Atlanta Inc.'s B-MAC, and General Instrument (GI) Corp.'s VideoCipher 1)—are completely compromised.

GI's VideoCipher II Plus system is currently holding. Most backers concede the VC II Plus will be the most difficult consumer decoder to break yet, although some believe they will eventually compromise the system.

Later this year, K Prime Partners and TVN Entertainment Corp. will introduce two new scrambling systems to consumers. Though the mar-

ketplace impact these services will have is still questionable, the appearance of K Prime's Ste-MAC system and TVN's Decode technology plainly signals the emergence of a multiple encryption technology environment.

The VideoCipher II systems will undoubtedly remain dominant for some time, given the investment in VC II commercial decoders by cable operators. Some cable operators are beginning to indicate, however, they would be willing to pay for new decoders in return for a more secure system.

Above all else, it is now clear all VC II owners—legitimate and otherwise—will be forced to upgrade to a VC II Plus decoder at some point.

Any objective and honest observer of this marketplace must conclude the satellite TV industry—including the Satellite Broadcasting and Communications Association (SBCA),

GI, and the programmers—has mistated TVRO owners who have not tampered with their VideoCiphers into believing they will be able to keep their VC IIs forever. Perhaps some thought such subterfuge was necessary for political reasons and the short-term health of TVRO, but the time for straight talk has arrived.

## EDITORIAL

The real truth is the programmers have planned all along to switch to a VC II Plus-only environment at the earliest possible date. GI and several programmers—most notably Home Box Office and Showtime—are currently exploring upgrade plans which could result in little or no cost to honest VC II owners, but it remains to be seen if such pro-

grams materialize. The new interest in DBS generated by Sky Cable, K Prime, Hubbard, and others has accelerated the development of new scrambling systems by NEC, Sony, a consortium of Japanese companies, Philips, Compression Labs, ITT, and others. It also appears that consumers' introduction to video compression technology may be far closer than originally thought.

Combined, these developments can lead to only one logical conclusion: The VC II Plus and all the other scrambling systems which will be in use by year's end are interim technologies.

Over the next few years, new, digital-based and/or compression technologies will become state of the art. Programmers and satellite TV operators and distributors wanting to increase their channel offerings and maintain

security may have little choice but to use these new systems. Thus, the satellite TV industry, which will spend the next year or two upgrading consumers to VC II Plus decoders (while K Prime, TVN, and who knows who else will be promoting their technologies), will have to tam around and once again ask consumers to change decoders.

Even if this development is three or four years away, the confusion the scrambling issue is causing right now is resulting in a loss in credibility for satellite TV which impacts all facets of the industry—from the local satellite dealer to New York bankers who will back Sky Cable and other DBS operators.

In short, the de facto standard's days are numbered, and if the satellite TV industry is going to prosper a way must be found to easily and inex-

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TO MAIL BUREAU

# Get paid for going to bars

Continued on page 25

CONSUMER FROM PAGE 24

peratively upgrade, exchange, and distribute consumer scrambling decoders and restore consumer confidence in general.

While it would be foolish for the Federal Communications Commission or Congress to mandate an encryption standard at this juncture, the government should immediately embark on establishing a technical interface standard that all satellite scrambling systems with consumer applications will have to adhere to.

In simple terms, the interface standard should state that all programmers who encrypt satellite signals for sale to private owners of satellite TV reception systems must make, or cause to make, the encryption system they employ available to consumers in a standard, uniform technology package.

Here's how it would work: The government would require all satellite receivers sold, leased, or leased for con-

sumer use in this country be equipped with at least one standard encryption port (SEP). The SEP would contain the universal elements all scrambling systems need to interact with the rest of the satellite receiver and would be configured to accept a small cartridge about the size of an old eight-track cassette or slightly larger.

The proprietary and security software/firmware elements that control scrambling systems and make them unique would be contained in the cartridge. The government would mandate that all scrambling systems used for distribution of satellite programming to consumers be made available in standard cartridge form.

Equipment manufacturers could still build satellite receivers which come with a particular scrambling system module built-in, but would have to include at least one SEP in the receiver.

The benefits of this type of

standard are obvious. Consumers who want to buy a TVRO system will go ahead without being persuaded to wait by the barrage of publicity about Sky Cable, K Prime, or the next "greatest thing" that may be in the future.

If HBO, Showtime, ESPN, CNN, etc., want to switch to CI's DigCipher down the road, no massive, expensive, prolonged, and inconvenient swap-out will be necessary. When security enhancements to all encryption systems are developed over the years, the market can continue to grow with minimal confusion and interruption.

It will be easy: Pop one scrambling cartridge in, pop another out. Want to subscribe to HBO and Showtime, X Prime, and Sky Cable at the same time? Get all three scrambling cartridges and pop in the one necessary for that night's programming. Better yet, why not buy the high-end satellite receiver that some smart manufacturer will build

with three or four SEPs? Programmers also could control distribution of scrambling cartridges and continue to own them. Consumers could directly receive a cartridge for a particular service or package of channels when they subscribe. When that service provider wants to upgrade or change systems, it would be up to them to send the consumer a new cartridge. The cartridges could be inexpensive enough to scrap, or could be reconfigured and used again.

The idea of a cartridge-based scrambling system is not new. CI planned to put the heart of the VC II Plus into a security cartridge until, by some accounts, it realized it would be very easy for other encryption technology companies to put their systems into a cartridge which could work with the CI-built cartridge housing.

CI also expressed concern that putting the key parts of a scrambling system in a car-

tridge would help hackers, but the VC II Plus appears to have answered that concern because the heart of the decoder is a single chip which is not encased in epoxy and is easy to get to. The security of the system, which hackers are finding difficult to crack, is the security actually in the chip—the microcircuitry, boobytraps, layering, etc.—and then the software itself.

In the future, the ability to stop hackers will not center on making it difficult for them to get to the chips which make up scrambling systems, but on what they will find when they get to the chips.

Adoption of a standard interface/scrambling cartridge scenario would not be an anti-CI move. CI deserves credit for some of the things it has done, criticism for other actions. Given what it has learned over the last few years, it is very likely Larry Dunham and his gang will remain a part of satellite TV for a long time.

CONTINUED ON PAGE 26

# Our Service

annual retail subscription price of TNT to \$30 from \$20, beginning in September.

TMS also announced Larry and Shirley Pisanl, owners of Micro Dish, in San Antonio, Texas, have won a four-day Caribbean cruise. The entry was selected from those sent in between February and June. ■

## Editorial

CONTINUED FROM PAGE 25

But by mandating such a scrambling standard interface and its use, the government would:

- Protect the investment in technology by CI and others from the vicissitudes of industry politics and short-term decision making. Firms such as CI also could use a large part of the money they would spend cleaning up the marketplace on developing new technologies.

- Protect programmers and copyright holders from having their property stolen and then having to spend millions, lose credibility, and disrupt the market while a new scrambling system is implemented.

- Protect, more than anything else, the consumer's investment in a satellite TV reception system. A small, inexpensive standalone unit with an SEP could be built for existing dish owners, although many will opt to buy a receiver with an SEP once they are convinced they will not have to invest in an expensive decoder every few years. Moreover, consumers would be protected from one programmer or encryption vendor controlling scrambling technology.

As a result, the government would go a long way in helping the satellite TV industry become a strong competitor in the delivery of television programming to the home. And that, as much as anything else, could protect the American public from having only one choice (cable) for programming in the 21st century. ■

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of Distribution

# John Malone on the VideoCipher, DBS, and Sky Cable

WASHINGTON—As president and chief executive officer of Tele-Communications Inc., John Malone wields enormous power in both the cable and satellite television industries.

During a recent trip here, Malone talked with Satellite Business News about a wide range of topics, including the VideoCipher scrambling system, access to programming, and the future of high-powered DBS and other technologies. The following is a partial transcript of that conversation.

**Question:** What's going on with you guys and General Instrument these days? There doesn't seem to be a real close relationship.

**Malone:** I think, by and large, they're still our biggest vendor and we buy a lot of stuff from them. I'd say we're less than enthusiastic about the approaches they've come up with to solve the VC II security problem. That hasn't helped. It certainly didn't stand in good stead on the selection on K Prime security. But otherwise I don't know. There has been no big breach in anything. You know they have got an enormous investment in VideoCipher II and since the theory on K Prime Partners is that the partners will own the receivers, we just can't afford to have our security system breached. That just becomes absolutely critical and I

think that's the reason why that group decided to go to a different approach.

**Q:** Was that as much an anti-GI decision as it was a pro-S.A. [Scientific-Atlanta Inc.] decision?

**Malone:** No, I don't think that at all. I think for one thing, the last time that I was involved in a decision on security, I went with M/A-Com against both GI and S.A., and not on any great technical grounds, but just we had to get on with it. And then GI bought M/A-Com and they've been the beneficiary, in effect, of that decision. And fair is fair. I'd say unless there was a compelling reason to stay with GI, it seemed to me logical to give the next shot at this kind of a deal to S.A. That's the way I would do all my purchasing. I like to see a couple of healthy suppliers.

**Q:** How would you be doing things differently with the VideoCipher than GI is right now?

**Malone:** If I was running GI, like I used to, I probably would have been much more aggressive at coming up with a plan uniting the programmers and the packagers and my own financial capacity for a change-out of existing VC IIs that would fix the damn problem—instead of this kind of awkward approach that they've got, which is really not going to fix the problem in anybody's lifetime.

**Q:** The common perception in the industry is that they are going to swap out all the VC IIs at some point.

**Malone:** Yes, at a couple of hundred bucks a pop to the consumer. Which Senator [Al] Gore [D-Tenn.] is going to go off like a ballistic missile. You can hear the engines roaring down in Tennessee right now. No, I think we've got to have a plan that does not cost the home satellite owner a continental penny if he's a legitimate customer. We've got to take care of him and give him a replacement descrambler conveniently and with no cost to him.



TCI President John Malone

**Q:** Who should pay for that?

**Malone:** We all ought to pay for that. The packagers, the program-

mers, the illegal satellite customers ought to pay a cost burden in the replacement device. I mean, if it [VC II Plus] really works, then the incremental revenue that will be created for the programmers and the packagers ought to fund [it], and I think it ought to be financed by whichever equipment suppliers. That would be my feeling.

**Q:** If you guys aren't so anti-GI these days, why did programmers say that S.A. was acting at TCI's suggestion in asking the HBOs and the ESPNs to dump the VideoCipher for B-MAC?

**Malone:** If you were S.A., and you were looking to pitch an idea or concept, what would you say? I mean, you're going to go in with the strongest cards you got. I think the facts are that S.A. came in and said 'You know, if we put together a solution to the scrambling issue, where would you guys be?' and we said 'We'd be delighted. Somebody needs to break this logjam, get the first pickle out of the jar.' And therefore we would support a scheme that would do what I just said, which would cost the consumer nothing, the legitimate-receiving consumer, which would be compatible forward and backward. Obviously we'd much prefer GI to come up with that solution. But you got to start the process somewhere

and maybe if S.A. comes up with a solution maybe GI will be stimulated to come up with a superior solution.

**Q:** Who would pay for all the head-end decoders under that scenario?

**Malone:** I think the cable operators would.

**Q:** You think other than the TCI's and ATC's, the other operators would go along with that?

**Malone:** I don't know if they'd have a choice.

**Q:** Has any progress been made on that?

**Malone:** I have no idea. You have to check with S.A. [S.A. President] Bill Johnson came to my office and said 'What are you thinking?' I said 'Well, I got to tell you, Bill, in all likelihood you would just be a stalking horse for GI. Because I can't imagine GI would surrender this business, see? But on the other hand, you'd be doing this industry a great big favor if you start the bidding. So you have my blessing, go, see if you can solve the problem.' It's a big problem. Gore, he'll be bananas if we don't come up with something that doesn't cost the legitimate customer nothing. And this is a real problem. This has to do with integrity from the beginning to the end.

CONTINUED ON PAGE 13



**\$50**



# Malone

CONTINUED FROM PAGE 11

Our view of the world is we want those C-band customers to be happy and satisfied and to have full access to all the programming because, in our view, it does not compete with cable much. A cable guy's got to really be doing a lousy job before one of his customers will disconnect, go out and pay \$1,000, \$1,500 bucks for a receiver, and go through all the trouble. But in the areas that cable doesn't reach, this expands the distribution of the programming, that we're all paying for, by what, eight, 10 million homes, potentially? We have to solve the broader problem. The broader strategic issue of how to we take this in-place architecture that we've got—with, what, 600,000 paying customers—and fix it in a way that doesn't inconvenience or disrupt the legitimate paying customers? I mean, if we go change security methods in a way that those people have to cough up another couple hundred bucks, the sales of C-band receivers is going to go through the floor again and we don't want to see that happen.

Q: But isn't it going to happen in two or three years again anyhow, when digital systems come on line? Aren't these all interim technologies right now?

Malone: I don't know. It seems to

me a function of how secure they are and it may be that S.A.'s approach will turn out, because it's more complex, to be more secure. I don't know. We think also that what S.A.'s proposing has other attributes to it that expand the capacity of the receiver facility. And we're sure GI can do the same thing.

Q: How so?

Malone: As I understand it, it makes pay-per-view more immediately usable, and it has the potential for a telephone interface for security modification, for periodic changing of the codes. But I know that the way you get a good solution, as the customer, to get a bidding contest going and get two or three vendors out there brainstorming and trying to come up with a good solution. And so far, when GI had a monopoly in the business they've got no incentive to fix it. The more illegal descramblers they sell the more money they make. And I'm not accusing them of deliberately doing that, but I think that's reality and only the impetus of some alternative is going to move them to be more aggressive about finding a good solution to the problem.

Q: Is S.A. your NBC Cable this time around or would you really like to see them come up with a solution?

Malone: I would love to see them come up with a solution, and I would love to see GI come up with a solution, and I would love to see the industry have a choice between vari-

ous solutions. One would certainly believe that GI is in a better position to come up with a solution than S.A. because it's their equipment. But my view is that these guys ought to be brainstorming and doing the best they can to come up with a good solution and so far GI's solution for the industry is not good. I mean it's just, I think, unacceptable politically.

Q: You said you thought C-band offered you [access to] another seven to 10 million homes. Aren't those really the homes that the Sky Cables and K Primes are going to be going after?

Malone: Yes, except C-band is a more complete service and probably will be a more complete service for a very long time frame. So, I think C-band will have a very real market in the more upscale—the people who want more video. I think C-band can continue to expand and do a good job. And there'll be some people that will want the K Prime or the Sky [Cable] package, and there might end up essentially being more programming options in the home system.

Q: What about the idea that, beginning next year, G.E. Americom and Hughes are going to start launching 16-watt C-band satellites and that would bring in the possibility of 2- to 4-foot C-band dishes. Do you view that as a big threat to cable?

Malone: No.

Q: Why is that?

Malone: Well, for one thing, I'm not sure satellite is a big threat to cable period, depending on the channel capacity of it. You're talking about one receiver per TV set generally, which is a big disadvantage. I think the primary application, once again, is going to be in the non-cable areas. There will be some people, as I say, who for one reason or another would like to have it in addition to cable or in place of cable. So on the margin there may be a little competition like there is now with C-band. But I don't see it, as I see the benefits probably outweigh the disadvantages. To the degree that cable programming, that Ted Turner's CNN gets to 75 million homes as opposed to 55 million homes, cable and Turner will be more better off than cable will be hurt by that portion of the marketplace that chooses an alternative distribution method.

Q: It looks like the Federal Communications Commission is going to take up an inquiry on two degree or three degree satellite spacing. Is TCI going to have a position on that?

Malone: I think the industry would be happy with three degrees.

Q: If DBS is not that big a threat to cable then why are you and NBC and Rupert Murdoch involved in this little political war going on about access to your programming for Sky Cable?

Malone: I think fair is fair. For two of our biggest competitors—NBC and Fox [Television], who are broad-

casters and have currently a market share combined at least twice as big as the cable programming market share—to come in and say 'Give us your programming by federal mandate at prices equivalent to the cheapest prices anybody pays in the business, when we've no investment in it and we won't or don't have to give you or programming—what's ours is ours and what's yours is ours,' I think that's bull. And that's why we're fighting about it. There is a point at which the deal, the economics, get so unfair that it does become a threat to our business and the ability of our business to grow.

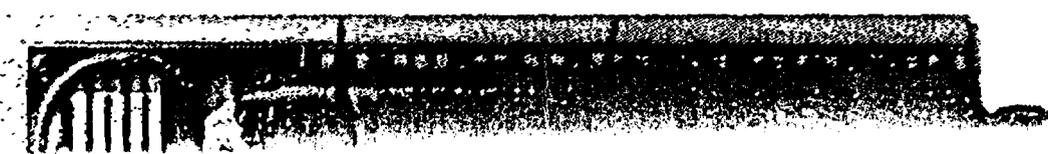
Q: So if Sky Cable has access to HBO, Showtime, et al at federally mandated prices, it would become a real threat to the cable industry?

Malone: I think yes. I think it would be a real threat to the cable industry in the sense that they would have none of the infrastructure costs that we've had to build up over the years. None of these investment. Sure. And it would also be a threat in the sense that I think all price of programming would rise, as the programmers used it as a leverage tool.

Q: So is it fair to say that the cable industry is not going to cut a deal on [Capitol] Hill that includes mandatory access for Ku-band DBS operators?

Malone: I can't speak for what the cable industry is going to do. From my perspective, I think I would fight it

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*It surges and sputters, surges and sputters. General Instrument has technological talent but managerial deficiencies.*

# The company that can't keep up the pace

By James Cook

**T**HERE ARE LONGWAVE and short-wave growth companies, just as there are longwave and short-wave business cycles. IBM and Hewlett-Packard are longwave growth companies. New York-based General

Instrument Corp. is your prototypical shortwave growth company. Three times now in the past 20 years it has latched on to new technologies, only to see each of them peter out in fairly short order.

Its first wave of growth carried it to a record \$426 million in sales in fiscal

Perry Allen Warner



*General Instrument's Frank Hickey  
When what goes up comes down. . .*

1974 (ended Feb. 28) but its mélange of radio and tv components, semiconductors and cable tv equipment sputtered out, and by fiscal 1976 General Instrument's sales were off 12%, its earnings a good 48%.

Frank G. Hickey, who took over as chief executive in November of 1974, oriented the company's semiconductor operations toward the hotshot videogame business. At the same time, General Instrument's cable television equipment lines—including set-top cable television converters, cable systems and the like—cashed in on the expanding cable television boom. Between the 1979 and 1983 fiscal years the company's earnings shot up 200%, to \$102 million, on a 77% gain in sales (to \$974 million). Its once doggy common went from 13% in 1978 to a 66% 1983 high.

But the boom didn't last, and Hickey rode the roller coaster back down again. Between 1983 and 1986 (again fiscal years) General Instrument's sales fell 18.5%, to \$794 million, and carried the company \$47 million into the red. The stock plunged from its high of 66% to 12%.

The videogame business went as quickly as it came, while the cable television business stalled as the cable companies, rather than expanding their markets, turned to restructuring into cable giants like Tele-Communications, Inc., American Television & Communications and Comcast. Thus ended the second growth wave.

Hickey moved quickly to rebuild the company. He scrapped a hodgepodge of unrelated electronic businesses and began acquiring others for the future. Along the way he wasted some \$29 million on a scheme to set up a satellite pay television system that never found its market. But he hit the jackpot with the 1986 acquisition of M/A-Com's coaxial cable and video scrambling and decoding equipment businesses.

The timing was perfect. As pay tv broadcasters began scrambling their signals to home satellite dishes, decoders were suddenly hot. General Instrument had the best decoders in the business and a near monopoly, to boot. Better still, with the industry shakeout at an end, the cable television companies had begun expanding their systems again.

Wave three. Earnings were up 266% in fiscal 1988, another 29% in fiscal 1989, for the biggest if not the best year in the company's history. Its stock price came back, too—from a 1985 low of 12% to a recent high of 37% on a spate of takeover rumors.

At the same time, however Gen-

al Instrument was demonstrating the difficulty of regaining momentum once lost. Hickey tried hard to recover General Instrument's atrophied position in the booming state lottery business (FORBES, Mar. 6). Building on the skills it had developed in its AmTote pari-mutuel horse betting business, General Instrument had pioneered computerized lottery systems in the late Seventies, and then in the mid-Eighties lost at least five rebids to competitors like Bally and Gtech (FORBES, Jan. 23). Hickey decided to try to buy his way back into the market, and, primarily through bidding low, won contracts in Israel, Quebec, Missouri and Connecticut.

That assured General Instrument fourth place in the business. But the price was high. In Missouri it underestimated the sales Missouri's restrictive lottery regulation made possible, and lost its shirt. In Connecticut a series of computer glitches shut down part of the system for a considerable time and on one occasion even permitted winning tickets to be sold after the winning numbers had already been announced.

Donaldson, Lufkin & Jenrette analyst Eric Buck calculates that General Instrument lost over \$31 million in its lottery operations in fiscal 1988, another \$16 million or so in fiscal 1989, and the division may or may not make it back into the black this year. But General Instrument's credibility has certainly been damaged, and Buck has expected Hickey to cut his losses and cash out, something Hickey so far has not managed to do.

Meanwhile, demand for General Instrument's decoders—perhaps 15% of operating profits—seems to have peaked out. Scientific Atlanta, the industry's number two producer, has been cutting into its cable equipment business, especially in the higher margined addressable set-top converters that GI had monopolized for years.

In all, analyst Buck has scaled back his earnings estimates for the year—from \$3 to \$2.80.

Not surprisingly, some people have come to the conclusion that General Instrument could do better with a change in management. Here is a company that again and again surges, only to sputter out a few years later. As if to forestall a takeover, the company in June announced a Dutch auction to buy in 20% of its outstanding shares. The move may reduce the shares that are available to a takeover artist but it won't do much to cure the persistent managerial problems

## Why do the Japanese have such a big Yen for Colombia?



These days you hear a lot about foreign debt in Latin America. But how often do you hear about foreign investment? Colombia is attracting the interest (and investment) of corporations and countries worldwide. Why? The answers could fill a book, and we'd like to send you a copy. Just write us at Colombian Government Trade Bureau, 250 Park Avenue, N.Y., N.Y., 10177. 212 972-7476

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## ARRIVING MOGULS TYPICALLY SAY, "CHECKERS HOTEL, DOWNTOWN L.A."



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ACCOMMODATIONS FROM \$200

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# Inside TVRO

VOLUME 1, NUMBER 4

FEBRUARY 1989

## VIDEOCIPHER II-PLUS TO PROTECT DEALERS, DEALERS' CUSTOMERS

*EDITOR'S NOTE: This is the second in a series of Inside TVRO Q & A articles regarding the introduction of an enhanced VideoCipher® II-Plus descrambler for consumers.*

**Q.** Will my manufacturer have access to VideoCipher II-Plus to integrate into IRDs or will he have to make the decision on whether to sign a new licensing agreement with General Instrument?

**A.** All currently licensed manufacturers will have access to VideoCipher II-Plus under the terms of their current contracts. We have informed manufacturers that VideoCipher II-Plus is deemed an enhancement to the existing VideoCipher II technology. No new licensing agreement will be required for the basic VideoCipher II-Plus descrambler system.

**Q.** How will the VideoCipher II-Plus module be different from the VideoCipher II module?

**A.** The basic VideoCipher II-Plus module will be delivered to the licensed manufacturer in one complete package—a support module with a security cartridge already inserted into the module.

**Q.** Will VideoCipher II-Plus require a major change in IRD design that

(continued page 2)

### INSIDE:



*Ray "Boom Boom" Mancini (left) chats with Larry Dunham, President of General Instrument's VideoCipher Division, at a recent Warner Bros. press conference held in Los Angeles. Mancini will face off against Hector "Macho" Camacho on March 6th in this major pay-per-view offering to the home dish market. (See related story on page 3.)*

## 200 VMSD DEALERS NOW IN PLACE, PROGRAM TO EXPAND WITH CHANNEL MASTER AGREEMENT

Since the program was announced in September 1988, nearly 200 dealers representing most satellite receiver manufacturers have been registered as VMSD dealers. In addition, over 1,000 applications have been requested by and mailed to satellite dealers.

Now, General Instrument's VideoCipher Module Service Dealer (VMSD) program also has been expanded to include field repairs of satellite equipment containing Channel Master manufactured VideoCipher® II Descrambler Modules.

While the original VMSD program included only repairs to General Instrument manufactured VideoCipher II Modules, this new cooperative agree-

ment with Channel Master will allow VMSD program participants to expand their field service capabilities to include replacement of modules originally manufactured by Channel Master.

Under the new agreement, General Instrument Modules will be exchanged with General Instrument Modules, and Channel Master Modules with Channel Master Modules. Warranty and charges from General Instrument for both products will be identical.

The VMSD program is designed to assist the entire satellite TV industry with quick turnaround repairs on VideoCipher II equipped satellite TV systems. Once approved, dealers can purchase

(continued page 6)