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February 16, 1994

HAND-DELIVERED

William F. Caton
Acting Secretary
Federal Communications Commission
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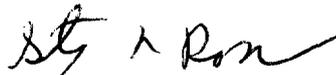
Re: Implementation of Section 17 of the Cable Television
Consumer Protection and Competition Act of 1992
Compatibility Between Cable Systems and Consumer
Electronics Equipment
ET Docket No. 93-7 -- FCC No. 93-495

Dear Mr. Caton:

Enclosed on behalf of InterMedia Partners, ML Media Partners and ML Media Opportunity Partners, are the original and four copies of Reply Comments of Joint Filers to be filed in the above-referenced proceeding.

Please address any questions concerning these Comments to the undersigned.

Cordially,


Stephen R. Ross

SRR/sdb
Enclosures

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**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.**

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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

In the Matter of:)
)
Implementation of Section 17 of the Cable)
Television Consumer Protection and)
Competition Act of 1992)
)
Compatibility Between Cable Systems and)
Consumer Electronics Equipment)

ET Docket No. 93-7

REPLY COMMENTS OF JOINT FILERS

InterMedia Partners, ML Media Partners and ML Media Opportunity Partners (Joint Filers) respectfully reply to certain comments filed in response to the above referenced Notice of Proposed Rule Making.

Most commentors, both cable operators and equipment manufacturers, support the essentials of the joint CAG filing. Joint Filers suggest that such broad support indicates the quality and durability of this carefully balanced agreement. We wish to respond, however, to other issues raised by some commentors.

The issues of digital standardization must be dealt with carefully, following completion of other standardization efforts and when the technology for cable transmission of such programming has stabilized. Any long-term solution must recognize that the issue is not security alone, but must also encompass other cable-related concerns.

As suggested by the Commission, and supported by the CAG and Joint Filers, tuner performance standards should be extended to converters, as well as television receivers and video cassette recorders. In order to protect the cable network from harmful interference, the tuner performance standards should also be applied to all extended tuning range receivers, since they are likely to be connected to cable systems. Joint Filers, suggest, however, that all such receivers need not be provided with Decoder Interface connectors.

To prevent vendors of pirate descramblers from justifying their operations under the auspices of the Cable Act of 1992, Joint Filers request that the Commission clarify the distinction between converters (which merely extend tuning range) and descramblers (which are essential for controlling access to optional programming.)

Joint Filers supports the suggestion that the specification on receiver-conducted emissions be extended downward to 5 MHz to protect emerging two-way communications.

Finally, we suggest that the request of one filer to standardize two-way communications be rejected as premature, legally unsound and unnecessary.

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REPLY COMMENTS OF JOINT FILERS

InterMedia Partners, L.P., ML Media Partners, L.P. and ML Media Opportunity Partners, L.P. ("Joint Filers"), hereby respectfully submit their reply comments to certain filings made in response to the above referenced Notice of Proposed Rule Making in ET Docket No. 93-7, FCC No.93-495, released December 1, 1993, (hereafter "NPRM").

THE COMMISSION SHOULD BE CAUTIOUS IN SETTING DIGITAL STANDARDS

While Joint Filers support the Commission in its stated intent to set standards for transmission of digitally compressed programming, they agree with General Instrument Corporation¹, TCI² and Greater Media³ that it is too soon to make those determinations. It should be noted that the US ATV standard has not yet been set, nor has the international MPEG2 compression standard been finalized. Comprehensive studies have not yet been done to determine

¹*Comments of General Instrument Corporation, page 7.*

²*Comments of Tele-Communications, Inc, Page 31.*

³*Comments of Greater Media, Inc. in Response to Notice of Proposed Rulemaking, page 12.*

what modulation format is most rugged and what data rates are supportable in the cable television environment (which differs considerably from the over-air environment).

The EIA/NCTA Joint Engineering Committee and its various subcommittees (including the National Renewable Security Subcommittee ("NRSS")) are actively working towards an evolutionary Decoder Interface which will allow migration of most digital processing circuitry into consumer receivers. While Joint Filers agree with Pacific Telesis Group⁴ that the schedule currently proposed to the Commission by the Cable-Consumer Electronics Compatibility Advisory Group ("CAG") for that work may be overly ambitious, it still represents the best option for reaching a balanced, inter-industry solution. Contrary to the assertion of Mitsubishi⁵, the NRSS is not "nearing final specifications" on a software-carrier conditional access system, but is considering a number of hardware and software solutions to providing programming security. It should also be pointed out that the work of the NRSS is limited to security issues, not the entire interface definition.

The currently proposed Decoder Interface (assuming remaining open issues are satisfactorily resolved) will support current analog scrambling systems as well as the digital systems about to be introduced, while retaining all of the capabilities of current set-top boxes. Thus, the Commission can take the time necessary for other standards efforts to be completed

⁴*Comments of Pacific Telesis Group, Pacific Bell and Nevada Bell, Page 4.*

⁵*Comments of Mitsubishi Electronics America, Inc. on Notice of Proposed Rule Making, Page 11.* Several proposals have been made to the NRSS on security systems. The one currently under discussion involves an external security system containing decryption, entitlement and key management. It is and has been the position of the cable industry members to that committee that all security functions must be within their control. That position is supported by reports of widespread breaches of the "smart card" technology used in Europe for control of satellite programming.

and for early installations of digital cable boxes to prove the technologies, knowing that consumers can meanwhile avoid the necessity of set-top tuner/descramblers. We agree with those filers who caution against the deleterious effects of premature standards setting.

It is apparent from some of the comments filed in this matter that the filers do not understand the evolutionary strategy under discussion in the EIA/NCTA Joint Engineering Committee. Hewlett Packard, in particular, does not seem to comprehend the distinction between "clear signal" technologies (which have severe limitations with respect to digital programming) and the proposed decoder interface, which was designed to support both analog and digital systems including those with as-yet-undefined compression, multiplexing, encrypting and modulation formats⁶. The Appendix to this document is InterMedia's understanding, as a participant, of the strategy under discussion in the Joint Engineering Committee. It should be apparent that the interface being developed would also support decoders provided by other multi-channel programming suppliers.

CABLE OPERATORS' LEGITIMATE BUSINESSES MUST BE ALLOWED

Mitsubishi, Titan⁷ and Circuit City⁸ argue that cable operator's interest in terminal equipment should be limited to security functions. Those arguments are self serving and attempt to redefine the cable business. While cable operators do operate transmission systems, they are

⁶*Comments of Hewlett-Packard Company, Page 3.*

⁷*Comments of the Titan Corporation*

⁸*Circuit City Stores, Inc. Comments on Notice of Proposed Rule Making, page 5.*

not common carriers. They are also in the programming, terminal equipment, video services, advertising and other businesses.

While the Cable Act⁹ regulates charges for terminal equipment (thereby preventing any "price gouging") and assures the availability of remote controls and set-top converters (not descramblers) from third party suppliers, it neither permits nor mandates fundamental changes in the businesses conducted by cable operators. Nothing in the language forbids operators from continuing to offer consumer features in set-top or set-back decoders nor requires that such features be non-proprietary.

In particular, cable systems are evolving new architectures and services at a rapid pace. For example, video on demand and expanded home shopping and information services will be implemented by dedicating some channels on cable systems to individual subscribers on a demand basis. When a subscriber is using such a channel, he will communicate, through the cable system, to a "server" in the headend, which will provide the programming or information requested. As with all retail sales situations, the "look and feel" of the interface is very important to the vendor. For that reason, specialized on-screen displays may need to be generated in the decoder to support both the interface to the server and to aid the subscriber in selecting from the myriad choices that will be available, as pointed out by Bell Atlantic¹⁰. Implementing this typical scenario will require that the decoder, whether it be set-top or set-back, include a **data transmitter** to communicate with the headend, a **descrambler/decryptor** for security, and a **display generator**

⁹*Cable Television Consumer Protection and Competition Act of 1992*, Pub. L. No. 102-385, 106 Stat. 1460 (1992).

¹⁰*Comments of Bell Atlantic*, page 2.

for consumer guidance. If it is implemented in a set-back version, it will also need to control the receiver's tuner. An interface limited to security functions only will not allow these new services to be developed.

In order that cable operators may continue to develop and offer innovative new services Joint Filers urge the Commission to avoid restrictions on cable operators that are not clearly supported by the Cable Act.

TECHNICAL STANDARDS MUST BE EXTENDED TO CONVERTERS

Joint Filers are pleased that joint inter-industry advisory group (CAG) in its filing agrees with the Commission that the technical standards should be extended to cover converters, as well as television receivers and VCRs¹¹.

The suggestion of New York City that all baseband equipment must include stereo audio and video outputs¹², however, calls for an extension of the rules that is not supported by the legislation. There is no record of significant subscriber discontent with the audio capabilities of converters because they simply pass stereo audio through to subscribers' equipment. If subscribers wish to purchase stereo receivers, they can enjoy the benefits of this enhancement. What New York is proposing is that cable operators be required to furnish stereo decoders (at added expense) to all subscribers for connection to external audio equipment. Non-stereo-using subscribers would thus be forced to pay (through equipment lease costs) for a feature that they

¹¹*Comments of the Cable-Consumer Electronics Compatibility Advisory Group*, Footnote 30, Page 11.

¹²*Comments of New York City Department of Telecommunications and Energy*, page 4.

are not interested in. This flies in the face of the logic that subscribers should be able to pay for only features that they desire.

TECHNICAL STANDARDS MUST COVER ALL EXTENDED TUNING RANGE RECEIVERS TO PROTECT BOTH PURCHASERS AND NETWORK INTEGRITY

Sharp Electronics¹³ and Zenith¹⁴ both argue for a narrow application of the "Cable-Ready" specifications. Sharp justifies this by listing receivers which are not intended for connection to cable systems (such as camcorders and portable receivers). The Commission has not suggested applying the rules to such equipment. Joint Filers¹⁵, TCI¹⁶ and Cox¹⁷ have all suggested that the criteria used to determine whether the standards apply be the provision of a tuning capability that includes the cable-exclusive channels. In Sharp's case, since the listed equipment is not intended for connection to cable systems, there is no reason to provide the extended tuning range.

Zenith points out that in some cases subscribers may only be interested in viewing non-scrambled programming and should not be required to support the inclusion of the decoder interface connector. Joint Filers agree with this concern. However, with or without a decoder attached, the receivers will be subject to the same degradations due to ingress, fundamental

¹³*Comments of Sharp Electronics Corporation*, Paragraphs 6 and 7.

¹⁴*Comments of Zenith Electronics Corporation*, page 2, paragraph 2.

¹⁵*Comments of Joint Filers*, pages 7-10.

¹⁶*Comments of Telecommunications, Inc.*, page 18.

¹⁷*Comments of Cox Communications and Newhouse Broadcasting Corporation*, page 2, footnote 1.

overload, etc. when connected to cable systems. As Cablevision Systems¹⁸ and Cablevision Industries¹⁹ point out, the only solution to those types of deficiencies is to install a converter, which will engender more complaints of the type the Cable Act is expressly designed to eliminate. More importantly, such deficiencies as insufficient shielding, A/B switch isolation and local oscillator leakage will affect the integrity of the cable system to which they are attached. Joint Filers would like to suggest that a reasonable compromise that responds to Zenith's legitimate concern, while protecting cable systems from harmful interference, is to apply the tuner performance standards to all extended tuning range receivers, but require the inclusion of the decoder interface connector on only those advertised or promoted as "cable-ready" (or equivalent terms).

CABLE OPERATORS MUST BE PROTECTED FROM PIRATE DESCRAMBLERS

Without exception, commentors in this proceeding have recognized the legitimate interest cable operators have in controlling access to programming. Despite that, there are persons engaged in the manufacture of permanently enabled (pirate) descramblers who are using the Cable Act's language related to third party availability of converters to justify their operations and products. Cablevision Systems, in its comments, requests clarification from the Commission in freeing operators from the obligation to specifically provide subscribers information about the availability of such devices. Joint Filers believe that the Commission understands that such devices, by removing cable operator's control over optional programming levels, are at variance

¹⁸*Comments of Cablevision Systems Corporation*, page 4-5.

¹⁹*Comments of Cablevision Industries Corporation*, pages 3-4.

with the legislation. To clear up any confusion, we request that, in addition to granting Cablevision Industries' request, the Commission clearly state that such products are not permitted under these regulations or the Cable Act or 1992.

RECEIVER CONDUCTED EMISSIONS MUST BE CONTROLLED DOWN TO 5 MHz

Cablevision Systems points out an omission in the CAG filing of tuner technical standards. That standard dealt with controlling conducted emissions that might interfere with neighboring subscribers and neglected to deal with emissions below 54 MHz, where they will interfere with two-way communications on cable systems²⁰. Two-way cable systems are designed for up-stream transmission at low frequencies and conducted interference will directly interfere with subscriber response information and other proposed uses of the such capabilities. Although a minority of cable systems currently have two-way capability enabled, nearly all have provided for it in their designs and over the next few years two-way operations will become common to support new services. Therefore, Joint Filers support Cablevision's request and suggest that the Commission extend the lower range for signals transmitted out of receiver antenna terminals to 5 MHz.

THERE IS NO NEED TO STANDARDIZE TWO-WAY TRANSMISSION

The Interactive Multimedia Association²¹ requests that the Commission standardize two-way transmission in cable systems. Joint Filers believe that such a standardization is impractical,

²⁰*Comments of Cablevision Systems Corporation*, page 12.

²¹*Comments of the Interactive Multimedia Association*, pages 3-4.

that it is not justified under the Cable Act, and that other avenues are open for two-way communications for non-cable service providers.

Two-way applications are being developed by cable operators at a rapid pace. In response to this, "up-stream" bandwidths vary widely: 5-30 MHz, 5-42 MHz, 5-108 MHz and 800-1000 MHz. Applications are just as varied: simple subscriber response data, system status monitoring, digitized voice for various applications, TDMA/FDMA packetized communications, transporting video from remote locations to the headend, etc. In the current state of flux, it would be virtually impossible to standardize frequency utilization, channelization, modulation formats or protocols.

Secondly, the standardization of communications from headend to subscribers is limited to those services intended for reception by cable-ready receivers and is justified by the specific concerns raised in the Cable Act related to interface issues. Cable systems are not common carriers and there is no justification in the Act for standardizing other downstream or upstream communications. To do so would curtail the development of new services by cable operators, as well as essential system monitoring functions.

Finally, there are other options for reverse communications available to third party service providers. For example:

- Telephone modems are readily available and low cost.
- Radio links for this specific purpose (developed by TV Answer corporation) were recently authorized by the Commission using the frequencies just above VHF channel 13.
- The pending PCS systems will offer ample opportunities for direct, low-power RF links to local cells.

Therefore, even if a third party service provider is not able to agree with a local cable operator on terms for providing reverse channel communication, such communication is not compatible with the operator's other uses for the frequency, or the system is simply not equipped for two-way communication, there are other available options for providing the functional equivalent.

On the basis of impracticality, lack of legal basis and the availability of alternate means of communications, Joint Filers request that the Commission deny IMA's request.

CONCLUSION

The Commission should accept the inter-industry CAG filing as the basis for setting both short-term and long-term standards for the interface between cable systems and consumer electronics. In particular, even though the Decoder Interface connector might not be fully defined in time for the statutorily-defined April deadline for issuing rules in this matter, it still represents the best consensus and evolutionary strategy for realizing the aims of Congress in assuring long-term compatibility.

While the Commission should proceed with a careful examination of digital transmission standards, it should allow marketplace forces and other standardization efforts to be part of the eventual decision. In particular, it should allow the inter-industry committees, which have been so successful in defining analog standards, to make reasoned recommendations and conclusions before acting. In any case, recognition must be made that cable operator's ability to develop and market new services is as much of an issue as program security.

Given the need to protect the cable network (just as the telephone network and over-air spectrum is now protected) the tuner performance rules must be applied to both converters and

extended-tuning-range receivers as they are likely to be connected to cable systems, even if not equipped with Decoder Interface connectors.

In order to protect two-way operation of cable networks, conducted emissions must be controlled down to 5 MHz, *as* the 54 MHz proposed. The Commission should, however, reject the suggestion of one commentor that regulating two-way communications is beyond the scope of this proceeding and therefore unnecessary.

Respectfully Submitted,

InterMedia Partners, L.P.

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February 16, 1994

APPENDIX: AN EVOLUTIONARY STRATEGY FOR SET-BACK DECODERS

Although the work of the EIA/NCTA Joint Engineering Committee is far from complete with regards to a complete strategy for evolution of set-back decoders, the negotiations so far envision an initial release level for the decoder interface that would support current analog systems and the early deployment of digital systems. Figure 1 is a simplified block diagram of the interface with an analog decoder attached.

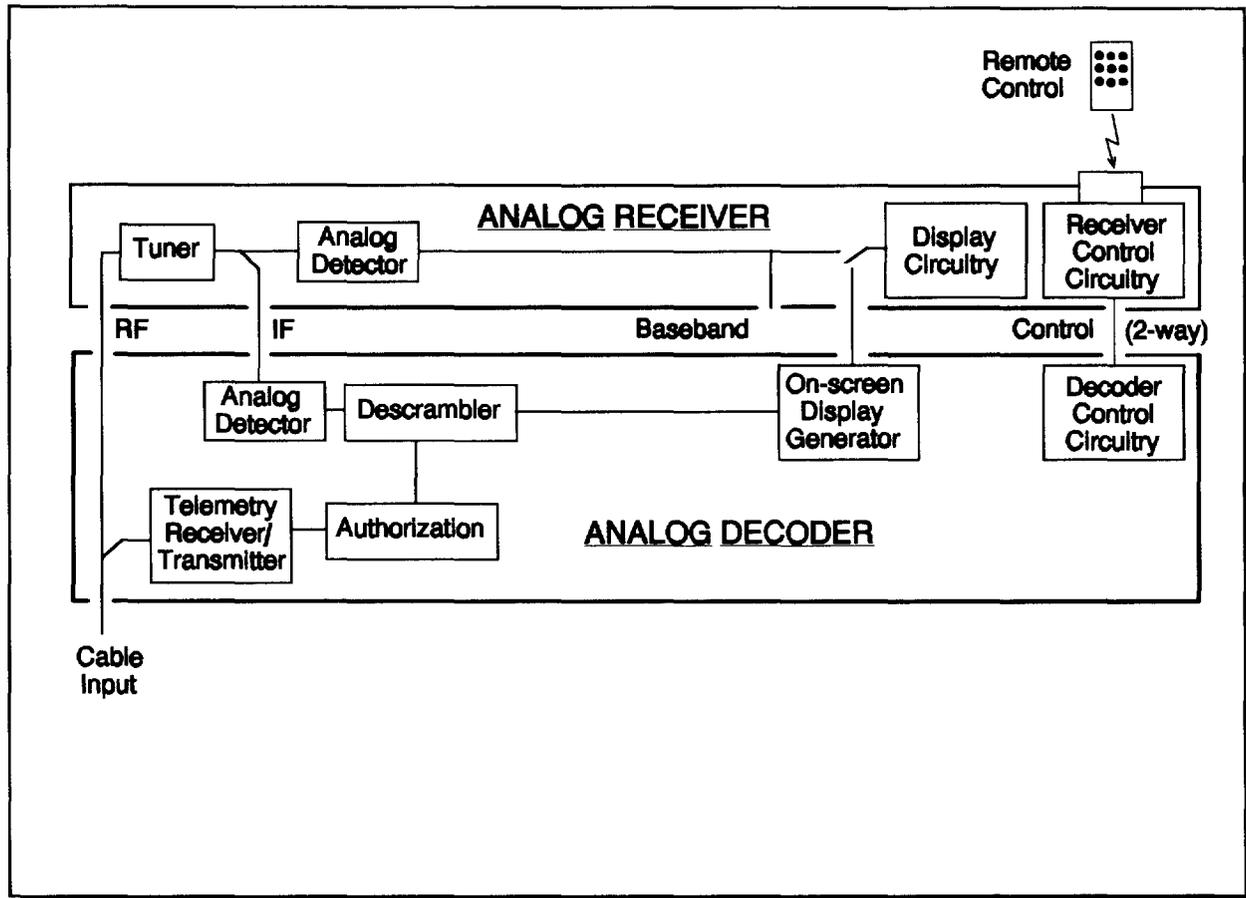


Figure 1: Analog Set-Back Decoder Attached to Cable-Ready Analog Receiver

The cable input is "looped through" the decoder before going to the receiver antenna input port. This allows the decoder to receive enabling commands from the cable system regardless of the operation of the receiver and also allows the decoder to transmit signals to the cable headend in two-way systems.

A sample of the receiver IF signal after the tuner is provided to the decoder, thereby eliminating the requirement that the decoder have its own tuner. The decoder detects the scrambled signal, descrambles it (if authorized), adds whatever on-screen display information is appropriate, and sends it back to the receiver as a baseband video signal. Various control commands also flow

between the receiver and decoder to allow the decoder to control certain receiver functions and to receive remote control commands "passed through" the receiver. This is required in order to deliver today's pay-per-view services and tomorrow's interactive programming.

Figure 2 shows the same receiver with a digital decoder attached. The operation is identical, except that the analog detector is replaced by the required digital detector and processing circuitry. This configuration is essential to allowing cable customers to receive digitally-compressed programming before digital standards become standardized and long before digital receivers achieve high market penetration.

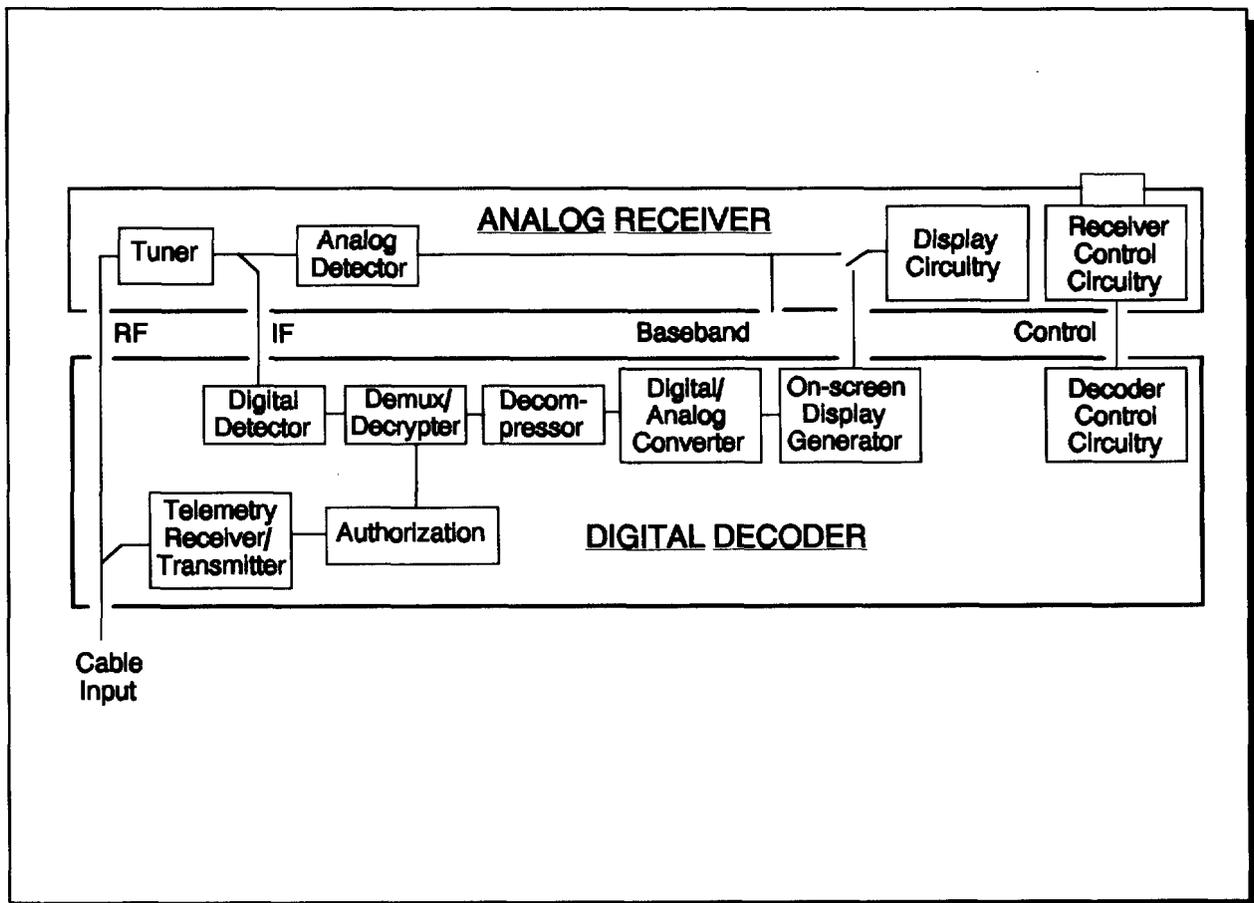


Figure 2: Digital Decoder Connected to Cable-Ready Analog Receiver

At such time as digital standards stabilize and it becomes apparent which modulation, multiplexing, error correction and decompression methods are most efficient for use in the cable environment, those functions could be incorporated within receivers. Figure 3 shows a receiver in which all possible common functions are incorporated. Remaining within the decoder are only those functions necessary to maintain the functionality and security necessary, namely the telemetry transmitter and receiver, the digital decrypter (and its authorization information), and

the on-screen display generator. The high cost digital processing is all contained within the customer's receiver, so the decoder will be much less expensive than that shown in Figure 2.

It should be noted that the interface connector between the receiver and decoder is the same in each case. In the case of analog decoders, the data pins are not used, while in the case of the digital decoders, the IF output is not needed. Keeping this standard interface will allow analog or digital decoders and scrambling systems to be used, with either analog or digital cable-ready receivers. Further, it will allow cable operators to use less expensive digital decoders at such time as digital transmission systems stabilize (for those customers who purchase the new receivers), while not giving up the functionality of the earlier versions.

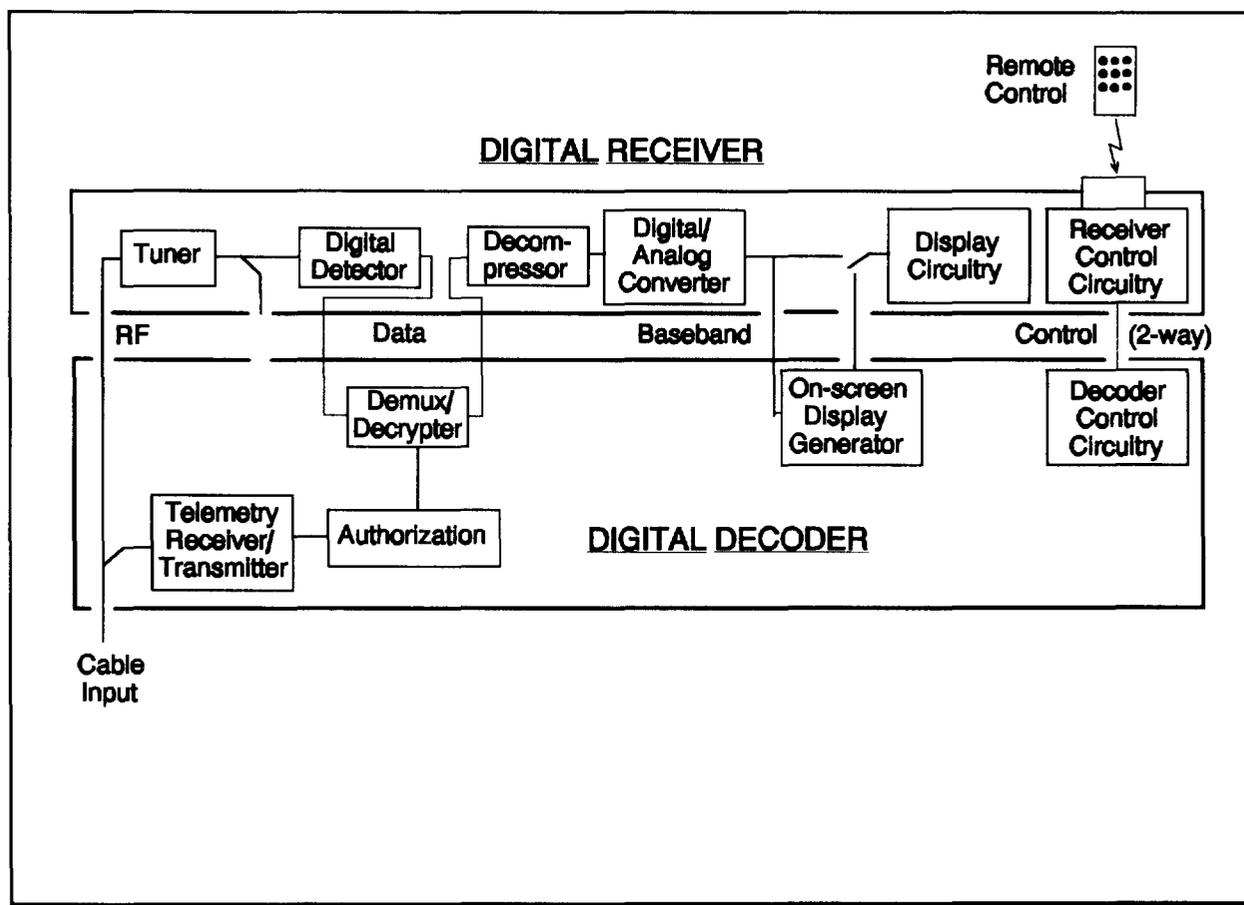


Figure 3: Second Generation Digital Decoder Connected to Digital Cable-Ready Receiver

With either analog or digital receivers, it is anticipated that receiver manufacturers will also develop features such as on-screen displays for their own purposes and that users will be able to select which display is enabled, insuring a healthy competitive situation.