

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C.

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FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20541

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In the Matter of)
)
Advanced Television Systems)
and Their Impact Upon the)
Existing Television Broadcast)
Service)

MM Docket No. 87-268

REPLY COMMENTS OF TELE-COMMUNICATIONS, INC.

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Tele-Communications, Inc. ("TCI") hereby submits its Reply Comments on the Fourth Further Notice of Proposed Rulemaking regarding the implementation of Advanced Television Systems ("ATV").¹

I. INTRODUCTION AND SUMMARY

In these Reply Comments, TCI addresses three issues raised by commenters or in testimony before the Commission in its en banc hearing in this proceeding.² First, Viacom, Inc. ("Viacom") testified in the en banc hearing that to avoid interoperability problems posed by set-top boxes and to create safeguards against "anticompetitive bottlenecks," the Commission should require the

¹ Fourth Further Notice of Proposed Rule Making and Third Notice of Inquiry, FCC 95-315, MM Docket No. 87-268 (released August 9, 1995) ("Notice"). These Reply Comments are timely filed in accordance with the Mass Media Bureau's "Order Granting Extension of Time for Filing Reply Comments," DA 96-8, released January 11, 1995.

² The Commission's en banc hearing on Advanced Television, MM Docket No. 87-268, was held December 12, 1995.

adoption of "open" standards for set-top boxes, including conditional access and encryption standards. Second, the National Association of Broadcasters ("NAB") and the Electronic Industries Association ("EIA"), as well as an ad hoc group of broadcasters and broadcast networks ("Broadcasters"),³ state in their comments that the Commission should impose an ATV transmission standard on cable operators.⁴ Third, EIA and Broadcasters contend that must carry should apply to all NTSC and ATV channels.⁵

TCI respectfully recommends that the Commission reject the standards proposals advanced by Viacom, EIA, and the broadcast industry for the following reasons:

- Government intervention in the standards setting process during this period of dynamic technological growth will stifle innovation and inhibit the development of digital technology.
- The use of set-top boxes is necessary to adjust for the differing product life-cycles of the consumer electronics and cable industries.
- Cable operators, like any other MVPD, need to be able to select the most appropriate transmission (modulation) methodology for their system architecture.

³ The primary signatory of the Broadcasters Comments is the Association for Maximum Service Television, Inc.

⁴ See NAB Comments at 8-10, EIA Comments at 11-13, Broadcasters Comments at 38-39.

⁵ EIA Comments at 8-13, Broadcasters Comments at 31-35 (Broadcasters state that must carry would not apply to "ancillary and supplementary subscription services"). Broadcasters Comments at 31.

Finally, TCI submits that EIA's suggestion that must carry be applied to all NTSC and ATV signals is contrary to the 1992 Cable Act and would inhibit the development of cable digital television service.

II. GOVERNMENT MANDATE OF SET-TOP BOX AND CABLE DIGITAL TRANSMISSION STANDARDS IS CONTRARY TO THE PUBLIC INTEREST

As noted above, Viacom advocates that the Commission mandate the creation of set-top box standards, while numerous broadcast interests insist that the Commission impose on cable operators any ATV transmission standard adopted in this proceeding.

Neither proposal should be adopted. First, mandated government standardization of either set-top boxes or digital transmission methodologies would be entirely counter-productive in this highly dynamic and evolving business. Second, providing MVPDs the flexibility to update set-top boxes as technology evolves allows MVPDs to make innovative new services available to consumers in a timely and efficient manner. Third, in a nation with thousands of cable systems and hundreds of different cable operators, it is patently unreasonable to believe that a single method of implementing digital cable television could or should be adopted.

A. Government Mandated Standards Would Freeze Technology, Stifle Innovation, and Delay the Implementation of Digital MVPD Networks

Viacom, EIA, NAB and the Broadcasters urge the Commission to make a series of judgments today about the appropriate standards under which all MVPDs should implement the transition to digital technology. But their proposals ignore entirely the highly dynamic nature of the MVPD marketplace. Even if government

intervention in the standards setting process could produce short term gains -- a position TCI disputes -- such gains easily would be outweighed by the technological developments that would be lost over the long term if the Commission were to impose standards now. It is well-established that a market-driven approach to standards is critical in highly dynamic and evolving industries.⁶ In industries where the pace of technological change is rapid, standards freeze the current level of technology and stifle the development of new technologies.

The MVPD business is undergoing rapid technological development. Virtually every segment of the MVPD business is experimenting to determine the best, most efficient way to implement digital technology.⁷ Allowing this market-driven process to continue will foster innovation and competition among different transmission schemes and set-top box designs. MVPDs, equipment manufacturers and consumers benefit from this process.

In contrast, the proposals advanced by Viacom, EIA and the broadcast interests would significantly delay the process of technological development. Standardization is a marketplace

⁶ See Stanley M. Besen and Leland L. Johnson, "Compatibility Standards, Competition, and Innovation in the Broadcasting Industry," Rand Corporation, November 1986, at 135 ("the government should refrain from attempting to mandate or evaluate standards when the technologies themselves are subject to rapid change").

⁷ See TCI Comments at 21-22; see also "Go Digital," Cablevision, May 22, 1995, at 39-50; "Server Vendors Eye Compatibility Issues" and "Ventura To Test Two-Way TV," Interactive Age, April 10, 1995, at 42.

process; if and when a standard is appropriate, the market or industry bodies will establish one.⁸

B. The Ability to Periodically Modify MVPD-Provided Set-top Boxes Is an Efficient and Economical Solution to the Differing Technological Cycles of the Cable and Consumer Electronics Industries

In its testimony before the Commission, Viacom stated that the Commission should require the adoption of "open" standards for set-top boxes, including conditional access and encryption standards. EIA argues that set-top boxes are unnecessary.⁹ In addition to the shortcomings described in the previous section, Viacom's and EIA's positions ignore the fact that set-top boxes provide an efficient way of overcoming differing product life-cycles to provide new services requiring enhanced capabilities, which would not be possible if government-enforced standards were in place.

The compatibility issue underlying Viacom's and EIA's suggestions is in large part a function of the unsynchronized technology cycles of the cable and consumer electronics industries. While cable systems upgrade channel capacity every six to seven years, consumer electronics products are designed to have life cycles in excess of 15 years. As a result of this technological disjunction, cable operators have installed set-top

⁸ For example, the cable TV channel plan was developed by the EIA/NCTA Joint Engineering Committee, and was established in both industries simultaneously.

⁹ EIA Comments at 12 ("[g]iven the Commission's authority to prescribe transmission standards, such converter boxes should be unnecessary.") EIA's transmission standard proposal is discussed in section II(C), supra.

converters in their subscribers' homes, for example, to tune additional channels or to overcome other technical deficiencies of the subscriber's TV or VCR. Many cable systems have implemented plans to provide digital television, with the next generation of set-top boxes as an integral part of that plan.

In addition, cable systems have used set-top boxes and encryption to secure programming. Given the significant problems with theft-of-service,¹⁰ TCI urges the Commission not to adopt a policy or standard which weakens cable operators' ability to protect intellectual property.¹¹

Finally, contrary to Viacom's concerns, the set-top box approach to upgrading cable facilities and services does not constitute an anticompetitive attempt to inhibit competition. Merely because one MVPD uses a proprietary set-top technology does not prevent competing MVPDs from using their set-top (or

¹⁰ See National Cable Television Association, "1992 Theft of Service Survey Results" (signal theft costs an estimated \$4.7 billion in unrealized revenue annually (24 percent of total 1991 industry revenue)). In the pending telecommunications bills, Congress recognizes that theft-of-service is a serious issue and limits the ability of federal, state and local regulators to prohibit the use of any security system. See, e.g., H.R. 1555, 104th Cong., 1st Sess. pp. 156-57 (1995).

¹¹ Indeed, Viacom's proposed "standardized encryption" is virtually a contradiction in terms. Standardized security measures will only result in ineffective security measures. See, e.g., Comments of General Instrument Corporation in CS Docket No. 95-61, the Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming at pp. 5-10 and 21-22, filed June 30, 1995.

other) technology and competing to provide a similar service.¹² In other words, the set-top box does not give an MVPD bottleneck control. Viacom's request for set-top box standards should be rejected.

C. Cable Operators, Like Any Other MVPD, Should Have Discretion in the Implementation of Digital Television, Including the Selection of the Most Appropriate Digital Transmission Methodology

The broadcast industry urges the Commission to adopt a digital standard for broadcasting and then require cable operators to use that standard for all cable transmissions. The broadcasters' self-serving proposal ignores the fact that this proceeding is not writing on a clean slate. Cable operators and other MVPDs have expended vast sums and continue to experiment in the development of digital transmission capability. A variety of innovative approaches to the delivery of digital video have been developed to date; literally billions of dollars have been invested in the process by TCI and other MVPDs.

In this context, the risks associated with implementing NAB's proposal to require cable operators (and, presumably, other MVPDs) to implement any ATV transmission standard adopted in this proceeding are self-evident. Innovation and experimentation in

¹² Moreover, merely because a set-top or security technology is proprietary does not render it a "closed" system. For example, General Instrument Corporation, a leading manufacturer of set-top boxes, licenses its DigiCipher® access control technology to qualified manufacturers. In this sense, General Instrument's system is proprietary and "open." See Reply Comments of General Instrument Corporation in IP Docket No. 95-168, PP Docket No. 93-253, Revision of Rules and Policies for the Direct Broadcast Satellite Service, filed November 30, 1995, at 17.

digital transmission will be eliminated; billions of research and development dollars will be wasted, potentially chilling future experimentation not only in multi-channel video distribution, but also in all segments of the broader telecommunications industry.

Finally, NAB's suggestion fails to account for the fact that different transmission (modulation) schemes optimize the characteristics of a particular medium. DBS uses QSPK modulation, the cable industry uses QAM, and the Grand Alliance has selected VSB. Because the selection of a modulation methodology is a function of the physical characteristics of each transmission medium, it is inherently inappropriate to standardize modulation methods across different media.

III. APPLICATION OF MUST CARRY TO ALL NTSC AND ATV CHANNELS IS CONTRARY TO BOTH LAW AND POLICY

EIA and Broadcasters argue that cable operators' must carry obligations should extend to all NTSC and ATV signals offered by a local broadcaster, including multiple SDTV signals.¹³ However, imposing such an obligation on cable operators is inconsistent with both law and policy and should not be adopted.¹⁴

As a matter of law, Sections 614(b)(3) and 615(g)(1) of the Communications Act require a cable operator to carry "the primary video, accompanying audio, and line 21 closed caption

¹³ See, e.g., EIA Comments at 9, Broadcasters Comments at 31-35.

¹⁴ TCI also believes the underlying must carry rules and, therefore, any extension of these rules is unconstitutional. The issue is currently on appeal to the Supreme Court. Turner Broadcasting System v. FCC, Case No. 95-992.

transmission" of qualifying commercial and noncommercial broadcasters.¹⁵ Because the Act requires carriage of the "primary video" feed, cable operators may satisfy their must carry obligations by carrying the broadcaster's principal video service.¹⁶ If cable operators were to be required to carry all NTSC and ATV signals offered by a broadcaster (either at the time of enactment or in the future), Congress would not have included the "primary video" qualifier.

This conclusion is further buttressed by the provision of the 1992 Cable Act which specifically addresses advanced television broadcasting. This provision contemplates only a reformatting of the current programming delivered in the NTSC's primary video feed. The plain language of 47 U.S.C. § 534(b)(4)(B) reveals Congress's intent to ensure continued carriage of broadcasters' current primary video service and to maintain transmission of a high quality signal upon conversion to an ATV format.¹⁷

Mandatory carriage of all signals beyond the primary video feed is suspect on policy grounds as well. For instance, it is by no means clear that every cable operator will implement

¹⁵ 47 U.S.C. §§ 534(b)(3) and 535(g)(1) (emphasis added).

¹⁶ A broadcaster's principal or primary video service should be defined during the transition period as a broadcaster's NTSC signal. After the transition period, a broadcaster's primary video service should be defined as the primary digital video stream previously carried in a broadcaster's NTSC signal. See TCI Comments at 5.

¹⁷ TCI Comments at 8.

digital television, or that each cable operator will implement digital television to the same extent (i.e., some may undertake a partial conversion to digital). Thus, many systems will very likely face severe channel availability restrictions, if indeed additional channel space is available at all. This will result in substantial consumer frustration and economic harm to programmers as cable line-ups are disrupted once again.

Finally, even if all cable operators implement digital television, such implementation will not be uniform. Cable operators choosing to implement digital television will employ a variety of digital methodologies. Conversion of signals from digital to analog and vice-versa may occur at different places in a system or broader regional network. In sum, at the very least, it is simply premature to extend must carry obligations to signals beyond the primary video service.

IV. CONCLUSION

For the foregoing reasons, TCI respectfully urges the Commission to refrain from: (1) enlarging cable operators' must carry obligations beyond a requirement to carry a broadcaster's current primary video service; and (2) imposing digital transmission or set-top box standards on the cable industry.

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January 22, 1996

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