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## Scrambling Is Not the Answer

# Home Satellite Receivers

There has been a great deal of discussion, since the FCC got out of the business of issuing TVRO licenses, on how programmers can protect themselves against illegal use of their signals. Visions of widespread use of home satellite TV receiving systems have generated a great deal of heated wrangling. Perhaps a close look at some of the issues will lead you to agree with me that electronic countermeasures are a waste of time, effort and money.

### Who is a Threat?

First, let's divide up private earth station owners into two groups: those that owe copyright fees, and those that don't. Bars, motels, veterans' halls, hospitals, condominiums, apartment buildings, and others who distribute or display publicly a signal received by satellite are "divulging" the signal under Section 605 of the Communications Act of 1934. They need permission from the program supplier. The homeowner with a four GHz radio, engaged in passive reception, is no different from a short wave listener and needs no one's authorization to tune in any frequencies.

The key element is that one group views satellite signals in a way that can't be kept a secret and the other in a way that can't be discovered. Programmers will hear about those who distribute or display the same way they do now. Someone will call or write a letter. The main office will scratch its collective head and ask: "How come he's seeing our stuff?" The jig is up. The criminal sanctions of the Communications Act, as well as the economic sanctions of the Copyright Law, come into play.

On the other hand, there is no practical way you can force a man to say which transponder he's been tuned to. Who's to know if he was watching CBN (free) or Home Box Office (pay)?

The only real potential for loss of revenue is represented by the home system. The true home system doesn't owe anyone a copyright fee, because the copyright law doesn't apply. The rights of a copyright owner are limited to those set out in Section 106. The owner has exclusive rights only "to do and to authorize: to reproduce—in copies or phono records; to prepare derivative works; to distribute copies or phonorecords; to perform the copyrighted work publicly; and to display the copyrighted work publicly."

In the case of the home satellite TV system operator no copying is involved; no public use is involved; no secondary transmission is involved; and no commercial use is involved.

### Scrambling Considerations

We all know that scrambling is technically feasible. But is it worth it?

Who will bear the expense? In one sense, the question means that CATV operators may be reluctant to pay for descrambling equipment for one service when a competing service is not scrambled. In another sense, will scrambling add a cost that is ultimately borne by legitimate subscribers? Of course. So scrambling will add to the rise in monthly rates which are already an issue to the inflation-sensitive consumer.

What about Murphy's Law? Isn't it true that for each piece of gear you add to the system, an additional opportunity for a breakdown is created? In scrambling, you create two opportunities for a breakdown: the scrambler, and the descrambler.

It will be almost impossible to keep any scrambling technique a secret. WTBS is carried by 1,300 CATV systems, HBO by 1,600. Many have several shifts of technicians. The word will soon leak. Even if it doesn't leak, experimenters and hobbyists will soon crack it and publish their results in a hobbyist newsletter, under cover of the first amendment. Each new security measure will invite countermeasures. The costs incurred may prove to add little to security.

### Cost/Benefit Analysis

Let's look at the example of WTBS. Assume a full 100,000 home terminal owners watch it. That would be a leakage of 1.6% on its subscriber base of 6.1 million. At 10¢ per subscriber per month, lost revenues represent a maximum of $120,000 per year. Assuming no cost for the scrambling/descrambling equipment, that buys you just six persons on staff at a fully loaded rate of $20,000 per year. Those six folks will probably be used up in policing your scrambling/descrambling operation. Net result? A wash, or a loss if you adopt the considerations above.

Each service will develop its own numbers, each using different assumptions. It should not surprise anyone that, in the previous example, it would have been equally reasonable to assume only 50,000 home terminal operators watching WTBS, or a system-wide cost for scrambling/descrambling of $655,000 (1,300 systems at $500 each, plus WTBS cost at $5,000). Such assumptions would only make scrambling by WTBS look like an even worse management decision.

It will be the rare programming service which can justify going to scrambling. That's assuming today's base of customers for programming services—CATV systems. In tomorrow's world, where pay programmers serve private earth station operators for bars, motels, hospitals, condominiums, resorts, and so forth, it may be a bad management decision to make a signal harder to receive.

Programmers should file tariffs for public rooms, such as bars, and negotiate appropriate contracts to permit such an uncontrolled gate. Currently, pay programmers are turning away people with money in hand. With the coming popularity of private earth stations which require authorization from the sender to display programming, scrambling will hurt more than it helps.