BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

In the Matter of	)	
	)	
Implementation of Section 17 of the	)	
Cable Television Consumer Protection	)	ET Docket No. 93-7
and Competition Act of 1992	)	
	)	
Compatibility Between Cable Systems	)	
and Consumer Electronics Equipment	)	

PETITION FOR CLARIFICATION OF GENERAL INSTRUMENT CORPORATION

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TABLE OF CONTENTS

PAGE NO.

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PETITION FOR CLARIFICATION OF GENERAL INSTRUMENT CORPORATION

General Instrument Corporation ("GI") submits this petition seeking clarification of the Memorandum Opinion and Order in the above-captioned proceeding.1

I. SUMMARY OF POSITION

GI seeks clarification of the decision in the Reconsideration Order "to require cable operators to offer component descramblers that perform only signal access control functions" and "require that the Decoder Interface be designed to

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1 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, Memorandum Opinion and Order, FCC 96-129 (released April 10, 1996) ("Reconsideration Order").

enable all functions other than security control to be provided in competitively supplied equipment."2 This "access control limitation" is inconsistent with the Decoder Interface being negotiated by the consumer electronics and cable TV industries. The Decoder Interface has been designed so that component descramblers must perform more than only signal access control functions. These functions include communicating with the TV set, communicating with the cable TV headend, communicating with the subscriber, and providing essential control functions in the broadband network.

The Reconsideration Order's apparent access control limitation on component descramblers is also at odds with current and evolving designs of cable television network technologies, including addressability and two-way communications.

Accordingly, GI asks that the Commission clarify its decision to reflect the actual design of the Decoder Interface and cable network technology by specifying that component descramblers supplied by cable operators may support appropriate network control functions as discussed in this petition.3

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2 Reconsideration Order at ¶ 38.

3 GI recognizes that the Reconsideration Order allows cable operators to offer integrated multi-function component devices, Reconsideration Order at ¶ 38, and strongly supports this decision. However, since the cable operator's ability to offer such integrated devices is predicated on the operator's

(continued ...)

II. BACKGROUND ON THE DECODER INTERFACE.

In the First Report and Order in this proceeding, the Commission recognized the value of an interface on TVs/VCRs that would allow cable operators to supply "set-back" boxes that use the tuner in the TV/VCR for tuning among signals provided by the cable TV system, thereby eliminating an additional tuner in the box and facilitating compatibility. The Commission asked the consumer electronics and cable TV industries to negotiate the details of such an interface, and those negotiations have been underway in the Decoder Interface subcommittee of the EIA/NCTA Joint Engineering Committee. The interface is now known as Draft Interim Standard IS-105, or the "Decoder Interface."

In the First Report and Order, the Commission expressed its hope that such an interface could also support the retail provision of a variety of set-back boxes (these boxes are called "Decoders" in Draft IS-105) that could provide additional

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(... continued)

also offering a disaggregated component descrambler that performs a more limited array of functions, this petition asks that the Commission clarify that this latter disaggregated device may include appropriate network control functions as discussed herein.

services and features.4 In response to this Commission specification, the Decoder Interface subcommittee evaluated a variety of approaches that might be able to support the interconnection or "daisy-chaining" of multiple Decoders to the Decoder Interface. The current Draft IS-105 contains a method that is believed to work, at least for a limited number of attached Decoders, but has not yet been tested.5

In addition, in the course of the negotiations it was concluded that Decoders must be able to communicate with the TV set, with the consumer, and with the cable TV headend. The two-way communication between the Decoder and the TV set is by means of commands carried on a control and signal bus. While Draft IS-105.1 specifies the physical and electrical properties of the Decoder Interface, Draft IS-105.2 specifies the command language and protocols for the control and signal bus. The command language contained in Draft IS-105.2 is an essential part of the Decoder Interface. Draft IS-105.1 is incomplete without Draft IS-105.2.

The communication from the consumer to the Decoder is by means of remote control signals that are received by the TV set

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4 See Equipment Compatibility Order, 9 F.C.C.R. 1981, ¶ 42 (1994).

5 See Draft IS-105.1, revision 6.0, at Section 3.4.

and converted to commands that are carried on the control and signal bus.[6] Communication from the Decoder to the consumer is by means of on-screen text displays generated by the Decoder. (An unresolved issue is contention between multiple Decoders to display on-screen messages at the same time.)

Communication from the cable headend to Decoders supplied by the cable operator is supported in the Decoder Interface by having the signal that comes from the cable system "loop through" the Decoder before connecting to the TV set.[7] In this way, these Decoders can receive and process the proprietary data channel that is employed in addressable cable systems.

In the terminology of Draft IS-105, there are two types of Decoders. A Decoder that provides services or features but does not provide access control functions is called a "Feature Unit;" a Decoder that provides services or features and access control functions is called a "Descrambler." There is no type of Decoder that provides only access control functions.

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6 Alternatively, although not included in the Draft IS-105 specification, such communications could be by means of remote control signals that are transmitted by the consumer and received directly by the Decoder, bypassing the TV.

7 See Draft IS-105.1, revision 6.0, at Section 2.

III. THE COMMISSION SHOULD CLARIFY THAT COMPONENT DESCRAMBLERS SUPPLIED BY CABLE OPERATORS MAY INCORPORATE ESSENTIAL NETWORK FUNCTIONS IN ADDITION TO ACCESS CONTROL FUNCTIONS.

A. The Reconsideration Order's Apparent Limitation on Component Descramblers to Access Control Functions is Inconsistent With the Decoder Interface.

GI asks the Commission to clarify its decision "to require cable operators to offer component descramblers that perform only signal access control functions" so that it comports with the current Decoder Interface specification and cable network technology.[8] Component descramblers must provide a number of additional functions in order to comply with Draft IS-105. As noted, these functions include communicating with the TV set, communicating with the cable TV headend, communicating with the subscriber, and providing essential network control functions that are related to the communications capability.

Not only are these communications functions part of the Decoder Interface standard, they are essential to its proper operation. They may support, for example, the subscriber's ability to order and view a pay-per-view program, using on-screen menus generated by the component descrambler. Essential network

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8 The Commission's terminology of "component descrambler" appears to correspond best to the Descrambler Decoder rather than the Feature Unit Decoder in Draft IS-105. As noted, there is no type of Decoder that performs only signal access control functions.

control functions that may be required in connection with pay-per-view ordering include the component descrambler's ability to force-tune the TV's tuner to the proper channel to watch such a program. Draft IS-105 specifically supports such a capability.9

Another essential network control function is channel mapping, which allows the cable operator to carry local broadcast stations on frequencies other than their over-the-air channel in order to avoid direct pickup interference. Under Draft IS-105, the component descrambler would be able to control the TV tuner to tune to the correct frequency but to display the over-the-air channel number.

The richness of the Decoder Interface has been recognized throughout the industry negotiations, and at one point became an issue in the debate between the negotiating parties. On February 3, 1995, the TV Task Force of the EIA Consumer Electronics Group submitted a "Statement" in this proceeding, proposing to withdraw the IS-105 specification and submit a new proposal "that is designed to do no more than accommodate the descrambling of signals."10 It said that "EIA/CEG is now in the process of finalizing a draft descrambling-only Decoder Interface standard

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9 See Draft IS-105.2, at Section 3.7.

10 See Statement of the Consumer Electronics Group of the Electronic Industries Association Regarding the Decoder Interface, filed February 3, 1995 in ET Docket No. 93-7, at p. 2.

and will file it with the Commission as soon as it is completed."11

In response to this EIA "Statement," GI submitted a letter on February 21, 1995 asking for more details about this descrambling-only interface because "we are interested in gaining a better understanding of what the TV task force means by this proposal." But no details were ever submitted. Consequently, the EIA "Statement" confirms that the IS-105 Decoder Interface is not a descrambling-only interface. Further, since such a "descrambling only" interface has never been formally proposed or documented, the Commission has no record on which to order the availability of descrambling-only component descramblers.

B. The Access Control Limitation is Also Inconsistent with Current and Evolving Cable Networking Technologies.

The access control limitation is also at odds with current addressable and evolving two-way cable TV network designs. The Commission must recognize that there are numerous network control functions in today's one-way cable systems, derived from the proprietary network data channel, that go well beyond "signal access control" and that these functions must remain under the control of the cable operator.

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11 Id.

Limiting component descramblers supplied by cable operators to signal access control functions would make it impossible to generate: (1) on-screen menus that might be used to allow the subscriber to select programs and services; (2) on-screen emergency messages; or (3) other head-end originated messages that are carried in the data channel of addressable cable systems.

This access control limitation would also make it impossible for the descrambler to receive addressed authorization messages, thereby preventing cable systems from using addressable descramblers and limiting the means by which consumers may purchase scrambled programming. Such a result is plainly contrary to the technical practices in widespread use throughout the cable industry today.[12]

The capturing and transmission of billing information would also be precluded, as would the downloading of security upgrades. An essential security element of some addressable cable systems is the ability to send "silver bullet" control messages to customer equipment. These messages can be used to increase the level of security in a cable system by downloading new

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12 In 1995, the cable industry in the U.S. invested about $1.06 billion in cable converters, of which about $1.03 billion went for addressable converters. See Paul Kagan, Cable TV Technology, January 31, 1996, at p. 2.

instructions into the microprocessors in the cable box. This approach is now used in some addressable cable systems and would in the future be used in component descramblers. A requirement that an operator-supplied component descrambler perform only signal access control functions would prevent a cable operator from upgrading the security of such units, except by means of an expensive service call.

Moreover, cable systems are in the process of upgrading their infrastructures to employ two-way technology to support interactive cable services. Customer equipment supplied by cable operators will perform essential network control functions such as managing the use of upstream bandwidth and isolating one subscriber from another to minimize interference and assure privacy. These network control functions would apparently be prohibited by a policy that limits the functions of certain devices supplied by the cable operator to "perform only signal access control functions." If these two-way infrastructures are to work properly and efficiently, such essential network control functions must remain under the control of the cable operator and must be performed by equipment supplied by the cable operator.

Although GI does not contend that the Commission's regulatory treatment of telephone equipment should be applied to cable TV equipment, even in the telephony context the Commission has recognized that network transmission and control functions

must be allowed to be accomplished by carrier-owned equipment rather than customer-owned equipment and that network transmission equipment warrants regulatory treatment that is different from the regulatory treatment of customer premises telephone equipment.13

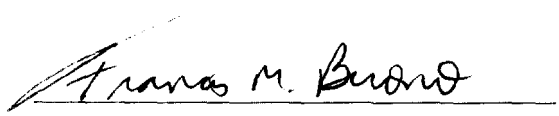
13 See Comments of General Instrument Corporation in CS Docket No. 95-184 (Inside Wiring), submitted March 18, 1996, at pages 12-15, for a more complete discussion of the Commission's Part 68 Rules and their applicability to such network transmission equipment.

CONCLUSION

Based on the foregoing, GI respectfully urges the Commission to clarify its Reconsideration Order to comport with the actual specifications of the Decoder Interface standard and the realities of addressable and two-way interactive cable TV network technologies. Specifically, the Commission should specify that any component descrambler supplied by a cable operator may contain -- in addition to access control functions -- appropriate network control and communications functions as described herein.

Respectfully submitted,

GENERAL INSTRUMENT CORPORATION



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