Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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

REPLY COMMENTS OF MULTICHANNEL COMMUNICATION SCIENCES, INC.

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1 Introduction

Multichannel Communication Sciences, Inc. ("MCSI"), hereby submits its Reply Comments in response to the Commission's Notice of Proposed Rule Making ("NPRM")[1] in the above captioned proceeding. MCSI is the developer of the Addressable Digital Broadband Descrambling Access Control technology, that upon implementation allows cable operators to deliver to subscriber terminals all authorized signals simultaneously in the clear, while keeping these signals protected by scrambling on the cable plant.

Commenting parties addressed the Commission's proposed rules for measures to be taken in the short term and in the long term in order to assure the compatibility between cable systems and consumer electronics equipment.

2 SHORT TERM MEASURES

With some exceptions discussed below, MCSI supports the comments addressing the short term measures proposed by the Commission. However, MCSI believes that many parties commenting on the short term measures involving supplementary equipment misrepresent some of these measures as adequate and substantially responsive to Congress' intent in enacting

[1] Notice of Proposed Rule Making, ET Docket No. 93-7, FCC 93-495, Released December 1, 1993.

Section 17 of the Cable Television Consumer Protection and Competition Act of 1992[2] ("Cable Act"). MCSI's earlier Supplemental Reply Comments in this proceeding[3] have already shown why many of Section 17's statutory directives are not addressed by the short term measures employing supplemental equipment. Yet, it appears there are parties who believe that repeating a "mantra" on the supplementary equipment's ability to solve all the compatibility problems will somehow alleviate consumer's predicaments which deny them the use of the features they purchased in their consumer electronics equipment.

For example, a cable set-top vendor that offers supplementary dual converter descramblers does not explain how these dual descrambler devices are actually used in conjunction with subscriber's consumer electronics equipment to accomplish these compatibility goals. Rather, a misleading enumeration of statutory compatibility goals including the ability to "use the advanced television picture generation and display features of their consumer electronics equipment" are presented as being "achievable in large part due to the valuable contribution set-top boxes and associated equipment have made and will continue to make to the compatibility conundrum"[4]. Given the full record in this proceeding establishing the set-top box as the root cause of subscribers' compatibility problems, this statement not only insults the intelligence of the Commission but is also incorrect in connection with Picture-In-Picture TV sets employing dual tuners[5]. No supplemental equipment can fully restore the dual tuning channel PIP capability of these TV PIP sets.

Moreover, because all tuning must be performed in the dual tuner descrambler, it must also incorporate all programming features required for timer controlled recording. These programming functions are required in addition to those used in the VCR. Thus, in order to use

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[2] Pub. L. No. 102-385, 102 Stat. 1460 (1992).

[3] Reply Comments of MCSI, in *Compatibility Between Cable Systems and Consumer Electronics Equipment.* ET Docket No. 93-7, August 10, 1993. (Hereinafter referred to as "MCSI's Supplemental Reply Comments") at pages 3-8.

[4] Comments of General Instrument Corp. at page 3.

[5] See MCSI's Supplemental Reply Comments, at page 5.

timer controlled recording, the subscriber must always use two different programming routines without confusing among them. Due to the special proprietary programming functions of descramblers with built in timers, it can only be done by the use of a proprietary remote control supplied by the set-top vendor and is not generally available in Universal Remote control units or from vendors not affiliated with the cable company. In any event, the timing, programming and receiving functions are all duplicated at additional cost to subscribers[6].

3 LONG TERM MEASURES

The central long term elements of the Commission's approach to assure compatibility between cable systems and consumer electronics equipment are the introduction of new "cable-ready" Decoder Interface ("DI") equipped consumer electronics equipment with related Component Decoders and the Commission's encouragement of cable operator's adoption of technologies that supply all authorized NTSC channels "in the clear" to subscribers. We address specific comments filed in connection with the rules proposed by the Commission in order to achieve these goals.

3.1 Parties's Comments Confirm The Projection of a Protracted Decoder Interface Standardization Process

Despite the Cable-Consumer Electronics Compatibility Advisory Group's ("CAG") submission indicating that a Decoder Interface Interim Standard will be released by July 1994[7] parties generally caution the Commission from adopting any untested paper designs for the Decoder Interface Standard.[8] Moreover, an agreement on the features of the Decoder Interface

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[6] For example, Time Warner Cable in Manhattan charges its subscribers $5.13/Month for the use of Jerrold's dual descrambler set-top. This does not include any additional set-top charges for additional outlets.

[7] CAG Comments, Appendix B. "Decoder Interface Subcommittee Interim Report".

[8] *See* TCI Comments at page 21, "Rather, the Commission should invoke the substantial discretion accorded it by Section 17 and take adequate time before adopting a more robust Decoder Interface standard"; Comments of General Instrument at page 18, "GIC respectfully urges the Commission to await the completion of the revised version of EIA/ANSI 563 and to allow ample time to build a sufficient record on this version prior to adopting a Decoder Interface standard".

is yet to be arrived at, let alone built and tested. There are several proposals to modify the Decoder Interface to include additional features[9].

We wish to reiterate our assertion that the process of establishing the revised Decoder Interface standard which depends on finalization of digital transmission format standards will be a protracted process in the face of broad disagreement on how digital transmission standards should be developed[10]. The record before the Commission clearly demonstrates that technical standards that are later incorporated in the Commission's rules take many years for the industry to develop, test, adopt and for the Commission to build a sufficient record for adoption. The following table demonstrates this fact by example of some recent Commission's standardization proceedings.

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[9] For example, the Interactive Multimedia Association ("IMA") recommends that a "back channel" communication feature should be included in the Decoder Interface standard. (Comments of IMA at page 3). On the receiver side, parties have commented on the need to provide multiple decoder interfaces for multiple tuner receiving devices. (Comments of Cablevision Systems Corp. at page 13).

[10] Many parties support the Commission's initiative to establish digital transmission standards (Comments of CAG, Hewlett Packard, Mitsubishi Electronics America, Inc., Titan Corp.). For example, the CAG supports the Commission's intent to prescribe a digital transmission standard in order to avoid future incompatibilities, (CAG Comments at page 22). However, other parties attempt to discourage the Commission from doing so and recommend a market-place evolution of digital transmission formats. (Comments of General Instrument at page 30; Comments of TCI at page 31;Comments of HBO at page 3.)

Subject	Docket N°(s)	Start	Conclusion	Duration
Cellular Telephone	18262, 79-318	3/68	3/83	15 years
Telephone Terminal Interconnection	19528, 20774	6/72	2/79	5 years
TV Vertical Blanking Interval	20693, 81-741, 84-168	11/75	1/85	9 years
Computing Device RF Emissions	20780, 80-284, 80-439	4/76	7/83	7 years
TV Multichannel Sound (Stereo)	21323	7/77	8/84	7 years
Digital Termination Services	79-188	11/78	5/85	7 years
DBS Standards	80-603, 85-32	10/80	8/86	6 years
Advanced Television Systems (HDTV)	87-268	7/87	Still pending	7+ years

Because the Decoder Interface standard setting process will be a lengthy one and because only higher end consumer electronics equipment may be so equipped, the compatibility relief it may bring consumers will not become substantial for more than a decade. It is for this reason that MCSI submits that the compatibility measures for the growing installed base of consumer electronics equipment are not short term measures, but rather the only measures that could be employed to achieve substantial compatibility for the majority of cable subscribers well after the turn of this century. Therefore MCSI agrees with the Commission that it should encourage "simultaneous clear signal" approaches as discussed below.

3.2 The Commission Should Not Be Dissuaded From Its Goal of Encouraging Cable Operators to Adopt "Simultaneously Clear Signal" Technologies.

Section 17 of the Cable Act clearly directs the Commission to ".. report to Congress on a means of assuring compatibility between televisions and video cassette recorders and cable

systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefit of both the programming available and cable systems and the functions available on their televisions and video cassette recorders." Then the Commission "shall issue such regulations as are necessary to assure such compatibility"[11].

Throughout this Rule Making process, the Commission has been consistent in its intent to implement a set of rules that will accomplish the compatibility objectives set forth by Congress. It has been well established in the record that for many years to come, the only way true compatibility can be accomplished so that subscribers enjoy the full benefit of the features they purchased in their consumer electronics equipment, is under conditions permitting a subscriber to receive in his/her home, all of the TV channels to which he/she is entitled, simultaneously "in the clear". Although the Commission has concluded that it is not feasible to impose regulations demanding such "in the clear" service in all instances, it has rightly decided to adopt rules that will encourage the development and adoption of such technologies.

There have been many comments concerning "in the clear" conditional access control in general, and Digital Broadband Descrambling ("DBD") technology in particular, in the comments submitted to the Commission in response to the instant NPRM. In an effort to set the record straight, MCSI would like to address a number of specific issues raised by these respondents.

3.2.1 Scrambling and "In the Clear" Signal Reception

Some of the responses to the NPRM have confused the concept of "in the clear" Conditional Access Control with regards to its possible use of scrambled signals on the cable network. "In the clear" signal reception in the subscribers home and having the security offered by scrambled or encrypted signals on the cable network are not mutually exclusive goals. MCSI strongly agrees with cementers on the need for a secure method of signal transmission to

[11] Section 624A(b)(1).

thwart the efforts of pirates[12].

However, as was explained in great detail in MCSI's previous Comments[13] some "in the clear" approaches, including DBD, allow analog channels to be carried on the cable system in scrambled form to provide protection against signal theft. A DBD device connected to the subscriber's cable drop can simultaneously descramble all authorized channels and present to the subscriber's consumer equipment all those channels "in the clear". In this manner Congress' seemingly contradictory goals of signal security and subscriber compatible service can both be met.

Due to widespread support from the cable industry to provide subscribers with all basic channels in the clear, MCSI further believes that the Commission should allow cable operators to scramble basic channels on the cable system provided they are supplied to subscribers simultaneously in the clear.

3.2.2 DBD Technology, Digital Compression and the Information Superhighway

Certain commenting parties have expressed concern about future compatibility of "in the clear" approaches with the developing digital compression technologies and the "information Superhighways" now in the planning stages[14]. MCSI previously noted in this proceeding and demonstrated to the cable industry that digital compression and DBD technology are highly complimentary. Subscriber access control device containing a DBD device to accomplish simultaneous access control for all analog channels and a digital decompression module whose selected authorized channel output is remodulated on a preselected channel, would comprise the ideal subscriber friendly access control system which provides all authorized analog channels in the clear. In such a system a selected digitally compressed channel (such as a "near on demand" pay per view movie) would also be available to the subscriber in a subscriber friendly manner.

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[12] *See* for example Comments of Continental Cablevision, Inc.; Time Warner Entertainment Co.; Barden Cablevision.

[13] MCSI Comments, ET Docket No. 93-7, March 22, 1993.

[14] Comments of General Instrument, TCI and Time Warner.

MCSI believes that the use of a hybrid DBD/digital decompression access control system offers the most subscriber friendly method for providing subscribers (both on cable systems and information superhighways) with access to all of their video related services. Whether these devices are best located outside the home, "on" the home, inside the home or in the set-top is a matter of market acceptance and we expect to see systems of each flavor deployed over the next five to ten years.

3.2.3 Status of DBD Technology Development and The Need for Incentives

A number of respondents have expressed concern as to the status of DBD development and its production cost relative to conventional "one channel at a time" set-top descramblers. MCSI has been demonstrating preproduction prototype DBD devices for over one and a half years to cable operators and had its first public demonstration of DBD devices at the NCTA national show in June of 1993.

These demonstrations of DBD technology created great excitement in the cable industry technical community and there was an effort on the part of certain industry technical groups and organizations to secure cable industry support for a field trial of DBD. A study funded in part by a CATV consortium which included a cost analysis by an independent consultant, found that the cost of a DBD device would be cost competitive with cable service utilizing conventional set-top descramblers and would certainly be less expensive than the plurality of dual descramblers required to provide equivalent service to a home with multiple TV's and VCR's.

Concurrent with the passage of the Cable Act this industry support activity came to an abrupt halt. MCSI's management has been informally advised that concern about possible mandated rapid deployment of DBD, a capital intensive task, was the major reason for this loss of enthusiasm on the part of many cable operators.

It is interesting to note however, that a clear signal approach (interdiction) was adopted by U.S. West in their first Video Dialtone system in Omaha Nebraska. This is a new fiber/cable network in which there is no large capital equipment base of "one channel at a time" set-top descramblers to be amortised and the operator chose to utilize a subscriber friendly access control method..

As explained in our earlier Comments MCSI believes that the Commission must provide positive incentives to cable operators to encourage them to adopt "in the clear" technologies.

CONCLUSION

For the foregoing reasons, MCSI respectfully recommends that the Commission adopt rules for the regulation of cable services and equipment consistent with the Reply Comments herein in order to assure compatibility between cable systems and consumer electronics equipment.

Respectfully submitted,

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