Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
	)	
Commercial Availability of Navigation Devices	)	
	)	
Compatibility Between Cable Systems and Consumer Electronics Equipment	)	PP Docket No. 00-67
	)	

SECOND REPORT AND ORDER AND
SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: September 10, 2003 **Released: October 9, 2003**

Comment Date: January 14, 2004
Reply Comment Date: February 13, 2004

By the Commission: Chairman Powell, Commissioners Abernathy, Copps, Martin, and Adelstein issuing separate statements.

TABLE OF CONTENTS

I. INTRODUCTION

1. In this proceeding we consider regulations to facilitate the direct connection of digital "navigation devices"[1] or customer premises equipment purchased from retail outlets – including television receivers, set-top boxes and digital recorders – to cable television and other multichannel video programming distributor ("MVPD") systems. Specifically, we consider those rules set forth in the *Further Notice of Proposed Rulemaking* (*"Further Notice"*) issued in the above-captioned proceedings and the comments filed in response thereto.[2]

2. The *Further Notice* sought comment on rules agreed upon and submitted to the Commission as part of a Memorandum of Understanding ("MOU") reached by representatives of

[1] Navigation devices are defined for purposes of this proceeding as "converter boxes, interactive equipment, and other equipment used by consumers within their premises to receive multichannel video programming and other services offered over multichannel video programming systems." 47 C.F.R. § 76.1201(c).

[2] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment*, 18 FCC Rcd 518 (2003) ("*Further Notice*").

the cable television and consumer electronics industries.[3] The MOU detailed a comprehensive agreement on a cable compatibility standard for integrated, unidirectional digital cable television receivers, as well as other unidirectional digital cable products. The cable and consumer electronics industries have long disagreed over the specifics of a so-called "plug and play" standard for digital cable television, as evidenced by numerous filings in the above-captioned dockets.[4] By establishing a standard to ensure the compatibility of cable television systems with digital television ("DTV") receivers and related consumer electronics equipment, the cable and consumer electronics industries hope to "build products and develop services to spur the digital transition."[5] In response to the *Further Notice*, numerous parties filed comments and reply comments; this *Second Report and Order and Second Further Notice of Proposed Rulemaking* represents the Commission's findings based upon the record established in this proceeding.[6]

II. BACKGROUND AND SUMMARY

3. Section 629 of the Communications Act, which is titled "Competitive Availability of Navigation Devices, requires the Commission to:

> adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access, multichannel video programming and other services offered over multichannel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.[7]

The purpose of Section 629 is to afford consumers the opportunity to purchase navigation devices from sources other than their MVPD service provider. In addition, the statute provides that the Commission "shall not prescribe regulations . . . which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of

[3] *See* Letter from Carl E. Vogel, President and CEO, Charter Communications, *et al.*, to Michael K. Powell, Chairman, FCC (Dec. 19, 2002) ("Cable/CE Letter"); *Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers* (signed by Charter Communications, Inc., Comcast Cable Communications, Inc., Cox Communications, Inc., Time Warner Cable, CSC Holdings, Inc., Insight Communications Company, L.P., Cable One, Inc., Advance/Newhouse Communications, Hitachi America, Ltd., JVC Americas Corp., Mitsubishi Digital Electronics America, Inc., Matsushita Electric Corp. of America (Panasonic), Philips Consumer Electronics North America, Pioneer North America, Inc., Runco International, Inc., Samsung Electronics Corporation, Sharp Electronics Corporation, Sony Electronics, Inc., Thomson, Toshiba America Consumer Electronics, Inc., Yamaha Electronics Corporation, USA, and Zenith Electronics Corporation) ("MOU").

[4] *See* Comments filed in response to *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices,* 15 FCC Rcd 18199 (2000) ("*FNPRM and Declaratory Ruling*"); *Compatibility Between Cable Systems And Consumer Electronics Equipment*, 15 FCC Rcd 17568 (2000) ("*Digital Compatibility Report and Order*").

[5] Cable/CE Letter at 1.

[6] A list of parties filing comments and reply comments is set forth in Appendix A.

[7] 47 U.S.C. § 549(a).

service."[8]

4. In order to permit a competitive market for the design, manufacture and retail sale of navigation devices to develop, a number of practical issues must be addressed. First, because one of the primary functions of these devices is to preclude the unauthorized reception or use of service, it is necessary to address service theft in situations where the device is no longer entirely within the service provider's control. This issue is comprised of two components, unauthorized access to service (theft of service) and unauthorized redistribution or copying of programming content legally acquired for a limited use (copy protection/digital rights management). Other practical concerns that must be addressed involve engineering and technical standards issues. Manufacturers require certain technical specifications in order to produce a device compatible with a particular MVPD's system. Therefore, if portable devices that can be marketed nationally are to be created, some technical standardization among MVPDs is needed.

5. The initial decisions and rules adopted in the *Navigation Devices* proceeding[9] implementing this statutory provision included, *inter alia*, the following:

(1) Section 629 covers not just equipment used to receive video programming, but also equipment used to access other services offered over MVPD systems, including televisions, VCRs, set-top boxes, personal computers, program guide equipment, and cable modems;

(2) Subscribers have the right to attach any compatible navigation device to an MVPD system;

(3) MVPDs must separate out conditional access or security functions from other functions and make available modular security components, also called point of deployment ("POD") modules;

(4) After January 1, 2005, MVPDs shall not deploy new navigation devices for lease to subscribers that have security and non-security functions combined;

(5) MVPDs must provide technical information concerning interface parameters that are needed to permit navigation devices to operate with their systems in a timely manner; and

(6) MVPDs can take actions necessary to protect their operations from technical harm and theft of service.[10]

On reconsideration, the Commission deferred application of the separate security requirement for analog-only equipment and reiterated that it would assess the state of the market once separate security modules were available.[11] The Commission also issued a *Further Notice of Proposed*

[8] 47 U.S.C. § 549(b).

[9] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices,* 13 FCC Rcd 14775 (1998) *("Navigation Devices Order")*.

[10] *Id.* at 14778-79.

[11] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices:* 14 FCC Rcd 7596, 7599-7606, 7613 (1999) ("*Reconsideration Order*"); *see also Navigation Devices Order*, 13 FCC Rcd at 14803. The Commission's navigation devices rules were upheld

Rulemaking and Declaratory Ruling seeking comment on whether: (i) OpenCable, the cable industry's initiative for navigation device interconnection specifications, adequately represents the full range of interested parties and delivered specifications that permit manufacturers to build functional devices for sale at retail; (ii) the Commission should revise the 2005 ban on cable operators deploying navigation devices with integrated security functions; (iii) any obstacles exist that might inhibit the commercial availability of host devices; and (iv) there are any other factors "impeding or affecting achievement of the goals of Section 629."[12] Due to ongoing industry negotiations that might impact the development of technical specifications relating to host devices and POD modules, the Commission recently extended the deadline concerning the prohibition on MVPD-provided integrated devices until July 1, 2006, and committed to completing a reassessment of the navigation devices market before January 1, 2005.[13]

6. In addition to its efforts to ensure the commercial availability of navigation devices pursuant to Section 629, the Commission has focused on labeling and consumer education in the cable compatibility sphere. Section 624A of the Communications Act, as amended, requires the Commission to assure the compatibility between cable systems and consumer electronics equipment such as television receivers.[14] To this end, the Commission adopted cable compatibility labeling standards for analog television receivers pursuant to Section 624A(c)(2)(A).[15] Congress also requires the Commission to review and modify its compatibility regulations "to reflect improvements and changes in cable systems, television receivers, video cassette recorders, and similar technology."[16] Because cable operators, consumer electronics manufacturers, and retailers were unable to reach agreement on voluntary DTV labeling standards, the Commission issued a *Report and Order* establishing its own "Digital Cable Ready 1-2-3" labeling regime encompassing different degrees of interactivity and connectivity among digital cable ready television receivers.[17] Each of the Digital Cable Ready 1-2-3 labels reflects the ability of receivers to perform basic cable navigation for analog, digital basic and digital premium services, as well as receive encrypted services with a POD.[18] Digital Cable Ready 2 and Digital Cable Ready 3 receivers additionally support interactive two-way services, although they differ in how they provide these functions.[19]

---

by the United States Court of Appeals for the District of Columbia Circuit. *See General Instrument Corporation v. FCC*, 213 F.3d 724 (D.C. Cir. 2000) ("*General Instrument*").

[12] *FNPRM and Declaratory Ruling,* 15 FCC Rcd at 18202.

[13] *Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices*, 18 FCC Rcd 7924 (2003) ("*2005 Order and FNPRM*").

[14] 47 U.S.C. § 544A.

[15] *Id*. § 544A(c)(2)(A); *see Compatibility Between Cable Systems and Consumer Electronics Equipment*, 9 FCC Rcd 1981 (1994) ("*Compatibility Report and Order*").

[16] 47 U.S.C. § 544A(d).

[17] *Digital Compatibility Report and Order*, 15 FCC Rcd at 17568. Petitions for reconsideration of the *Digital Compatibility Report and Order* filed by Time Warner Cable and the National Cable and Telecommunications Association ("NCTA") are currently pending before the Commission. *See infra* n.111 and accompanying text (resolving the petitions for reconsideration).

[18] *Digital Compatibility Report and Order*, 15 FCC Rcd at 17577.

[19] Receivers under the Digital Cable Ready 2 category use a set-top box that connects to the television via a 1394 connector while Digital Cable Ready 3 devices support interactive services without a set-top box. *Digital Compatibility Report and Order*, 15 FCC Rcd at 17577.

7. Within this regulatory framework, the cable and consumer electronics industries attempted to privately negotiate a cable compatibility standard for DTV receivers that would take into account the security separation requirement of Section 629 and effectively integrate the navigation functionality of set-top boxes into television receivers. The resulting MOU reflects a compromise agreement among the parties on a specification that will permit the manufacture of unidirectional digital cable television receivers that include this navigation functionality. Proponents of the MOU assert that unidirectional digital cable television receivers manufactured thereunder would be capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing digital programming.[20] Due to the unidirectional nature of this receiver specification, an external navigation device would still be needed to receive advanced features such as cable operator-enhanced electronic programming guides ("EPGs"), impulse pay per view ("IPPV") or video on demand ("VOD").[21] Negotiations are ongoing for a bidirectional receiver specification which would eliminate the need for an external navigation device to receive advanced services.[22] Due to the level of technical detail involved in those discussions, however, they are not yet ripe for consideration at this time.

8. The MOU as proposed to the Commission requires the cable and consumer electronics industries to commit to certain voluntary acts and seeks the creation or revision of Commission rules in the following general areas:

> (1) Requiring digital cable systems with an activated channel capacity of 750 MHz or greater to support operation of unidirectional digital cable products and to ensure that navigation devices utilized in connection with such systems have a 1394 interface and comply with specified technical standards;
>
> (2) Establishing a labeling regime for unidirectional digital cable television receivers and related digital cable products that meet certain technical specifications. This regime, which would be voluntarily used by consumer electronics manufacturers, encompasses testing and self-certification standards, as well as consumer information disclosures to purchasers of such receivers and products; and
>
> (3) Adopting limits on encoding rules for audiovisual content applicable to all MVPDs, including prohibitions on the use of selectable output controls and the down-resolution of broadcast television programming.[23]

The cable and consumer electronics industries also submitted, along with the proposed rules, a draft license for the Dynamic Feedback Arrangement Scrambling Technique ("DFAST")

[20] MOU at 4.

[21] *Id*.

[22] *Id* at 10. *See* Letter from Neal Goldberg, General Counsel, NCTA, and Michael Petricone, Vice President, Technology Policy, CEA, to Marlene Dortch, Secretary, FCC (July 24, 2003) ("*Joint Status Report*"). As these bidirectional negotiations progress, we encourage the cable and consumer electronics industries to consult with interested parties and affected industries.

[23] *Recommended Regulations to Ensure Compatibility Between Digital Cable Systems and Unidirectional Digital Cable Products and to Provide for Appropriate Labeling of Such Products* at 1-6 ("Draft Technical Rules"); *Encoding Rules As Proposed to the FCC* at 1-10 ("Draft Encoding Rules").

technology for which they did not seek regulatory approval.[24] On January 7, 2003, the Commission adopted the *Further Notice* seeking public comment on the MOU and the proposed Commission rules contained therein.[25]

9. At the outset, we recognize that certain commenters advocate resolution of the *Further Notice* in tandem with related issues raised in our *Digital Broadcast Copy Protection* proceeding.[26] We anticipate addressing these issues in the near future. We also wish to clarify the intended scope and effect of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*. Our decision herein is not intended in any way to change or affect existing copyright law. The encoding rules adopted herein are directed at MVPDs and their distribution mechanisms. As a result, the underlying rights and remedies available to copyright holders remain unchanged. In the same manner, this decision is not intended to alter the defenses and penalties applicable in cases of copyright infringement.

10. In this *Second Report and Order and Second Further Notice of Proposed Rulemaking*, we adopt the technical rules proposed as part of the MOU, with certain modifications described herein and set forth in Appendix B.[27] Specifically, we adopt the proposed definition of a unidirectional digital cable product, with certain clarifications of its intended scope. In order to ensure that televisions manufactured pursuant to this definition meet its specified technical parameters and functionalities, we adopt certification procedures applicable to the first prototype of each model, and self-certification procedures for subsequent models. We also adopt a voluntary labeling regime and required consumer information disclosures in order to inform consumers of the features and functionalities of unidirectional digital cable products.

11. A key component of the MOU proposed to the Commission is a set of encoding rules that would set caps on the levels of copy protection applicable to content distributed by MVPDs. The proposed encoding rules also include a ban on the use of selectable output control technology and the down-resolution of unencrypted broadcast television by MVPDs. Bans on both the current use of selectable output control and the down-resolution of broadcast programming will further the DTV transition and ensure that consumer expectations regarding the functionality of their digital cable ready televisions and products are met. In addition, enacting limits on the amount of copy protection that may be applied to different categories of programming strikes a measured balance between the desire of content providers and MVPDs to prevent the unauthorized redistribution or copying of content distributed by MVPDs and the preservation of consumer expectations regarding the time shifting of programming for home viewing and other permitted uses of such material. We take such action pursuant to our Congressional mandate under Section 629 to ensure the commercial availability of navigation devices and safeguard the security of MVPD programming, as well as our ancillary jurisdiction

[24] *DFAST Technology License Agreement for Unidirectional Digital Cable Products* at 1-37 ("Draft DFAST License").

[25] *Further Notice*, 18 FCC Rcd at 518.

[26] *See e.g.,* Letter from Fritz Attaway, MPAA to Marlene Dortch, Secretary, FCC (Sept. 3, 2003); *see also Digital Broadcast Copy Protection*, 17 FCC Rcd 16027 (2002) ("*Digital Broadcast NPRM*").

[27] As a result of the incorporation by reference of certain technical standards into the Commission's rules, other rule amendments were required relating to earlier incorporations by reference. These amendments, as reflected in Sections 15.38 and 76.602 of the Commissions rules, are administrative in nature and relate to agency procedure and practice. Consequently, the notice and comment procedures of the Administrative Procedure Act, contained in 5 U.S.C. § 553(b), are inapplicable.

under the Communications Act.

12. Finally, to ensure design innovation and promote device interconnectivity, we adopt interim procedures by which new outputs and associated content protection technologies can be authorized for implementation in unidirectional digital cable products. We also initiate a *Second Further Notice of Proposed Rulemaking* ("*Second FNPRM*") to study, *inter alia*, procedures and mechanisms by which outputs and associated content protection technologies can be approved on a permanent basis going forward.

III. DIGITAL CABLE SYSTEM TRANSMISSION STANDARDS AND SUPPORT REQUIREMENTS

13. The first part of the proposed technical rules involves standards governing the manner in which video programming is distributed on digital cable systems.[28] Subpart K of Part 76 of the Commission's rules already addresses various technical requirements for cable systems which ensure that cable systems operate in a reliable and secure manner.[29] The proposed rules would prescribe additional technical standards to ensure that subscribers are able to fully enjoy the functionalities of unidirectional digital cable products as well as the digital services offered by their cable operator.

14. These proposed transmission and support requirements would apply to digital cable systems, a term left undefined by the draft rules. Some commenters, such as the American Cable Association ("ACA"), seek clarification as to whether the proposed rules would affect cable systems whose only digital programming comes from Comcast Corporation's ("Comcast") Headend-in-the-Sky ("HITS") service.[30] In response to Commission inquiries, members of the cable and consumer electronics industries indicated their belief that the definition of a "digital cable system" includes those systems "contain[ing] one or more channels utilizing Quadrature Amplitude Modulation ("QAM") for transporting programs and services from a headend to a receiving device."[31] We concur. In order to ensure that consumer expectations regarding the functionality of digital cable compatible equipment are met, we believe that cable systems carrying at least one digital QAM channel, including programming from the HITS service, must be considered to be digital cable systems subject to the proposed transmission and support requirements. We do not believe, however, that cable systems passing through only 8 VSB digital broadcast signals would qualify as digital cable systems since they are only passing through the digital signals on their analog systems.

15. The specific transmission and other technical obligations applicable to digital cable systems would relate to cable operator support of "unidirectional digital cable products."[32] As discussed below, unidirectional digital cable products are defined in the draft labeling rules as "one-way devices which include, but are not limited to televisions, set-top-boxes and recording

[28] Draft Technical Rules at 1-2.

[29] 47 C.F.R. §§ 76.601-76.630.

[30] ACA Comments at 6.

[31] *See* Letter from Neal M. Goldberg, General Counsel, NCTA, to John Wong, Chief, Engineering Division, Media Bureau, FCC at 3-4 (July 10, 2003) ("Cable/CE Response to Questions").

[32] Draft Technical Rules at 1.

devices, connected to digital cable systems."[33] While the draft rules do not specify the meaning of unidirectional digital cable products beyond "one-way devices," the model DFAST license accompanying the MOU excludes from its definition interactive products that "are capable of obtaining access to video-on-demand or impulse pay-per view services, of using the return path of the cable system, or of using electronic program guide services."[34] Several commenters express concern that this definition is too narrow.[35] In response, representatives of the cable and consumer electronics industries indicate that they are in the midst of negotiations for a similar agreement covering two-way or interactive devices.[36] Manufacturers have pledged to "future-proof" one-way digital products so that they permit consumer access to two-way services through digital connectors and thereby allow subscribers to benefit from all digital services offered by their service provider.[37] While we anticipate that the cable and consumer electronics industries will endeavor to complete their negotiations for a bidirectional agreement in due course, we believe that the adoption of standards for unidirectional digital cable products is a necessary first step towards ensuring the compatibility of digital devices with cable systems.[38]

16. Although concerns have been raised regarding to certain aspects of the proposed transmission and support rules, the record largely supports the need for technical compatibility standards for digital cable television. Below we consider issues raised by commenters in six key areas: (1) transmissions standards; (2) PODs; (3) tuning and guide information; (4) high definition set-top boxes; (5) exemptions from the standards and associated obligations; and (6) innovation and changes in the standards.

---

[33] *Id*. at 2. *See* Section IV, *infra*.

[34] Draft DFAST License at 3.

[35] Public interest groups and information technology ("IT") companies question the DFAST license definition in so far as it appears to exclude from its scope personal computers ("PCs") and other devices with Internet connectivity which might be used as a "return path." *See* ATI Technolgies, Dell, Intel, HP, Microsoft & NEC Comments at 3-4 ("IT Coalition Comments"); Intel Corporation Comments at 3-6, 11-12; Public Knowledge & Consumers Union Comments at 12-15 ("PK & CU Comments"); TiVo Inc. Comments at 5 ("TiVo Comments"); and Consumer Federation of America Reply Comments at 6 ("CFA Reply Comments"). NCTA and CEA/CERC clarify in their Reply Comments that neither digital cable compatible products with cable modem functionality, nor PCs with a POD slot and Internet connectivity, are intended to be excluded from the terms of the DFAST license, so long as such devices otherwise meet the license's compliance and robustness rules. NCTA Reply Comments at 30-31; CEA/CERC Reply Comments at 7. We concur with NCTA and CEA/CERC's interpretation of the DFAST license definition and believe that it is consistent with the definition of unidirectional digital cable products that we are adopting in Section IV infra. In addition, we expect that the DFAST license and its associated compliance and robustness rules will be designed and implemented in a manner that does not *per se* exclude PCs and other devices with open architesctures from qualifying as unidirectional digital cable products. Commenters have noted that digital rights management technologies developed for the PC environment, using robust encryption algorithms, are already commonly used in other instances where content must be protected. *See* Letter from Paula Boyd, Microsoft Corporation, *et al*., to Marlene Dortch, Secretary, FCC (Sept. 3, 2003). We encourage CableLabs to work with interested parties in this regard.

[36] Cable/CE Letter at 1.

[37] NCTA Comments at 11.

[38] Pursuant to the *2005 Order and FNPRM* issued in our Navigation Devices proceeding, we are monitoring the progress of the cable and consumer electronics industries' bidirectional digital cable product negotiations.

A. Transmission Standards

17. Under the proposed transmission standards, digital cable systems with an activated channel capacity of 750 MHz or greater would be required to adhere to certain technical standards involving the digital cable network interface and the digital video service multiplex and transport system.[39] These requirements would standardize certain attributes of digital cable system transmissions, thereby facilitating the direct connection of unidirectional digital cable televisions and products to cable systems nationwide.[40] A number of large cable systems comply with these standards already; other operators have begun implementation at their headends and through their networks.[41] No comments were received objecting to these requirements; we hereby adopt them into our rules.

18. The Electronic Frontier Foundation ("EFF") seeks clarification from the Commission that all analog and digital basic tier services would remain unencrypted in order to encourage the development of basic tier ready devices.[42] EFF envisions that basic tier ready television receivers would have QAM tuners but not POD-Host interfaces, and would only be able to access digital basic tier services. In reply, NCTA argues that the issue of basic tier encryption is already addressed in the Commission's rules and allows for waivers where needed.[43] In addition, NCTA and Comcast assert that a "basic tier ready" designation would be confusing as to the level of service offered.[44] While Section 76.630 generally prohibits encryption of the basic tier, the express issue of digital basic tier encryption is outside the scope of this proceeding and appropriate notice has not been given. As a result, we decline to act on EFF's request.

B. PODs

19. Section 76.1204 of the Commission's rules requires cable operators to provide PODs to subscribers at their request for use with non-integrated navigation devices.[45] As a practical matter, however, non-integrated navigation devices have yet to gain adoption in the marketplace, thereby directly affecting subscriber demand for PODs. The POD provisioning requirements in the draft rules reflect the fact that unidirectional digital cable televisions and products would represent the first widespread implementation of POD and POD-Host interface

[39] Draft Technical Rules at 1.

[40] *See* SCTE 40 2003, Digital Cable Network Interface Standard (SCTE 2003) ("SCTE 40 2003"); ANSI/SCTE 65 2003, Service Information Delivered Out-of-Band for Digital Cable Television ("ANSI 65 2003"); ANSI/SCTE 54 2003, Digital Video Service Multiplex and Transport System Standards for Cable Television (ANSI 2003) ("ANSI/SCTE 54 2003").

[41] *See Joint Status Report* at 2. To ensure that consumer expectations regarding the functionality of unidirectional digital cable televisions and products are met, we encourage digital cable systems with an activated channel capacity of 550 MHz or greater to meet these technical standards where it is financially and technically feasible.

[42] EFF Reply Comments at 6-7.

[43] NCTA Reply Comments at 45-46; *see* 47 C.F.R. § 76.630(a).

[44] NCTA Reply Comments at 42-43; Comcast Reply Comments at 17-18.

[45] According to NCTA, PODs will now be referred to for marketing purposes as CableCARDs. *Joint Status Report* at 2. Because the MOU and draft technical rules refer to these security modules as PODs, we continue to use this term.

technology in the marketplace. Under these rules, all digital cable systems would be required to maintain an adequate supply of PODs and ensure convenient access to such PODs for their subscribers by July 1, 2004.[46] In addition, all digital cable systems would be required to conform to technical standards governing POD-Host interfaces and the POD copy protection system.[47] We believe that these new requirements will further the Commission's mandate to ensure the commercial availability of navigation devices and facilitate the adoption and implementation of both unidirectional digital cable products and the POD-Host interface platform. On this basis, we hereby adopt these POD provisioning and support requirements.

20. Separate from these requirements, TiVo suggests that dual tuner functionality competition should be encouraged by permitting two POD-Host interfaces in consumer electronics devices until a bidirectional specification is authorized for use.[48] In response, the cable industry indicates that the draft rules do not prevent MSOs from providing multiple PODs for devices with dual tuning capability, and that the multi-stream POD now in development as part of the bidirectional negotiations may also satisfy TiVo's concern.[49] While a multi-stream POD specification is being developed, we expect that cable operators will make multiple PODs available to consumers with unidirectional digital cable products that have dual tuner functionality. TiVo also asks that the Commission require that PODs emit a standardized MPEG output to prevent the use of proprietary output formats by cable operators.[50] NCTA counters that this proposal is inappropriate in the one-way context and notes that these issues are being addressed in its bidirectional negotiations with the consumer electronics industry.[51] We agree with NCTA that these issues are best addressed through the ongoing bidirectional negotiations and continuing development of the OpenCable Applications Platform ("OCAP") specification.

C. Tuning and Guide Information

21. The proposed rules would also require digital cable systems with an activated channel capacity of 750 MHz or greater to comply with certain Program and System Information Protocol ("PSIP") obligations, including the February 2000 PSIP Agreement between NCTA and the Consumer Electronics Association ("CEA") ("PSIP Agreement").[52] PSIP is the standard protocol that enables receivers to identify, locate and process the various types of content being transmitted, including video, audio, closed captions, content advisory information and ancillary data.

22. Parties have suggested modifications to the proposed requirements. The Association of Public Television Stations ("APTS"), National Association of Broadcasters ("NAB") and Paxson Communications Corporation ("Paxson") advocate that profile 4 or higher out-of-band PSIP information should be required under the ANSI/SCTE 65 2002 standard in

[46] Draft Technical Rules at 1-2.

[47] *See* ANSI/SCTE 28 2003, Host-POD Interface Standard (ANSI 2003) ("ANSI/SCTE 28 2003"); SCTE 41 2003, POD Copy Protection System (SCTE 2003) ("SCTE 41 2003").

[48] TiVo Comments at 6-7.

[49] NCTA Reply Comments at 41-42; *see also* Comcast Reply Comments at 16.

[50] TiVo Comments at 7.

[51] NCTA Reply Comments at 42.

[52] Draft Technical Rules at 1.

order to make that standard comport with the PSIP Agreement.[53] They additionally seek a requirement that the out-of-band PSIP match the channel number in-band, and reject the bandwidth limitation for in-band PSIP contained in the PSIP Agreement.[54] Comcast and CEA counter that no additional PSIP requirements are needed at this time, while CFA suggests that broadcasters are inappropriately attempting to mandate the passage of PSIP information in this proceeding.[55] NCTA specifically challenges the broadcasters' views by arguing that mandated carriage of profile 4 PSIP information is not needed given that if operators agree to carry Event Information Table ("EIT") data out-of-band, they will do so using profile 4 or higher.[56] NCTA further contends that bandwidth caps on in-band PSIP information are needed and that two-part channel numbering would not be backward compatible with the millions of legacy digital set-top boxes in the marketplace.[57]

23. While we recognize that there are a number of outstanding PSIP issues relating to the DTV transition and cable carriage, we believe that resolution of some of those issues are properly addressed in the Commission's digital must carry and DTV periodic review dockets.[58] In order to ensure the proper functioning of unidirectional digital cable products, however, we find it necessary here to incorporate those portions of the PSIP Agreement applicable to cable operators into the Commission's rules. Rather than incorporating by reference the entire document as proposed in the draft rules, we believe that a direct incorporation of specific provisions is more appropriate. As a result, we hereby adopt those PSIP obligations that will ensure that cable operators carry PSIP data when received from content providers in conformity with the ATSC A/65B standard.[59] However, we decline to take action on the proposed revisions that are better addressed in our ongoing digital must carry and DTV periodic review proceedings.

D. High Definition Set-Top Boxes

24. Cable subscribers owning unidirectional digital cable televisions or DTV monitors that wish to receive advanced, interactive services will need a separate set-top box in order to do so. As a means of ensuring the connectivity of these devices, the proposed rules would obligate all cable operators, effective December 31, 2003, to replace or upgrade subscriber-leased high definition set-top boxes upon subscriber request to ensure that such boxes have "functional" 1394 interfaces.[60] For these purposes, a "functional" 1394 means a 1394 interface with appropriate software support.[61] Starting July 1, 2005, all high definition set-top

[53] APTS Reply Comments at 3; NAB Comments at 9-10; Paxson Reply Comments at 2-5 n.8.

[54] APTS Reply Comments at 3; NAB Comments at 9-10; Paxson Reply Comments at 2-5 n.8.

[55] Comcast Reply Comments at 3, 13-15; CEA Reply Comments at 4-5; CFA Reply Comments at 7.

[56] NCTA Reply Comments at 43-45.

[57] *Id*.

[58] *Carriage of the Transmission of Digital Television Broadcast Stations*, CS Docket Nos. 98-120, 00-96 and 00-2; *Second Periodic Review of the Commission's Rules and Policies Affecting the Transition to Digital Television*, MB Docket No. 03-15, RM 9832, MM Docket Nos. 99-360, 00-167 and 00-168.

[59] ATSC A/65B, Program and System Information Protocol for Terrestrial Broadcast and Cable (ATSC 2003); *see* Appendix B at § 76.640(b)(1)(iv)-(v).

[60] Draft Technical Rules at 2.

[61] MOU at 6. The MOU signatories clarified that the use of the term "functional" in connection with the [December 31, 2003] deadline reflected "an acknowledgement … that prior to the MOU, several MSOs had

boxes acquired by cable operators for distribution to subscribers would need to include a 1394 interface and either a Digital Visual Interface ("DVI") or High Definition Multimedia Interface ("HDMI").[62] High definition set-top boxes provided to subscribers pursuant to these deadlines would also need to comply with certain technical standards.[63] No comments were received objecting to these proposals. We believe that these interface and technical requirements will set a baseline for connectivity ensuring that cable subscribers are able to fully enjoy the range of services offered by their cable provider in a secure, digital format. As such, we adopt these high definition set-top box obligations and defer the December 31, 2003 obligation to April 1, 2004.

25. We recognize that in this context, as well as with respect to the labeling requirements for digital cable ready devices, commenters such as Genesis Microchip have expressed concern that the patents underlying DVI and HDMI interface specifications and the HDCP content protection technologies have not been fully vetted for outstanding claims.[64] Genesis Microchip also questions whether the associated licenses are offered on non-discriminatory terms with stable and certain license fees.[65] Although the DVI, HDMI and HDCP specifications did not result from a formal standard setting process,[66] the technology underlying these specifications is widely available in the marketplace today. Further, the adopter agreements for these technologies are freely offered on non-discriminatory terms.[67] Consistent with our previous patent policy, we will nonetheless consider any complaints that these technologies are not being licensed on reasonable and non-discriminatory terms, or are unavailable due to outstanding patent claims.[68]

E. Exemptions from Standards and Associated Obligations

26. Some commenters have questioned the scope of the digital cable system transmission standards and support obligations given that some of the requirements only apply to systems with an activated channel capacity of 750 MHz or greater while other requirements apply to all digital cable systems.[69] To the extent that certain support obligations might disparately

---

purchased and, in some cases, deployed high-definition digital set-top boxes which contained an IEEE 1394 interface which do not have software embedded in the [set-top box] to allow the 1394 interface to function." Cable/CE Response to Questions at 4.

[62] Draft Technical Rules at 2. The use of the term "functional" does not appear in connection with the July 2005 deadline for DVI or HDMI interfaces since the MOU signatories anticipate that "interfaces… associated with future set-top product purchases … would be made functional by the manufacturer before delivery to the operator." Cable/CE Response to Questions at 5.

[63] Draft Technical Rules at 2. *See* ANCI/SCTE 26 2001, Home Digital Network Interface Specification with Copy Protection (ANSI 2001); CEA-931-A, Remote Control Command Pass-through Standard for Home Networking (CEA 2003).

[64] Genesis Microchip Reply Comments at 3-5.

[65] *Id*.

[66] We note, however, that DVI, HDMI and HDCP have been included as normative references in standards that have undergone the ANSI process. *See e.g.*, CEA-861-B, A DTV Profile for Uncompressed High Speed Digital Interfaces (2002).

[67] *See e.g.,* HDMI Specification Adopter Agreement, *available at* http://www.hdmi.com.

[68] *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 6 FCC Rcd 7024, 7034 (1991).

[69] ACA Comments at 7-8.

impact small cable systems, ACA asks that the Commission consider either a small system exemption or waivers for affected entities.[70] In response to ACA's concerns, CEA, NCTA and Comcast agree that small cable systems burdened by the support requirements should be allowed to seek waivers. NCTA and Comcast also suggest that the burden may not be as significant as ACA anticipates. For example, the only technical support requirement affecting digital cable systems below 750 MHz involves the provisioning of PODs to subscribers, something cable operators are already required to do upon request.[71] In addition, NCTA and Comcast clarify that the July 1, 2005, deadline for certain digital interfaces on high definition set-top boxes only applies to new boxes acquired after that date, with no resulting need to replace existing set-top box inventories.[72]

27. Although the record does not reflect a detailed economic analysis of the potential cost impact on small cable systems, we believe that the proposed support obligations have been designed to minimize, to the extent possible, any negative cost impact upon small cable systems. All cable operators, including those with small systems, would be obligated to replace or provide high definition set-top boxes with digital connector interfaces. Given that the requirement commencing April 1, 2004, to ensure that leased high definition set-top boxes have functional 1394 interfaces would only apply upon subscriber request, and that the July 1, 2005, deadline for 1394 and DVI/HDMI interfaces on such boxes would apply only to equipment acquired after that date, we believe that small cable systems would not be required to replace wholesale their set-top box inventories in the short term. The only other technical support obligation applicable to digital cable systems with an activated channel capacity of less than 750 MHz relates to the provisioning of PODs, a requirement that must already be met upon subscriber request pursuant to Section 76.1204 of the Commission's rules.[73] We recognize, however, that there may be a negative cost impact upon some small systems as a result of compliance with these obligations, particularly with those requirements incumbent on systems with an activated channel capacity of 750 MHz or greater. To the extent that small cable systems would experience economic hardship as a result of these obligations, we will consider waiver requests on a case-by-case basis.

28. Although waivers will benefit small system operators significantly burdened by adherence to these technical requirements, we are concerned that consumers who purchase unidirectional digital cable products and find them incompatible with cable systems that are either not digital or are subject to a small system waiver will be frustrated. Consumer education regarding the ability of their local cable operator to support unidirectional digital cable products will be critical to ensuring that consumer expectations are met. We recognize that the MOU contains voluntary commitments by cable operators to: (1) offer to educate local retailers regarding the capability of the local cable system to support unidirectional digital cable products, and (2) update the cable industry's Go2Broadband website with information identifying systems that support such products.[74] We strongly encourage these and further cable industry efforts and exhort retailers to educate consumers about the compatibility of unidirectional digital cable products with local cable systems.

---

[70] *Id*. at 4-6.

[71] NCTA Reply Comments at 46; Comcast Reply Comments at n.32; *see also* 47 C.F.R. § 76.1204.

[72] NCTA Reply Comments at 46; Comcast Reply Comments at n.31.

[73] *See* 47 C.F.R. § 76.1204.

[74] MOU at 9.

F. Innovation and Changes in Standards

29. Several commenters express concern that by incorporating specific technical standards into our rules, the current state of technology will be frozen and innovation harmed.[75] Indeed, some of the standards referenced in the draft technical rules have already been revised while other amendments await adoption.[76] We recognize the rapid pace of technological development today. Nonetheless, some degree of standardization is necessary to ensure widespread compatibility of digital television with cable systems and the commercial availability of unidirectional digital cable televisions and products. We agree with NCTA that the normative requirements in the proposed rules have been minimized to the extent possible.[77] In adopting the proposed technical requirements, we are incorporating the most recent versions of the referenced standards and will seek to update them as warranted. As an added measure to ensure that innovation is not stifled, we will conduct periodic reviews of these technical requirements as suggested in the draft rules. As part of our review process, we will consider whether any of these system transmission or support requirements should be amended or sunset in light of technological changes or other factors. It is our belief that once a baseline compatibility standard has been set, marketplace forces are best suited to decide which products and services will meet consumers' needs and interests.

IV. LABELING AND CONSUMER DISCLOSURES

30. As indicated above, one of the mechanisms specified in the Communications Act for addressing compatibility is an equipment labeling regime. Section 624A(c)(2)(A) authorizes the Commission to adopt regulations specifying the technical requirements for television receivers and related equipment to be sold as "'cable compatible' or 'cable ready.'"[78] The establishment of a label that delineates a certain level of technical functionality serves two purposes: (1) to aid consumers in making purchasing decisions; and (2) to identify for cable operators those devices that can be attached to their system pursuant to certain baseline compatibility requirements.

31. The labeling regime proposed to the Commission is voluntary in nature; consumer electronics manufacturers are not obliged to physically affix a label to their products. Rather, the proposed regime sets forth basic requirements that unidirectional digital cable televisions and products must meet in order to be marketed or labeled as digital cable ready. We herein adopt the proposed definition of unidirectional digital cable products, discussed above, as one-way devices and clarify that this definition excludes interactive two-way services.[79] Below

[75] EchoStar Communications Corp. Reply Comments at 2-4; NAB Reply Comments at 6-7; PK & CU Comments at 4-5; PK & CU Reply Comments at 2-3, 8-9; TiVo Comments at 2.

[76] Cable/CE Response to Questions at 1-2.

[77] NCTA Reply Comments at 10.

[78] *See* 47 U.S.C. § 544a(c)(2)(A).

[79] *See* Draft Technical Rules at 2; Draft DFAST License at 3; *see also* Section III, *supra*. We believe that the term unidirectional digital cable products can encompass a broad range of devices. It is for this reason that the list of unidirectional digital cable products identified in the draft rules "include[s], but is not limited to televisions, set-top boxes and recording devices." Draft Technical Rules at 2. We clarify that although the definition of unidirectional digital cable products we are adopting excludes interactive two-way devices, this exclusion would not apply to devices with cable modem functionality or Internet connectivity, such as personal computers. As such, devices with cable modem functionality or Internet connectivity

we address concerns raised by certain commenters seeking modification of the basic requirements for unidirectional digital cable televisions to be labeled digital cable ready. We also address the interrelation of this labeling regime to a certification compliance process and to the Commission's existing "Digital Cable Ready 1-2-3" labels for cable compatible DTV receivers.

A. Basic Requirements to be Labeled "Digital Cable Ready"

32. The proposed labeling rules prohibit consumer electronics manufacturers from marketing or labeling unidirectional digital cable televisions or products as digital cable ready unless they: (1) meet certain technical requirements relating to the tuning and navigation of NTSC analog and digital channels, (2) include a POD-Host interface, (3) respond to emergency alerts, and (4) have been certified to comply with certain normative requirements.[80] Under this regime, unidirectional digital cable televisions would also be required to employ specified interfaces according to a phased-in timetable.[81] The cable and consumer electronics industries are developing a label graphic that could be used in advertisements or on device packaging to reflect the compliance of the product with these criteria.[82] While the use of a label to physically mark digital cable ready products would be voluntary, consumer electronics manufacturers would be obligated to include in post-sale material, such as an owner's guide, language describing the features and functionality of unidirectional digital cable televisions.[83]

33. Many of the comments received in response to these labeling criteria advocate the addition of supplemental requirements in order for television receivers to be identified as digital cable ready. For the reasons set forth below, we add an over-the-air tuner requirement to the labeling criteria proposed to the Commission but otherwise decline to adopt the suggested modifications.

1. Over-the-Air Tuner

34. Broadcasters and content providers advocate that EIA/CEA-818D be added to the list of technical compliance standards applicable to digital cable ready televisions in order to

---

would not be foreclosed from being labeled or marketed as digital cable ready devices, so long as they otherwise complied with the criteria set forth herein.

[80] *See generally*, Draft Technical Rules at 2-6. EFF suggests that the Commission also create a "basic tier ready" label for devices meeting the digital cable ready television definition, except for the requirement to have a POD-Host interface. EFF Comments at 5. The record in this proceeding, however, does not reflect sufficient need for a label distinguishing these devices from digital cable ready products. Indeed, a basic tier ready label could confuse consumers who identify cable readiness with extended basic service, which includes both the basic and cable programming services tiers.

[81] Draft Technical Rules at 3-4.

[82] Cable/CE Response to Questions at 6.

[83] Draft Technical Rules at 6. The relevant language states: "This digital television is capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming. A security card provided by your cable operator is required to view encrypted digital programming. Certain advanced and interactive digital cable services such as video-on-demand, a cable operator's enhanced program guide and data-enhanced television services may require the use of a set-top box. For more information call your local cable operator." *Id*.

ensure that these devices have over-the-air reception capability.[84] Consumer electronics manufacturers have publicly committed to include off-air tuners in digital cable ready televisions.[85] The fact that the proposed phase-in of digital cable ready televisions with digital interfaces would be synchronous with the implementation roll-out of our tuner mandate suggests that consumer electronics manufacturers intend to abide by this commitment.[86] NCTA suggests, however, that an over-the-air tuner requirement in this context would be redundant, given the Commission's existing tuner mandate.[87] As we held in our *Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television* ("*DTV Tuner Order*"), all television receivers must include a digital broadcast tuner on a phased-in basis.[88] We therefore believe that the addition of a DTV off-air tuner requirement to the labeling requirements for digital cable ready televisions is appropriate.[89] In the analog environment, the public has come to understand that television receivers labeled or marketed as "cable ready" universally include the capability of receiving over-the-air broadcast service. We believe it would be inconsistent with consumer expectations and thus affirmatively misleading for digital cable ready receivers not to include digital over-the-air reception capability.

2. Closed Captioning

35. Broadcasters and content providers seek assurance that closed captioning display functionality will be built into digital cable ready televisions.[90] In reply, NCTA states that it would not object to a clarification by the Commission regarding the applicability of its digital closed captioning rules.[91] We concur with NCTA that the Commission's rules independently mandate that digital television receivers be able to decode and display closed captioning.[92] As a result, we need not incorporate a separate closed captioning mandate into the labeling criteria for digital cable ready televisions.

3. 1394 Interface

36. Broadcasters question why the proposed rules do not require televisions carrying the digital cable ready label to have a 1394 interface.[93] While the proposed rules call for the inclusion of a DVI or HDMI interface in digital cable ready televisions by specific rollout dates,

[84] APTS Reply Comments at 2; Motion Picture Association of America Reply Comments at 15-16 ("MPAA Reply Comments"); NAB Comments at 2-3, 5-8; NAB Reply Comments at 2-6; Paxson Comments at 3-7; Sinclair Broadcast Group Inc. Comments at 1, 3-7; *see* EIA/CEA-818D, Cable Compatibility Requirements (EIA 2002) ("EIA/CEA-818D").

[85] CEA/CERC Reply Comments at 5.

[86] Draft Technical Rules at 3-4.

[87] NCTA Reply Comments at 43-44; *see* 47 C.F.R. § 15.117(i).

[88] 17 FCC Rcd 15978 (2002).

[89] This requirement will follow the same phase-in schedule established in *DTV Tuner Order*.

[90] MPAA Reply Comments at 2-6; NAB Reply Comments at 6-7.

[91] NCTA Reply Comments at 47.

[92] *See* 47 C.F.R. § 15.122.

[93] NAB Comments at 5 n.6; APTS Reply Comments at 3 n.6.

1394 interfaces would only be required on cable operator-supplied high definition set-top boxes.[94] NAB expresses its concern that consumers purchasing digital cable ready televisions without 1394 interfaces will be frustrated in their attempts to connect to digital VCRs and other digital devices.[95] In response, NCTA states that 1394 interfaces should not be required and instead market forces should determine the future acceptance of 1394 as a connector.[96] NCTA further clarifies that the inclusion of 1394 interfaces on high definition set-top boxes is intended to preserve the functionality of existing digital devices that use the interface.[97]

37. It is our belief that the requirement for digital cable ready televisions to have either a DVI or HDMI interface sets a floor for digital cable compatibility without unnecessarily impeding innovation. It should be noted in this regard that the labeling regime is being used here as a convenient procedural mechanism for phasing in a set of connectors that are needed to accomplish the equipment compatibility purposes of Section 624A. We recognize that the DVI or HDMI outputs may only be available with a percentage of the digital cable ready devices manufactured and do not intend that, prior to the completion of the phase-in, the digital cable ready label be interpreted as signifying the presence of these outputs. We anticipate that the marketplace will determine which additional connectors are best for use with digital cable ready televisions and associated products and therefore decline to mandate a 1394 or other connector interface.[98] As discussed below, we are establishing an interim mechanism and seeking further comment on a permanent mechanism by which additional connectors can be approved for use in digital cable products, subject to FCC oversight where disputes arise. We believe that this approach will foster competition among MVPDs and promote interoperability.[99]

B. Compliance Certification Process

38. A prerequisite for the use of the digital cable ready designation under the draft labeling rules is certification for compliance with certain normative requirements. The proposed rules anticipate that a manufacturer must submit a prototype of its first unidirectional digital cable product model to CableLabs or an independent qualified test facility to ensure conformity with specific technical standards.[100] The test suite to be applied is intended to demonstrate that the subject device: (i) can tune and display scrambled digital services via the POD conditional access system; (ii) will not technically disrupt, impede, or impair delivery of services to cable subscribers; (iii) will not cause physical harm to the cable network or the POD module; (iv) will not facilitate theft of service or otherwise interfere with reasonable actions taken by cable operators to prevent theft of service; (v) will not jeopardize the security of any services offered over the cable system; (vi) will not interfere with or disable the ability of a cable operator to

[94] Draft Technical Rules at 2-4. The connector interface requirements for televisions to be labeled digital cable ready include either: (1) a DVI or HDMI interface, or (2) a Y,Pb,Pr component interface. The phase-in schedule would range from July 1, 2004, for 50% of 480p grade television models with screen sizes 36 inches and above, to July 1, 2007, for 100% of 720p/1080i grade television models with screen sizes 13 to 24 inches. *Id*. at 3-4.

[95] NAB Comments at 5 n.6.

[96] NCTA Reply Comments at 35.

[97] *Id*.

[98] *See e.g.*, PK & CU Comments at 3; Intel Comments at 8-12; EchoStar Reply Comments at 7.

[99] *See* EchoStar Reply Comments at 4, 7; NCTA Reply Comments at 39-40.

[100] Draft Technical Rules at 4-6; *see* SCTE 40 2003; ANSI/SCTE 28 2003; SCTE 41 2003.

communicate with or disable a POD module or to disable services being transmitted through a POD module; or (vii) will not impede or impair control of content protection.[101] The specific tests comprising the test suite were jointly agreed to by representatives of the cable and consumer electronics industries.[102] The test suite would be executed by CableLabs or an independent qualified test facility for the first unidirectional digital cable product model developed by a manufacturer. Once this first model successfully completed the applicable test suite, self-certification procedures would apply for subsequent models.[103]

39. We hereby adopt the proposed certification procedures with certain revisions as set forth in Appendix B. In so doing, we recognize that the scope of this process is limited in so far as it: (1) verifies compliance with specific normative standards to ensure the functionality and compatibility of unidirectional digital cable products with digital cable systems, and (2) allows for manufacturer self-certification procedures once an initial product model has been certified by a qualified test facility. Although we anticipate that CableLabs, or another organization similarly associated with the cable industry, will initially have a key role in this certification compliance process due to its familiarity and expertise with POD-Host interface technology, the public availability of the test protocol should allow third party testing facilities to certify compliance therewith. Our revisions to the proposed rules reflect this expectation. Any entity that executes the test protocol must do so in a reasonable and non-discriminatory manner. We will monitor the implementation of this certification compliance process to ensure it comports with these principles. Should any party have complaints regarding this implementation, or the certification test suite itself, we will consider them on a case-by-case basis. We will also review the standards in this section on a periodic basis to determine whether to sunset or amend the regulations adopted herein in light of changes in technology or other public interest factors.

C. Relation to Existing Labeling Requirements

40. We are adopting the proposed labeling and consumer disclosure requirements to promote consumer awareness and education about the DTV transition and the functionality of unidirectional digital cable televisions and products and their compatibility with digital cable systems.[104] We recognize that the Commission previously adopted a series of labels for digital cable compatible receivers. This "Digital Cable Ready 1-2-3" regime, however, has not yet been employed in the marketplace and may not encompass the full range of anticipated unidirectional digital cable devices.[105] In an effort to eliminate any confusion, we hereby eliminate the existing Digital Cable Ready 1-2-3 labels and grant the petitions for reconsideration filed by NCTA and Time Warner Cable in response to our earlier *Report and Order* in our *Compatibility Between*

[101] Draft Technical Rules at 4.

[102] *See* Uni-Dir-PICS-I01-030903: Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma (2003)

[103] Draft Technical Rules at 5-6.

[104] Our approval of the proposed labeling and consumer disclosure regime is not intended to limit or foreclose any action that may be taken pursuant to the Notice of Proposed Rulemaking recently issued in our DTV Second Periodic Review Proceeding. *See Second Periodic Review of the Commission's Rules and Policies Affecting the Transition to Digital Television*, 18 FCC Rcd 1279, 1314-15 (2003) ("*DTV Second Periodic Review NPRM*").

[105] *See* 47 C.F.R. § 15.19(d)(2).

Cable Systems and Consumer Electronics Equipment docket.[106]

41. We anticipate that this labeling regime and consumer disclosure requirements will provide consumers with basic compatibility information about digital cable ready televisions and products. We remain concerned, however, that the voluntary nature of the labeling regime and the fact that a clear statement of a unidirectional digital cable television's functionalities is only provided in post-sale material may not aid consumers in making purchasing decisions. In particular, we believe that the digital cable ready designation, absent further clarification or explanation, may cause consumer confusion because it does not indicate that a set-top box will be needed to receive interactive services. As discussed above, we expect that the cable industry will fulfill and expand upon its voluntary commitments in the MOU to ensure that subscribers and local retailers are both aware of the availability of digital cable service in their area and of the compatibility of unidirectional digital cable products with operators' systems.[107] The MOU, however, also reflects an understanding that consumer electronics manufacturers need not provide retail or pre-sale consumer notification information.[108] We strongly believe that it is incumbent upon the consumer electronics industry to collaborate with both their retail partners and the cable industry to develop consumer awareness campaigns about unidirectional digital cable televisions and their functionalities, particularly with regard to the need for set-top boxes in order to receive interactive services. Information could be disseminated to consumers in many different ways, including but not limited to cable subscriber notices, Internet web sites, point of sale marketing materials to be provided to retailers, more informative labeling on device packaging, or some other appropriate format designed to reach consumers before they make purchasing decisions. We will also seek comment in the *Second Further Notice of Proposed Rulemaking* on whether some form of pre-sale consumer notification should be required.

V. ENCODING RULES

42. In addition to the draft technical and labeling rules, the cable and consumer electronics industries submitted draft encoding rules to the Commission that propose: (1) a ban on selectable output control, (2) a prohibition on the down-resolution of broadcast programming, and (3) the adoption of caps on copy protection encoding for different categories of MVPD programming. Below we discuss our authority to adopt such encoding rules, and address each of the three proposals.

43. At the outset, we recognize that members of the DBS industry assert that because they did not participate in the MOU negotiations, they should not be made subject to encoding rules that do not adequately address their interests.[109] We disagree. The negotiations between cable and consumer electronics industries sought to establish a specification for unidirectional digital cable televisions and products – issues specific to their industries. The proposed encoding rules were developed as part of those negotiations. The entire MOU, including the proposed encoding rules and other draft regulations contained therein, were incorporated into our *Further Notice* and put out for public notice and comment.[110] Indeed, both EchoStar and DIRECTV (the

[106] *Digital Compatibility Report and Order*, 15 FCC Rcd at 17568.

[107] *See* Section III.E, *supra*; *see also* MOU at 9.

[108] MOU at 7.

[109] DIRECTV Comments at 4-6; EchoStar Reply Comments at 9.

[110] *Further Notice*, 18 FCC Rcd at 531-609.

"DBS providers") filed comments in response to the *Further Notice* on this particular issue. As discussed in greater detail below, we conclude that the arguments advanced by the DBS providers are insufficient to outweigh the need for competitive parity among MVPDs.

44. We also acknowledge the concerns articulated by content providers that the proposed encoding rules would prevent or inhibit the use of other content protection mechanisms.[111] We do not interpret the draft rules in this fashion. The proposed rules specifically prohibit the encoding of audiovisual content to trigger selectable output control, the down-resolution of broadcast programming, or to prevent or limit copying except as permitted for the applicable programming category.[112] As such, we do not believe that these proposed requirements necessarily preclude the use of other content protection measures.

A. Commission Authority Under Section 629

45. The Commission has authority to adopt the proposed encoding rules under the explicit authority granted in Section 629 of the Communications Act as well as our ancillary jurisdiction thereunder.[113] We also conclude that our ancillary jurisdiction would extend the scope of Section 624A of the Communications Act to encompass non-cable MVPDs.[114]

46. The mandate of Section 629 is broad. As discussed above, it requires the Commission to assure the commercial availability of navigation devices – meaning that the Commission must persist in its efforts until commercial availability is achieved.[115] Section 629 subjects all MVPDs to its requirements, including cable operators, DBS providers, multichannel multipoint distribution service operators and satellite master antenna television providers.[116] Although DBS providers were exempted from the separate security requirement imposed on cable in our *Navigation Devices Order* because DBS equipment is already available at retail and is portable nationwide, the Commission expressly found that it did not have the authority to exclude DBS from the reach of Section 629 generally.[117] Section 629 also applies to any type of equipment used to access MVPD programming and services, including televisions, VCRs, cable

[111] MPAA Reply Comments at 10; National Music Publishers' Association, *et al*. Comments at 4-6, 8-9 ("NMPA Comments"); NMPA Reply Comments at 2.

[112] Draft Encoding Rules at 5.

[113] 47 U.S.C. § 549(a).

[114] *Id*. § 544A.

[115] Section 629 directs the Commission to "adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems." *Id*. § 549(a).

[116] *Navigation Devices Order*, 13 FCC Rcd at 14782-84. The only MVPDs not subject to the requirements of Section 629 are open video system operators, as a consequence of a specific exclusion in the Communications Act. *Id.* at 14783-84.

[117] *See* i*d.* at 14800-02, 14819 (finding that Congress did not exclude DBS from the reach of Section 629, and that the "sunset criteria" of Section 629(e) had not been met because the market for MVPD services is not fully competitive); *Order on Reconsideration,* 14 FCC Rcd at 7613-14.

set-top boxes, personal computers, program guide equipment and cable modems.[118] On this basis, we conclude that the scope of Section 629 encompasses all MVPDs and authorizes the Commission to adopt regulations that aim to ensure the commercial availability of a wide range of consumer electronics equipment used in conjunction with MVPD systems.

47. In our *FNRPM and Declaratory Ruling*, the Commission found that Section 629's mandate encompasses copy protection in so far as we determined that the inclusion of some measure of anti-copying encryption technology within a host device does not violate our separation of security requirement.[119] The Commission, however, specifically declined "to resolve the question of the nature and scope of any copy protection systems or rights."[120] While the Commission's copy protection findings in the *FNPRM and Declaratory Ruling* were limited in nature, we recognized that other copy protection issues would arise in the DTV transition.[121] In particular, we noted that:

> [W]e do not intend this declaratory ruling to signal that any terms or technology associated with such licenses and designated as necessary for copy protection purposes are consistent with our rules. We believe, however, that such issues are best resolved if specific concerns involving finalized licenses that implicate our navigation devices rules are presented to the Commission.[122]

By stating that some amount of copy protection might be acceptable but not necessarily specifying the applicable terms or technology, the Commission indicated its willingness to assess the reasonableness of particular copy protection proposals. We believe that the draft encoding rules proposed to the Commission are an essential component of the MOU that will assure the commercial availability of navigation devices and strike a measured balance between the rights of content owners and the home viewing expectations of consumers. Absent adoption of these encoding rules, the cable and consumer electronics industries have indicated that the compromise agreement reached in the MOU will be upset and their efforts to produce unidirectional digital cable products will falter.[123] The resulting harm would directly undermine the explicit goal of Section 629, to assure the commercial availability of navigation devices. We therefore conclude that adoption of the proposed encoding rules is necessary to fulfill our mandate under Section 629.

48. We disagree with the objections raised to Commission jurisdiction under Section 629. MPAA, which opposes FCC jurisdiction over the proposed encoding rules, argued prior to the *FNPRM and Declaratory Ruling* that copy protection is integral to conditional access and that the Commission should therefore affirm that such measures can be required in host devices.[124]

---

[118] *Navigation Devices Order*, 13 FCC Rcd at 14784-86 ("[W]e believe that Section 629 is intended to result in the widest possible variety of navigation devices being commercially available to the consumer.").

[119] *FNPRM and Declaratory Ruling,* 15 FCC Rcd at 18209.

[120] *Id.* at 18211.

[121] *Id.* at 18212.

[122] *Id.* at 18211 (footnote omitted).

[123] Cable/CE Letter at 3; MOU at 1.

[124] *See* Letter from Fritz Attaway, Senior Vice-President, Government Relations, MPAA, to Magalie R. Salas, Secretary, FCC at Attachment (Sep. 6, 2000).

MPAA now asserts that the Commission should not involve itself in the reasonableness of the copy protection measures.[125] This may be a colorable policy argument, but it does not bear on the Commission's statutory authority.

49. MPAA also contends that Section 629(b) prohibits the Commission from adopting the proposed encoding rules.[126] We disagree. Section 629(b) provides that:

> The Commission shall not prescribe regulations under subsection (a) which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service.[127]

50. We interpret the statute in the context of its purpose. We believe that in including Section 629(b)'s "Protection of System Security" provision, Congress was concerned about preventing system security in terms of theft of service, that is, preventing a non-subscriber from obtaining unauthorized access to multichannel video programming or other services. Section 629(b) is expressly directed at the protection of *system* security and the prevention of theft of service.[128] The legislative history likewise indicates Congress' focus on the protection of *system* security and theft of service.[129] There is nothing in either the statutory language or the legislative history to suggest that Congress intended Section 629(b) to extend to content protection technologies for programming that a subscriber properly had access to.

51. Unlike the copy protection technology at issue in the *FNPRM and Declaratory Ruling,* which was directly related to cable operator system security as a part of the POD and POD-Host interface, the draft encoding rules here involve the encoding of content to activate copy protection technologies associated with device outputs and connectors. We believe that to the extent the encoding rules relate to device outputs and associated content protection technologies, they do not implicate theft of service or harm to network concerns. This distinction goes to the heart of our navigation device rules. MVPDs have a direct interest in ensuring that a consumer's right to attach navigation devices to their system does not result in theft of service or harm to the MVPD network.[130] Copy protection, however, goes to the question of what end users may do with content legally acquired for a limited use. The fact that device outputs and associated content protection technologies do not implicate theft of service or harm to network concerns permits Commission adoption of the encoding rules and would not run afoul of Section 629(b).

52. Even if Section 629(b) applied to content protection, we conclude that the rules

---

[125] MPAA Comments at 12-13.

[126] MPAA Reply Comments at 9.

[127] 47 U.S.C. § 549(b).

[128] *Id*. § 549(b).

[129] *See, e.g.*, H.R. Conf. Rep. No. 458, 104th Cong., 2nd Sess., at 181 (1996) (recognizing that "cable … system operators have a valid interest, which the Commission should continue to protect, in system or signal security and in preventing theft of service and therefore, the Commission may not prescribe regulations which would jeopardize signal security or impede the legal rights of a provision to preempt theft of service").

[130] 47 C.F.R. § 76.1201.

we are adopting will not jeopardize the security of copyrighted programming or impede the legal rights of MVPDs to prevent theft of programming. As discussed above, the encoding rules are not directed at content owners, allowing them to exercise their existing statutory rights and remedies under copyright law. MVPDs retain control over their conditional access systems, subject to the separation of security requirements contained in our navigation device rules. In interpreting these rules in the *General Instrument* case, the D.C. Circuit held that "jeopardize" does not mean that any increased security risk is barred by Section 629(b); rather, a petitioner must present evidence that system security will be subject to "serious or significant danger."[131] The record lacks any substantive evidence that would meet the *General Instrument* standard. Indeed, because the encoding rules do not implicate access to programming or services, they do not constitute a "serious or significant danger" within the meaning of Section 629(b) as interpreted by *General Instruments*.

53. We note that not a single MVPD – including DBS providers whose system security would theoretically be threatened by the proposed rules – argued that the Commission is prohibited from adopting encoding rules under Section 629(b). MVPDs will retain control and ownership of the security equipment for their systems. The draft encoding rules would in no way authorize or justify any use, manufacture, or importation of equipment that would violate Section 633 of the Communications Act[132] or any other provision of law precluding the unauthorized reception of MVPD service. Further, the labeling rules and associated compliance certification procedures that we are adopting require manufacturers to demonstrate that their equipment will not jeopardize the security of any services offered over cable systems or interfere with measures to prevent theft of service.

54. Although some commenters argue that our adoption of the encoding rules would impermissibly involve the Commission in copyright issues, we do not believe this to be the case.[133] Communications law and copyright law can create independent rights – even with respect to the distribution of the same content. The Commission's "syndicated exclusivity"[134] and retransmission consent rules each create sets of rights and limitations that exist independent of the underlying copyrights.[135] In the instant case, the encoding rules are not directed at the copyright owners, but rather establish certain limits on the technological tools used by MVPDs to distribute content.[136] A content owner's rights under copyright law, as well as determinations of what constitutes infringement and affirmative defenses such as "fair use," are set by statute and interpreted on a fact-specific basis by the courts.[137] We nonetheless recognize that the line

[131] *General Instrument*, 213 F.3d at 731 (citing definition of "jeopardize" as "to expose to danger (as of imminent loss, defeat, or serious harm): IMPERIL").

[132] *See* 47 U.S.C. § 553.

[133] *See* MPAA Comments at 12-13; MPAA Reply Comments at 8-10; NMPA Reply Comments at 6 n.9, 11-17.

[134] *See United Video, Inc. v. FCC*, 890 F.2d 1173 (D.C. Cir. 1989) (upholding FCC authority to promulgate syndicated exclusivity rules while noting "interplay between copyright and communications law") ("*United Video*").

[135] NCTA Reply Comments at 48.

[136] *Id*.

[137] *See, e.g.,* 17 U.S.C. § 107 ("fair use"); *Piracy Prevention and the Broadcast Flag: Before the House Subcomm. on Courts, the Internet and Intellectual Property, Comm. on the Judiciary*, 4-10 (Mar. 6, 2003) (statement of Mary Beth Peters, Register of Copyrights).

separating communications law and copyright law is not always a clear one. As the *United Video* court found with respect to cable television, "the 1976 Congress did not imagine copyright law and communications law to be two islands, separated by an impassable sea."[138] We will continue to be sensitive to this intricate and complex issue as we implement Section 629.

55. In addition to explicit authority under Section 629, we believe that the Commission has ancillary jurisdiction to adopt the proposed encoding rules.[139] As discussed above, the Commission has been working to achieve Section 629's mandate of commercial availability of navigation devices since 1996. One of the stumbling blocks has been inability of industry to agree on a comprehensive set of technical copy protection measures and corresponding encoding rules. Adoption of the encoding rules will finally remove that block and ensure the availability of high value content to consumers in a protected digital environment. We believe that access to high value digital content will spur the transition and increase consumer demand for unidirectional digital cable products and other navigation devices at retail, thereby furthering Section 629's goals. The adoption of rules applicable to MVPD content distribution falls within the Communication Act's mandate over "all interstate and foreign communication by wire or radio,"[140] and the Commission's broad authorization "to make available to all Americans a radio and wire communication service."[141] In furtherance of these goals, the Commission can adopt regulations that are consistent with the public interest and not inconsistent with other provisions of the Communications Act or other law.[142] Not only are the encoding rules "not inconsistent" with other provisions of the Act or law, we believe they will significantly advance Section 629's stated goal.[143]

---

[138] *United Video*, 890 F.2d at 1184.

[139] 47 U.S.C. §§ 151, 152(a), 154(i), 303(r). Contrary to the assertions of some commenters, the recent *MPAA v. FCC* decision does not restrict our ancillary authority here. *MPAA v. FCC*, 309 F.3d 796, 807 (D.C. Cir. 2002). In that case, the court found that the Commission lacked authority to adopt video description rules because: (1) the regulations significantly affected program content; and (2) Congress specifically authorized and ordered the FCC to produce a report on video description – "nothing more, nothing less." Neither of these conditions applies in this case. Our mandate under Section 629 specifically requires us to adopt regulations assuring the commercial availability of navigation devices. Further, the encoding rules apply to the distribution of content rather than its substance. For example, the caps on copy protection mechanisms are not set on a program-by-program basis, rather, they are set for existing and future "business models" which represent different distribution channels by which programming is marketed. This structure is agnostic as to the content of programming – the same programming could be distributed by various business models and in each instance would be subject to a different copy protection cap depending on the applicable distribution model. For example, a movie available on a video-on-demand service could be encoded "copy never," but the same movie could only be encoded up "copy one generation" if it were offered on a non-premium subscription service.

[140] *Id*. § 152(a).

[141] *Id*. § 151.

[142] *See, e.g., United States v. Southwestern Cable Co.*, 392 U.S. 157, 172 (1968) ("[I]t was precisely because Congress wished to maintain, through appropriate administrative control, a grip on the dynamic aspects of radio transmission . . . that it conferred upon the Commission a unified jurisdiction and broad authority.") (citations, footnote and internal quotations omitted); *United States v. Midwest Video Corp.*, 406 U.S. 649, (1972) ("*Midwest Video*").

[143] *See, e.g., Midwest Video*, 406 U.S. at 667-68 ("The critical question . . . is whether the Commission has reasonably determined that its origination rule will 'further the achievement of long-established regulatory goals in the field of television broadcasting' . . .") (citation omitted).

56. In addition to explicit authority under Section 629 and our ancillary jurisdiction thereunder, we believe that adoption of the encoding rules will also advance the policies underlying Section 624A of the Communications Act.[144] Section 624A requires the Commission to issue regulations to assure the compatibility between televisions and video cassette recorders and cable systems in a manner consistent with the need to prevent theft of cable service. [145] The end goal is to ensure that cable subscribers will be able to enjoy the full benefits of available cable programming and the functionality of their televisions and video cassette recorders.[146] To accomplish this balancing act, Section 624A directs the Commission to "determine whether and, if so, under what circumstances to permit cable systems to scramble or encrypt signals or restrict cable systems in the manner in which they encrypt or scramble signals."[147]

57. Section 624A by its terms does not directly apply to MVPDs other than cable operators. [148] However, the MVPD market has diversified greatly since 1992. For example, DBS did not exist at the time when Section 624A was enacted, but has since grown to serve approximately twenty percent of the MVPD marketplace.[149] In order to accomplish the purposes of Section 624A, we believe that the Commission may exercise ancillary jurisdiction over non-cable MVPDs in order to avoid the creation of a regulatory and marketplace imbalance between cable and DBS. Absent this approach, we believe that cable operators would be at a significant competitive disadvantage in obtaining access to content which could frustrate the ability to satisfy Section 624A's mandate.[150] We therefore believe it will further the goals of Section 624A to apply the proposed encoding rules to all MVPDs.

B. Selectable Output Control

58. As proposed to the Commission, the draft rules would prohibit MVPDs from encoding or otherwise modifying audiovisual content so as to activate selectable output control, which is the ability to remotely shut off a particular output or connector on a program-by-program basis, thereby funneling content through other authorized outputs.[151] Advocates of this technology argue that it is a useful tool to address potential piracy concerns because it: (1) allows MVPDs to respond in cases where protected digital outputs have been compromised; and (2) permits content to be directed away from unprotected high-resolution analog ("component

[144] 47 U.S.C. § 544A.

[145] *See id*. §544A(b)(1).

[146] *See id*. §544A(b)(1).

[147] *Id*. § 544A(b)(2).

[148] *See e.g.*, EchoStar Reply Comments at 5-6.

[149] DBS service was launched commercially in 1994, two years after Section 624A was adopted. *See In the Matter of Policies and Rules for the Direct Broadcast Satellite Service*, 17 FCC Rcd 11331, 11335 (2002). *See also In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 17 FCC Rcd 26901, 26975 (2002) (DBS serves approximately 20% of MVPD marketplace).

[150] *MCCA v. FCC*, 77 F.3d 1399, 1404-07 (1996) (upholding Commission authority under Section 4(i) to require pioneer's preference holder to pay discounted price, rather than no payment, in order to preserve market fairness, given competitiors would be required to buy license at auction).

[151] Draft Encoding Rules at 5; *see* CEA/CERC Comments at 18.

analog") outputs[152]

59. Critics of selectable output control, including consumer electronics interests, contend that it is an *ad hoc* imposition on consumers that must be prohibited to ensure the functionality of unidirectional digital cable products.[153] Consumer groups agree that selectable output control should be prohibited, particularly since it could harm the marketability of recordable digital interfaces in favor of non-recordable ones.[154] The cable industry further advocates that the proposed ban apply to all MVPDs in order to ensure a level playing field in negotiations for premium content acquisition.[155]

60. The issue of selectable output control – like the issue of down-resolution discussed below – involves a difficult balancing of interests. On one hand, we recognize content owners' legitimate interest in protecting their content from piracy. We also recognize consumers' expectations that their digital televisions and other equipment will work to their full capabilities, and the potential harm to the DTV transition if those expectations are frustrated. In particular, we are concerned that selectable output control would harm those "early adopters" whose DTV equipment only has component analog inputs for high definition display, placing these consumers at risk of being completely shut off from the high-definition content they expect to receive. Further, we believe that content providers have other means of revoking compromised digital outputs. As recognized by the consumer electronics industry, technological and licensing mechanisms exist which permit MVPDs to revoke compromised security modules and output technologies if needed.[156] We are also proposing in our *Second FNPRM* to create a formal mechanism by which outputs may be revoked if compromised.[157] We therefore believe that MVPDs will in no way be harmed in their ability to protect content where output technologies have been compromised. As to the issue of analog outputs, we anticipate that alternative mechanisms such as retirement and the potential use of down-resolution could more effectively address content providers' concerns without entirely foreclosing functionalities available to early adopters.

61. We conclude that at present the balance tips in favor of prohibiting the use of selectable output control by MVPDs and hereby adopt the prohibition as set forth in Appendix B. We also believe that the ban on selectable output control logically should apply uniformly to all

---

[152] MPAA Reply Comments at 13-15. MPAA has disclaimed an interest in using selectable output control to choose among protected digital connectors like 1394/5C and DVI/HDCP:

> Although the concept of selectable output controls was discussed a few years back in the 5C license discussions, *MPAA and its member companies are not seeking in the 5C license or in the OpenCable PHILA context the ability to turn off the 1394/5C digital interconnect in favor of a DVI/HDCP interconnect through a selectable output control mechanism*.

Letter from Fritz E. Attaway, Senior Vice President Government Relations, MPAA, to Chairman W.J. Tauzin, House Committee on Energy and Commerce and Chairman Fred Upton, House Subcommittee on Telecommunications and the Internet (Mar. 20, 2002) (emphasis in original).

[153] *See* CEA/CERC Reply Comments at 10.

[154] EFF Reply Comments at 10-11; HRRC Comments at 6-10.

[155] Comcast Comments at 13-14; Comcast Reply Comments at 9; NCTA Reply Comments at 15.

[156] CEA/CERC Reply Comments at 18.

[157] *See* Section VII.

MVPDs in order to ensure that consumer expectations are not unreasonably frustrated regardless of the MVPD platform to which they subscribe. A prohibition is also necessary to ensure the DTV transition is able to proceed in an expeditious manner without concerns over connectivity and functionality forestalling digital equipment acquisition. We nonetheless recognize that selectable output control functionality might have future applications that could potentially be advantageous to consumers, such as facilitating new business models,[158] and will consider waivers, petitions or other proposals to use selectable output control in this regard. For this reason, we do not prohibit the inclusion in devices of the *capability* to exercise selectable output control, only the current *use* of such capability by MVPDs.[159]

C. Down-resolution

62. The ability of MVPDs to constrain content resolution when output from consumer electronics devices, also called "down-resolution," refers to the ability to degrade the resolution of content from a higher to a lower level, such as from high definition to standard definition. The consumer electronics industry acknowledges that down-resolution has been required in private agreements, such as the Digital Transmission Content Protection ("DTCP" or "5C") license, where component analog outputs are used as secondary ports to feed high definition digital recorders.[160] They nonetheless express concern that if an MVPD were to trigger down-resolution on the primary signal link between set-top boxes and high definition displays at the request of a content provider, consumers would be denied the very functionality that led them to invest in DTV devices – the ability to enjoy high definition programming.[161] Consumer groups concur with this assessment and advocate a ban on down-resolution.[162] The cable industry expresses its willingness to accede to this prohibition if applied to all MVPDs in order to ensure the availability of high value content and competitive parity among programming providers.[163] In contrast, however, DIRECTV and MPAA assert that MVPDs should have multiple content protection mechanisms available to them, including down-resolution, in order to best address the needs of content providers and consumers.[164] MPAA is in essence advocating that down-resolution will serve to provide consumers with greater access to programming than would otherwise be available absent some mechanism for addressing analog outputs.

63. As a result of their negotiations over the MOU, the consumer electronics and cable industries reached an agreement that broadcast programming should not be subject to down-resolution, but made no recommendation to the Commission on the issue of how other MVPD programming should be treated.[165] The cable industry expresses its concern that content

[158] *See* Letter from Fritz Attaway, MPAA to Marlene Dortch, Secretary, FCC (Aug. 29, 2003) (arguing that the Commission should permit the use of selectable output control with respect to analog outputs to protect high value content).

[159] Parties have noted that this may involve changes in the model DFAST license.

[160] CEA/CERC Comments at 20.

[161] *Id*.

[162] CFA Reply Comments at 5-6; EFF Reply Comments at 10-11; HRRC Comments at 6-10; HRRC Reply Comments at 9-10, 17; PK & CU Comments at 4-5, 10, 16-17.

[163] NCTA Reply Comments at 3.

[164] DIRECTV Comments at 7; MPAA Reply Comments at 13-15.

[165] Draft Encoding Rules at 5.

providers will not make high value non-broadcast content available unless MVPDs can lower its resolution over component analog outputs and suggests that the Commission should evaluate the resulting impact upon consumers when making a determination on this issue.[166] To the extent that the Commission determines that permitting the down-resolution of high value non-broadcast content delivered over analog outputs is the only means of assuring that such content will be made available to MVPDs and consumers, the cable industry would support adoption of rules to that effect.[167] In contrast, HRRC and CEA join consumer groups in advocating a complete ban on down-resolution, including non-broadcast content, to ensure that consumers are able to fully enjoy the high definition capabilities of their consumer electronics equipment.[168]

64. The issue of down-resolution involves a similar balancing of interests to selectable output control, although in this instance consumers with analog outputs on their equipment would potentially receive a lower quality, but still viewable, picture rather than a blank screen. As in the case of selectable output control, we are concerned that consumer expectations regarding the functionality of their digital cable ready televisions and related products would be frustrated by the use of down-resolution by MVPDs. We are equally mindful of the concerns of content providers regarding the potential vulnerability of content delivered over analog outputs. The difficulties of resolving this issue are reflected in private sector efforts such as the Analog Reconversion Discussion Group to the Copy Protection Technical Working Group.[169] Because broadcast television is a free, over-the-air service and high definition content will otherwise be available through off-air reception, we believe that a ban on the down-resolution of broadcast programming by MVPDs is consistent with both consumer expectations and the nature of this service.[170] The record in this proceeding, however, does not support a similar conclusion with respect to non-broadcast programming provided by MVPDs.[171] As a result, we will seek additional comment on the issue of down-resolution of non-broadcast programming in the *Second Further Notice of Proposed Rulemaking* below. Should an MVPD wish to activate the down-resolution of non-broadcast programming in the interim, notification must be provided to the Commission at least 30 days in advance of such activation.

D. Limits on Copy Protection Encoding

65. The final component of the proposed encoding rules is comprised of caps on the

[166] NCTA Comments at 26; Comcast Comments at 6-7, n.7.

[167] NCTA Comments at 26-27; Comcast Comments at 6-7, n.7.

[168] CEA/CERC Comments at 19-20; CEA/CERC Reply Comments at 22; HRRC Comments at 6-10; HRRC Reply Comments at 9-10, 17; CFA Reply Comments at 5-6; EFF Reply Comments at 10-11; PK & CU Comments at 4-5, 10, 16-17; *see* Letter from Robert Schwartz, Counsel to HRRC, McDermott, Will & Emery, to Marlene Dortch, Secretary, FCC (July 29, 2003).

[169] MPAA Comments at 11-12; NCTA Comments at 26.

[170] MVPD down-conversion of digital programming in connection with mandatory carriage rules is outside the scope of this proceeding. The relationship between the encoding and the must carry rules will be addressed as needed in our *Carriage of the Transmission of Digital Television Broadcast Stations* proceeding in Docket Nos. CS 98-120, 00-96 and 00-2.

[171] Our prohibition on the down-resolution of broadcast programming is not intended to prohibit the inclusion of this functionality in devices. Parties have noted that this may involve changes in the model DFAST license.

level of copy protection that may apply to various categories of MVPD programming.[172] These proposed caps do not obligate the encoding of programming with copy restrictions, nor do they prescribe a specific level of copy protection for particular programs. MVPDs would remain free to negotiate with content providers for any level of encoding that falls below or is equal to the applicable cap for the relevant programming category, which is referred to in the draft rules as a "Defined Business Model."[173] The defined business models and corresponding copy protection caps proposed in the draft rules include:

(1) Unencrypted broadcast television – no copy restrictions may be imposed;

(2) Pay television, non-premium subscription television, and free conditional access delivery transmissions – one generation of copies is the most stringent restriction that may be imposed; and

(3) VOD, PPV, or Subscription-on-Demand transmissions – no copies is the most stringent restriction that may be imposed, however, even when no copies are allowed, such content may be paused up to 90 minutes from its initial transmission.[174]

66. These defined business models are intended to reflect the conventional methods for packaging programming content in the MVPD market as of December 31, 2002.[175] To the extent that an MVPD wishes to implement a new service within a defined business model, other than unencrypted broadcast television, and seeks to modify the established encoding rule applicable to that business model for their specific service, it would be able to petition the Commission in order to do so.[176] Such petitions would be subject to public notice and comment and the Commission would be required to consider the potential impact of the proposed change upon consumers and the public interest.[177] Out of a recognition that this process could provide rival MVPDs with a competitive advantage by forecasting in advance new services and products, the draft rules allow for a temporary bona fide trial of a service.[178] To ensure that this trial provision is not abused, complaints may be filed when an MVPD has a good faith belief that a new service within a defined business model has been launched without petitioning the Commission.[179]

67. The proposed rules also contemplate a process by which MVPDs could seek encoding classification for new program offerings that do not fall under the defined business models.[180] Concurrent with the launch of such an offering, which is referred to in the draft rules as an "Undefined Business Model," an MVPD would provide public notice of the new offering and its

[172] Draft Encoding Rules at 1-10.

[173] *Id*. at 2, 5.

[174] Draft Encoding Rules at 5.

[175] *Id*. at 6.

[176] *Id*. at 5-7.

[177] *Id*.

[178] *Id*. at 10.

[179] *Id*. at 7.

[180] *Id*. at 8-10.

proposed encoding terms to the PR Newswire.[181] Within two years of the publication of this notice and following attempts at pre-complaint resolution, another MVPD or a consumer electronics manufacturer could file a complaint with the Commission objecting to the proposed encoding classification.[182] This complaint process would be subject to public notice and comment and place the burden of proof on the undefined business model proponent to establish that the proposed encoding terms are in the public interest.[183] In making its determination resolving the complaint, the Commission would be required to consider consumer interests among other factors.[184]

68. Critics of the proposed encoding caps express concern over: (1) the effect on innovation resulting from the creation of FCC rules in this area;[185] (2) their applicability to non-cable MVPDs;[186] (3) the specific procedures outlined for modification of existing or creation of new encoding classifications;[187] and (4) the classification of subscription video-on-demand ("SVOD") service in the broadest cap category which allows "copy never" encoding.[188] In response, proponents of the caps assert that they reflect a reasoned balance between the expectations of consumers regarding their home viewing habits and the functionality of their digital devices and the interests of content owners in protecting high quality digital content from piracy.[189] While we acknowledge the challenges and concerns raised by commenters, we are ultimately persuaded that FCC oversight in this area will ensure a fair balance between the competing interests at stake, and in turn will foster the development of a commercial market in navigation devices and further the DTV transition.

69. The proposed encoding caps themselves closely track those adopted by Congress in the analog context in Section 1201(k) of the Digital Millennium Copyright Act ("DMCA"), with certain subsequent industry-negotiated modifications taken from the 5C technology license.[190] While MPAA challenges the use of Section 1201(k) and the private 5C license as models in this instance, the record reflects that some MPAA member studios have acceded to the license and that the rules contained therein reflect a marketplace-developed paradigm for approaching copy protection in the digital realm.[191] In approving the proposed encoding caps, however, we do not rely

[181] *Id*. at 8. The PR Newswire is an independent organization that provides news targeting, distribution and measurement services in 135 countries. *See* <www.prnewswire.com>.

[182] Draft Encoding Rules at 8.

[183] *Id*. at 9.

[184] *Id*. at 9-10.

[185] CFA Reply Comments at 4-5; MPAA Comments at 3-9; MPAA Reply Comments at 2-5, 10; NMPA Comments at 3-9; PK & CU Comments at 3-8; Veridian Reply Comments at 2-3.

[186] DIRECTV Comments at 4-6; EchoStar Reply Comments at 5; MPAA Reply Comments at 11-13.

[187] Intel Comments at 12; ATI Technologies, *et al.* Comments at 7-9 ("IT Comments").

[188] Starz Encore Comments at 3-20; Starz Encore Reply Comments at 2-6; HBO Reply Comments at 2-8.

[189] CEA/CERC Reply Comments at 8-9; NCTA Reply Comments at 12-14; EFF Reply Comments at 3-4; PK & CU Reply Comments at 8.

[190] *See* 17 U.S.C. § 1201(k); CEA/CERC Comments at 14-18. The primary difference between the DMCA and proposed encoding caps is the treatment of non-premium subscription programming (also referred to in the cable industry as the extended basic tier) which may carry a restriction of up to one generation of copies rather than no copy protection encoding as required by the DMCA. Starz Encore Reply Comments at 4.

[191] *See* MPAA Comments at 9; NCTA Reply Comments at 15-16.

merely on the DMCA or 5C for precedent, but also on the strength of the underlying record in this proceeding. As discussed below, the only substantive comments received with respect to the specific caps proposed in the draft rules relates to the treatment of SVOD service.[192] The lack of objection in our record to the proposed defined business models classifications, when combined with their use in private licensing regimes and their earlier adoption in the analog context by Congress in the DMCA, militates in favor of their adoption here.

70. Some commenters suggest that Commission rules regarding encoding classifications will hinder innovation and limit the flexibility afforded new technologies and business models.[193] We disagree. There is no indication in the record beyond unsupported assertions that caps on copy protection encoding will have a major effect on innovation. Further, the proposed encoding caps provide flexibility for content providers and MVPDs to negotiate for different encoding treatments. As to the treatment of new services and business models, the draft rules provide mechanisms for the reclassification of new services within existing defined business models and for the initial classification of undefined business models.[194] In addition, new business services can be launched on a trial basis without any delay by virtue of the bona fide trial exception. We believe that these mechanisms provide sufficient flexibility to account for and encourage innovation.

71. The DBS and content industries contest the applicability of the proposed encoding caps to non-cable MVPD services and dispute the need for such caps to ensure competitive parity among MVPDs in access to high value digital content.[195] We disagree. Although each MVPD remains free to negotiate with content providers for different levels of encoding that fall under or equal to the caps, we believe that it is necessary to draw a baseline providing MVPDs with the same floor from which to bargain with content providers. Application of the encoding rules to the cable industry alone would create a permanent competitive imbalance in the MVPD programming market that could negatively impact consumers. Uniform application of the proposed encoding caps serves the dual function of providing a competitive baseline for MVPDs while ensuring that consumers have equal access to content regardless of their service provider.

72. Several commenters also question the specific petition procedures proposed for reclassification of new services within defined business models and the initial classification of

[192] While TiVo does not object to a particular encoding cap, it does challenge the limitation on pausing or caching content for 90 minutes under the "copy never" classification. TiVo Comments at 7-9. In a similar vein, EchoStar and DIRECTV question whether the encoding rules would limit personal video recorder ("PVR") and VOD functionality absent an exception allowing the download and temporary caching of content for these services. Letter from Eddy Hartenstein, DIRECTV, and Charles Ergen, EchoStar, to Michael Powell, Chairman, FCC (Sept. 3, 2003). We concur, however, with HRRC and NCTA, which argue that a 90 minute pause functionality is a reasonable accommodation that preserves both PVR functionality and copy protection effectiveness. HRRC Reply Comments at 5-6; NCTA Reply Comments at 21. We also note that the draft encoding rules specifically permit the encoding, storing or management of content within devices under an MVPDs control so long as the intent of the encoding rules is not undermined. *See* Draft Encoding Rules at 10. We believe that this exemption provides sufficient flexibility for MVPDs to offer services such as PVR and VOD where the downloading or temporary caching of content within MVPD-controlled devices is needed.

[193] CFA Reply Comments at 4-5; MPAA Comments at 3-9

[194] Draft Encoding Rules at 6-10.

[195] DIRECTV Comments at 4-9; EchoStar Reply Comments at 5; MPAA Reply Comments at 11-13.

undefined business models, including the bona fide trial exception.[196] Absent direction from Congress on the appropriate encoding classification of new services within defined business models and undefined business models, we believe that these procedures provide an appropriate framework to make such determinations. We conclude that the petition procedures outlined in the draft rules are preferable to rulemaking procedures as they will promote timely decisions while preserving the opportunity for public notice and comment on the proposed classifications.[197] We will, however, modify these procedures to allow any party to file a complaint regarding the initial encoding classification by an MVPD of undefined business models. In addition, we believe that the bona fide trial exception as proposed provides an appropriate amount of flexibility for MVPDs in testing new services and preserves their ability to launch such services without advance disclosure to competitors. To the extent that a particular MVPD abuses the trial exception, the draft rules contemplate a complaint process by which competitors could object to the Commission.

73. Starz Encore contests the inclusion of SVOD service in the broadest cap category which allows "copy never" encoding.[198] Starz Encore argues that SVOD is subscription-based and therefore more akin to regular premium channels than a transactional service such as PPV.[199] Although Starz Encore acknowledges that it remains free to negotiate with content providers and MVPDs for copy once status, it asserts that as a practical matter the negotiating power of content providers will force the marketplace adoption of the most restrictive treatment possible under each cap.[200] In this instance, this would result in copy never treatment for Starz Encore's SVOD service. Home Box Office ("HBO"), which offers its own SVOD service, challenges Starz Encore's interpretation and argues in favor of the broader encoding category and potential copy never treatment.[201] HBO suggests that consumer choice over content and the ability to time shift programming distinguish SVOD and VOD from linear subscription services.[202] HBO also indicates that, unlike Starz Encore whose programming consists largely of theatrically released motion pictures, HBO has a proprietary interest in a large percentage of the content that it airs.[203] Since much of HBO's content is original programming that has not been made available to consumers through other outlets, HBO contends that its SVOD service merits more protective copy protection encoding.[204] Without the ability to restrict copying of its SVOD service, HBO asserts that it could not offer this service to MVPD subscribers without jeopardizing the sale of its original content through other means, such as home video sales.[205]

74. We concur with HBO that there appear to be differences between its service and

[196] IT Comments at 7-9; DIRECTV Comments at 8-9; Intel Comments at 12.

[197] *See SEC v. Chenery Corp.*, 332 U.S. 194, 203 (1947) (making clear that choice made between proceeding by rulemaking or by adjudication lies primarily in the informed discretion of the administrative agency).

[198] Starz Encore Comments at 3-20; Starz Encore Reply Comments at 2-6.

[199] Starz Encore Comments at 10.

[200] Starz Encore Reply Comments at 2-4.

[201] HBO Reply Comments at 2-8.

[202] *Id*. at 5-6.

[203] *Id*. at 7.

[204] *Id*.

[205] *Id*. at 8.

that offered by Starz Encore, notwithstanding the fact that they both fall within the SVOD rubric. Indeed, SVOD is a nascent service that was not contemplated by Congress when it adopted Section 1201(k) of the DMCA.[206] We anticipate that SVOD will grow and evolve to a significant degree and that other forms of this service, including those different than that offered by Starz Encore and HBO, will emerge in the near future. For this reason, we decline to classify SVOD as a defined business model and will allow MVPDs to treat both existing and future SVOD program offerings as undefined business models. Under the encoding classification procedures applicable to undefined business models, MVPDs will have discretion to determine whether specific SVOD offerings merit different encoding terms, subject to any complaints raised before the Commission. We conclude that this treatment allows SVOD to more fully develop as a program offering in the marketplace and will afford MVPDs more flexibility in the encoding of different forms of this service.

VI. DFAST LICENSE

75. In addition to the regulatory proposals accompanying the MOU, the cable and consumer electronics industries provided a model DFAST license to the Commission.[207] The MOU proponents did not seek regulatory approval for the license, but rather supplied it to the Commission for informational purposes. This document governs the licensing terms for the DFAST scrambling technology needed to manufacture the POD-Host interface component of unidirectional digital cable products. This license differs from its predecessor, the POD Host Interface Licensing Agreement ("PHILA"), in that it does not contain certification procedures and encoding rules – elements otherwise encompassed in the regulatory proposals made to the Commission. For this reason, the MOU indicated that the DFAST license is contingent upon Commission approval of the draft technical and encoding rules in substantially the same form as proposed to the Commission.[208] Our discussion of the model DFAST license herein is not intended to reflect a review or an approval of its terms. The model license does, however, reference FCC oversight in two key regards: (1) changes to the license's compliance and robustness rules, and (2) approvals of new connectors and associated content protection technologies.[209] Below we discuss our role in these areas.

A. Compliance and Robustness Rules

76. The model DFAST license sets forth procedures by which CableLabs may change its compliance and robustness rules, including notice to licensees and a process by which licensees can object to the proposed changes.[210] These procedures anticipate that a licensee may seek review of the proposed change by the Commission within 60 days following notice of the change.[211] The DFAST license calls for the Commission to expeditiously determine "whether the proposed change serves the public interest, taking into account its effect on consumers, [l]icensees and [c]able [o]perators; competition, innovation, developments in technology; and the need to protect [content]."[212] We hereby clarify that, to the extent a DFAST licensee seeks

[206] *See* 17 U.S.C. § 1201(k).

[207] Draft DFAST License at 1-37.

[208] MOU at 1.

[209] Draft DFAST License at 8-9, 21, 24.

[210] *Id*. at 8.

[211] *Id*.

[212] *Id*.

Commission review of proposed changes to the compliance and robustness rules, we will consider such petitions on a case-by-case basis pursuant to our normal procedures and timing under Section 76.7 of the Commission's rules.[213]

B. Approval of New Outputs and Associated Content Protection Technologies

77. As in the case of the compliance and robustness rules, the DFAST license reserves for the Commission an appellate role in overseeing initial determinations by CableLabs approving new outputs or associated content protection technologies for use with unidirectional digital cable products.[214] When CableLabs disapproves a particular output or copy protection technology, or when CableLabs fails to make a determination within the allotted 180-day time frame, the DFAST license would permit a manufacturer to petition the Commission concerning the denial or lack of approval.[215] The Commission would be expected to determine in an expedited fashion whether the output or content protection technology "provides effective protection to [content] against unauthorized interception, retransmission or copying, taking into account, among other things, the factors utilized by CableLabs."[216]

78. While we recognize the fundamental interest of the cable industry in ensuring that devices connecting to their distribution systems do not result in theft of service or harm to their networks, we are concerned that CableLabs's proposed role as the sole initial arbiter of outputs and associated content protection technologies to be used in unidirectional digital cable products could affect innovation and interoperability in a number of areas, including the development of personal digital networks in consumers' homes. These concerns stem from the convergence of digital technologies occurring in the marketplace and our belief that unidirectional digital cable televisions and products will play a key role in the digital information age. We conclude that additional public comment is needed in order to determine how and on what conditions new connectors or content protection technologies will be approved for use with unidirectional digital cable televisions and products. Below we initiate a *Second FNPRM* to consider these issues.

79. To ensure that innovation is not impeded while this *Second FNPRM* is pending before the Commission, we are adopting an interim policy by which CableLabs may make initial determinations regarding the use of new output or content protection technologies, subject to Commission review when disputes arise. Any interested party, including but not limited to consumer electronics manufacturers, content providers, information technology companies or consumers, may appeal an initial decision by CableLabs to the Commission. CableLabs shall bear the burden of proof that its initial determination, whether an approval or disapproval, was justified. In any responsive pleading to an appeal before the Commission, CableLabs will specify each of the objective criteria used to evaluate the proposed output and copy protection technology and articulate in detail how such proposed output and copy protection technology met or failed to meet each of the criteria. Should CableLabs disapprove a particular output or content protection technology, we expect that CableLabs will articulate in detail the reasons for its disapproval. The Commission will review *de novo* both the reasonableness and necessity of the objective criteria,

[213] *See* 47 C.F.R. § 76.7.

[214] Draft DFAST License at 21, 24.

[215] *Id*. at 21.

[216] *Id*.

as well as CableLab's application thereof to the proposal under consideration.[217] We clarify that parties seeking Commission review may file a petition for special relief pursuant to our normal procedures under Section 76.7 of the Commission's rules.[218] The Commission will address such petitions on an expedited basis. In the event that the security of a connector or content protection technology should be compromised while this interim policy is in effect, we will consider petitions for revocation pursuant to our normal Section 76.7 procedures.[219] Parties seeking revocation should articulate in detail the extent to which the connector or content protection technology has been compromised and demonstrate why alternative revocation measures, such as those available under private licenses, are insufficient to address the breach in security.

VII. SECOND FURTHER NOTICE OF PROPOSED RULEMAKING

80. Although we believe that our adoption of the technical, labeling and encoding rules set forth herein will further the digital transition and facilitate the wider availability of digital cable services to consumers, further comment is needed on several issues. As an initial matter, we seek comment on whether the transmission standards applicable to digital cable systems with an activated channel capacity of 750 MHz or greater should be extended to digital cable systems with an activated channel capacity of 550 MHz or greater. In particular, we seek comment on the potential cost impact on such cable systems and whether waivers or other relief mechanisms are appropriate for cable systems that might experience economic hardship as a result of these obligations.

81. With respect to the issue of consumer information disclosures, we seek comment on whether the Commission should require consumer electronics manufacturers to provide consumers with pre-sale information regarding the functionalities of unidirectional digital cable televisions. For example, we seek comment on whether it is appropriate to require consumer electronics manufacturers to inform potential purchasers of unidirectional digital cable televisions of: (1) the need to use a set-top box in order to receive interactive services, (2) the necessity to obtain a POD from their cable operator, or (3) any other relevant information disclosing the functionalities or limitations of these devices. If so, we seek comment on the appropriate mechanism to communicate this information to consumers, including but not limited to point of sale marketing materials to be provided to retailers, more informative labeling on device packaging, the use of Internet web sites, or any other appropriate format designed to reach consumers before they make purchasing decisions.

82. Another area in which we seek additional comment relates to the down-resolution of non-broadcast MVPD programming. As discussed above, content providers assert that down-resolution is a necessary tool to incite the retirement of component analog outputs.[220] Despite this assertion, the cable and consumer electronics industries have been unable to reach agreement on whether down-resolution was an appropriate content protection tool.[221] We seek

[217] Should the Commission discover evidence of anticompetitive behavior relating to the approval process for new outputs or content protection technologies, whether it involves a denial or a failure to make a determination by the decision-making entity, we will refer the matter to the appropriate antitrust authority for investigation and take any other appropriate action.

[218] *See* 47 C.F.R. § 76.7.

[219] *Id*.

[220] *See* MPAA Reply Comments at 13-15.

[221] *See* Section V.C *supra*.

comment on whether the Commission should prohibit the activation by MVPDs of down-resolution for non-broadcast MVPD programming content. If so, we seek comment on the potential impact of such a ban on the availability of high value digital content to consumers. In the alternative, if the Commission were to permit the use of down-resolution in this manner, we seek comment on the potential impact on consumers with DTV equipment that only has component analog outputs. In particular, we seek comment on the number of consumers that might be affected and on the number of sets to be produced in the future with only analog outputs. Finally, we seek comment on the potential impact of down-resolution upon consumers who own DTV equipment with both digital and analog outputs.

83. As discussed above, we are concerned that because CableLabs is not a standards-setting body, its proposed role as the sole initial arbiter of outputs and associated content protection technologies to be used in unidirectional digital cable products could affect innovation and interoperability. This *Second FNPRM* seeks comment on whether standards and procedures should be adopted for the approval of new connectors or content protection technologies to be used with unidirectional digital cable televisions and products. If so, we seek comment on whether these standards and procedures should encompass other related consumer electronics equipment, including non-cable compatible DTV receivers.[222] We also seek comment on the various types of content protection technologies that should be considered as a part of this process, including but not limited to digital rights management, wireless and encryption-based technologies.

84. With respect to the particular standards and procedures to be employed, we seek comment on whether objective criteria should be used to evaluate new connectors and content protection technologies and, if so, what specific criteria should be used. For example, Microsoft Corporation and Hewlett Packard Corporation have submitted a detailed proposal suggesting functional requirements that could be used to evaluate digital rights management technologies for use with digital cable ready products.[223] We seek comment on this proposal, as well as other proposals relyinging on objective criteria,[224] and any new proposals that commenters may submit to the Commission.

85. We also seek comment on whether CableLabs is the appropriate entity to make initial approval determinations, or whether another entity should have decision-making authority. In particular, we seek comment on whether the Commission, a qualified third party, or an independent entity representing various industry and consumer interests should make approval determinations.

86. As to the issue of how approved connectors or content protection technologies may be revoked should their security be compromised, we seek comment on the appropriate standard for revocation. Specifically, we seek comment on whether revocation is appropriate

[222] We recognize that similar issues have been raised with respect to the so-called "Table A" proposal in the Commission's pending Digital Broadcast Copy Protection proceeding. *See Digital Broadcast NPRM*, 17 FCC Rcd at 16029. We seek comment on whether a regime similar to Table A should be employed in this instance.

[223] Letter from Paula H. Boyd, Microsoft Corporation, and David Isaacs, Hewlett-Packard Corp., to Marlene Dortch, Secretary, FCC (Aug. 8, 2003).

[224] *See e.g.*, Comments of Philips Electronics North America Corporation and Comments of the IT Coalition, *filed in* MB Docket No. 02-230.

where a connector or content protection technology is perceived to be insecure, or whether the appropriate standard is where security has been compromised in a significant, widespread manner. Once a connector or content protection technology has been revoked, we seek comment on the appropriate mechanism by which revocation should be effectuated. For example, should revoked connectors or content protection technologies be eliminated on a going-forward basis, while preserving their functionality for existing devices? We also seek comment on whether there are technological or other means of revoking connectors or content protection technologies while preserving the functionality of consumer electronics devices.

VIII. PROCEDURAL MATTERS

87. *Authority*. This *Second Further Notice of Proposed Rulemaking* is issued pursuant to authority contained in §§ Sections 1, 4(i) and (j), 303, 403, 601, 624A and 629 of the Communications Act of 1934, as amended.

88. *Ex Parte Rules – Non-Restricted Proceeding*. This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided that they are disclosed as provided in the Commission's Rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.1206(a).

89. *Accessibility Information*. Accessible formats of this *Second Order and Second Further Notice of Proposed Rulemaking* (computer diskettes, large print, audio recording and Braille) are available to persons with disabilities by contacting Brian Millin, of the Consumer & Governmental Affairs Bureau, at (202) 418-7426, TTY (202) 418-7365, or at bmillin@fcc.gov.

90. *Comment Information*. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on or before **January 14, 2004**, and reply comments on or before **February 13, 2004**. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies. See Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24121 (1998).

91. Comments filed through the ECFS can be sent as an electronic file via the Internet to <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed. If multiple docket or rulemaking numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). The Commission's contractor, Natek, Inc., will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All

hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building. Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743. U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, SW, Washington, D.C. 20554. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

92. *Paperwork Reduction Act of 1995 Analysis*. The *Second Report and Order* portion of this *Second Report and Order and Second Further Notice of Proposed Rulemaking* contains new or modified information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection(s) contained in this proceeding.

93. Written comments by the public on the proposed information collection(s) are due 60 days from date of publication of this *Second Report and Order* in the Federal Register. Written comments must be submitted by the public, Office of Management and Budget and other interested parties on the proposed information collection(s) on or before 60 days from date of publication of this *Second Report and Order* in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collection(s) contained herein should be submitted to Leslie Smith, Federal Communications Commission, Room 1-A804, 445 12th Street, SW, Washington, DC 20554, or via the Internet to Leslie.Smith@fcc.gov, and to Kim A. Johnson, OMB Desk Officer, Room 10236 NEOB, 725 17th Street, NW, Washington, DC 20503, or via the Internet to Kim_A._Johnson@omb.eop.gov.

94. *Regulatory Flexibility Act*. As required by the Regulatory Flexibility Act,[225] the Commission has prepared a Final Regulatory Flexibility Analysis ("FRFA") relating to the *Second Report and Order* portion of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*. The FRFA is set forth in Appendix C. The Commission has also prepared an Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact on a substantial number of small entities of the proposals addressed in *Second Further Notice* portion of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*.[226] The IRFA is set forth in Appendix D. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the *Second Further Notice*, and they should have a separate and distinct heading designating them as responses to the IRFA.

IX. ORDERING CLAUSES

95. **IT IS ORDERED** that pursuant to the authority contained in Sections 1, 4(i) and (j), 303, 403, 601, 624A and 629 of the Communications Act of 1934, 47 U.S.C §§ 151, 154(i) and (j), 303, 403, 521, 544a and 549, that the Commission's rules **ARE HEREBY AMENDED** as set forth in Appendix B, and shall become effective 30 days after publication in the Federal Register except that rule sections 15.123, 76.1905 and 76.1906 that contain information collection requirements under the PRA are not effective until approved by OMB. The FCC will publish a

[225] *See* 5 U.S.C. § 604.

[226] *Id*. § 603.

document in the Federal Register announcing the effective date for those sections.

96. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this *Second Report and Order and Second Further Notice of Proposed Rulemaking*, including the Final Regulatory Flexibility Analysis and Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

List of Commenters

American Cable Association
ATI Technologies, Dell, Intel, HP, Microsoft & NEC
Comcast Corporation
Consumer Electronics Assoc./Consumer Electronics Retailers Coalition
DirecTV, Inc.
Electronic Frontier Foundation
Home Recording Rights Coalition
Intel Corporation
Motion Picture Association of America
National Assoc. of Broadcasters/Assoc. for Maximum Service Television
National Cable & Telecommunications Assoc.
National Music Publishers' Association, *et al*.
Public Knowledge and Consumers Union
Satellite Broadcasting & Communications Assoc.
Sinclair Broadcast Group Inc.
Starz Encore Group LLC
Telecommunications for the Deaf, Inc.
TiVo Inc.
Zenith Electronics Corporation

List of Reply Commenters

APTS/PBS/CPB
Comcast Corporation
Consumer Electronics Assoc./Consumer Electronics Retailers Coalition
Consumer Federation of America
Echostar Satellite Corporation
Electronic Frontier Foundation
Genesis Microchip, Inc.
Gist Communications
Home Box Office, Inc.
Home Recording Rights Coalition
Motion Picture Association of America
National Assoc. of Broadcasters/Assoc. for Maximum Service Television
National Cable & Telecommunications Assoc.
National Music Publishers' Association, *et al*.
Paxson Communications Corporation
Philips Electronics North America Corporation
Public Knowledge and Consumers Union
Starz Encore Group LLC
Veridian Corporation

APPENDIX B

Part 15 of the Code of Federal Regulations is amended as follows:

PART 15 – RADIO FREQUENCY DEVICES

1. The authority for Part 15 continues to read as follows:

   AUTHORITY: 47 U.S.C. 154, 302, 303, 304, 307, 336, and 544a.

2. Amend §15.19(d) by removing paragraphs (d)(1), (d)(2), (d)(2)(i), (d)(2)(ii), (d)(2)(iii), (d)(3), and (d)(4) to read as follows:

   §15.19 Labeling requirements.

   *****

   (d) Consumer electronics TV receiving devices, including TV receivers, videocassette recorders, and similar devices, that incorporate features intended to be used with cable television service, but do not fully comply with the technical standards for cable ready equipment set forth in § 15.118, shall not be marketed with terminology that describes the device as "cable ready" or "cable compatible," or that otherwise conveys the impression that the device is fully compatible with cable service. Factual statements about the various features of a device that are intended for use with cable service or the quality of such features are acceptable so long as such statements do not imply that the device is fully compatible with cable service. Statements relating to product features are generally acceptable where they are limited to one or more specific features of a device, rather than the device as a whole. This requirement applies to consumer TV receivers, videocassette recorders and similar devices manufactured or imported for sale in this country on or after October 31, 1994.

   *****

3. Add §15.38 to subpart A to read as follows:

   §15.38 Incorporations by Reference.

   (a) The materials listed in this section are incorporated by reference in this part. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC, at the Reference Information Center, Federal Communications Commission, 445 12th. St., SW, Room CY- A257, Washington, DC 20554.

(b) The following materials are available for purchase from at least one of the following addresses: Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112 or at http://global.ihs.com; or American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, NY 10036 or at http://webstore.ansi.org/ansidocstore/default.asp; or Society of Cable Telecommunications Engineers at http://www.scte.org/standards/index.cfm.

(1) SCTE 28 2003 (formerly DVS 295): "Host-POD Interface Standard," 2003, IBR approved for § 15.123.

(2) SCTE 41 2003 (formerly DVS 301): "POD Copy Protection System," 2003, IBR approved for §15.123.

(3) ANSI/SCTE 54 2003 (formerly DVS 241): "Digital Video Service Multiplex and Transport System Standard for Cable Television," 2003, IBR approved for §15.123.

(4) ANSI/SCTE 65 2002 (formerly DVS 234): "Service Information Delivered Out-of-Band for Digital Cable Television," 2002, IBR approved for §15.123.

(5) SCTE 40 2003 (formerly DVS 313): "Digital Cable Network Interface Standard," 2003, IBR approved for §15.123.

(6) ANSI C63.4-1992: "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz," 1992, IBR approved for §15.31, except for sections 5.7, 9 and 14.

(7) EIA IS-132: "Cable Television Channel Identification Plan," 1994, IBR approved for §15.118.

(8) EIA-608: "Recommended Practice for Line 21 Data Service," 1994, IBR approved for §15.120.

(9) EIA-744: "Transport of Content Advisory Information Using Extended Data Service (XDS)," 1997, IBR approved for §15.120.

(10) EIA-708-B: "Digital Television (DTV) Closed Captioning," 1999, IBR approved for §15.122.

(11) Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, "Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurement," 1997, IBR approved for §15.109.

(c) The following materials are freely available from at least one of the following addresses: Consumer Electronics Association, 2500

Wilson Blvd., Arlington, VA 22201 or at http://www.ce.org/public policy.

(1) Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma," 2003, IBR approved for §15.123.

* * * * *

4. Add §15.123 to subpart B to read as follows:

§15.123 Labeling of Digital Cable Ready Products.

(a) The requirements of this section shall apply to unidirectional digital cable products. Unidirectional digital cable products are one-way devices that accept a Point of Deployment module (POD) and which include, but are not limited to televisions, set-top-boxes and recording devices connected to digital cable systems. Unidirectional digital cable products do not include interactive two-way digital television products.

(b) A unidirectional digital cable product may not be labeled with or marketed using the term "digital cable ready," or other terminology that describes the device as "cable ready" or "cable compatible," or otherwise indicates that the device accepts a POD or conveys the impression that the device is compatible with digital cable service unless it implements at a minimum the following features:

(1) Tunes NTSC analog channels transmitted in-the-clear.

(2) Tunes digital channels that are transmitted in compliance with SCTE 40 2003 (formerly DVS 313): "Digital Cable Network Interface Standard" (incorporated by reference, see § 15.38), provided, however, that with respect to Table B.11 of that standard, the phase noise requirement shall be -86 dB/Hz including both in-the-clear channels and channels that are subject to conditional access.

(3) Allows navigation of channels based on channel information (virtual channel map and source names) provided through the cable system in compliance with ANSI/SCTE 65 2002 (formerly DVS 234): "Service Information Delivered Out-of-Band for Digital Cable Television" (incorporated by reference, see § 15.38), and/or PSIP--enabled navigation (ANSI/SCTE 54 2003 (formerly DVS 241): "Digital Video Service Multiplex and Transport System Standard for Cable Television" (incorporated by reference, see § 15.38)).

(4) Includes the POD-Host Interface specified in SCTE 28 2003 (formerly DVS 295): "Host-POD Interface Standard" (incorporated by reference, see § 15.38), and SCTE 41 2003 (formerly DVS 301): "POD

Copy Protection System" (incorporated by reference, see § 15.38), or implementation of a more advanced POD-Host Interface based on successor standards. Support for Internet protocol flows is not required.

(5) Responds to emergency alerts that are transmitted in compliance with ANSI/SCTE 54 2003 (formerly DVS 241): "Digital Video Service Multiplex and Transport System Standard for Cable Television" (incorporated by reference, see § 15.38).

(6) In addition to the above requirements, a unidirectional digital cable television may not be labeled or marketed as digital cable ready or with other terminology as described in paragraph (b) of this section, unless it includes a DTV broadcast tuner as set forth in §15.117(i) and employs at least one specified interface in accordance with the following schedule:

(i) For 480p grade unidirectional digital cable televisions, either a DVI/HDCP, HDMI/HDCP, or 480p Y,Pb,Pr interface:

(A) Models with screen sizes 36 inches and above: 50% of a manufacturer's or importer's models manufactured or imported after July 1, 2004; 100% of such models manufactured or imported after July 1, 2005.

(B) Models with screen sizes 32 to 35 inches: 50% of a manufacturer's or importer's models manufactured or imported after July 1, 2005; 100% of such models manufactured or imported after July 1, 2006.

(ii) For 720p/1080i grade unidirectional digital cable televisions, either a DVI/HDCP or HDMI/HDCP interface:

(A) Models with screen sizes 36 inches and above: 50% of a manufacturer's or importer's models manufactured or imported after July 1, 2004; 100% of such models manufactured or imported after July 1, 2005.

(B) Models with screen sizes 25 to 35 inches: 50% of a manufacturer's or importer's models manufactured or imported after July 1, 2005; 100% of such models manufactured or imported after July l, 2006.

(C) Models with screen sizes 13 to 24 inches: 100% of a manufacturer's or importer's models manufactured or imported after July 1, 2007.

(c) Before a manufacturer's or importer's first unidirectional digital cable product may be labeled or marketed as digital cable ready or with other terminology as described in paragraph (b) of this section, the manufacturer or importer shall verify the device as follows:

(1) The manufacturer or importer shall have a sample of its first model of a unidirectional digital cable product tested to show compliance with the procedures set forth in Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma" (incorporated by reference, see § 15.38) at a qualified test facility. The manufacturer or importer shall have any modifications to the product to correct failures of the procedures in Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma" (incorporated by reference, see § 15.38) retested at a qualified test facility.

(2) A qualified test facility is a facility representing cable television system operators serving a majority of the cable television subscribers in the United States or an independent laboratory with personnel knowledgeable with respect to the standards referenced in paragraph (b) of this section concerning the procedures set forth in Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma" (incorporated by reference, see § 15.38).

(3) Subsequent to the testing of its initial unidirectional digital cable product model, a manufacturer or importer is not required to have other models of unidirectional digital cable products tested at a qualified test facility for compliance with the procedures of Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma" (incorporated by reference, see § 15.38). However, the manufacturer or importer shall ensure that all subsequent models of unidirectional digital cable products comply with the procedures in the Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma" (incorporated by reference, see § 15.38) and all other applicable rules and standards. The manufacturer or importer shall maintain records indicating such compliance in accordance with the verification procedure requirements in part 2, subpart J of this chapter. The manufacturer or importer shall further submit documentation verifying compliance with the procedures in the Uni-Dir-PICS-I01-030903: "Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma" (incorporated by reference, see § 15.38) to a facility representing cable television system operators serving a majority of the cable television subscribers in the United States.

(d) Manufacturers and importers shall provide in appropriate post-sale material that describes the features and functionality of the product, such as the owner's guide, the following language: "This digital television is capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming. A security card provided by your cable operator is required to view encrypted digital programming. Certain advanced and interactive digital cable services such as video-on-demand, a cable operator's enhanced program guide and data-enhanced television services may require the use of a set-top box. For more

information call your local cable operator."

* * * * *

Part 76 of the Code of Federal Regulations is amended as follows:

PART 76 – MULTICHANNEL VIDEO AND CABLE TELEVISION SERVICE

5. The authority for Part 76 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 152, 153, 154, 301, 302, 303, 303a, 307, 308, 309, 312, 317, 325, 338, 339, 503, 521, 522, 531, 532, 533, 534, 535, 536, 537, 543, 544, 544a, 545, 548, 549, 552, 554, 556, 558, 560, 531, 571, 572, and 573.

6. Add §76.602 to subpart K to read as follows:

§76.602 Incorporations by Reference.

(a) The materials listed in this section are incorporated by reference in this part. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the Federal Register. The materials are available for purchase at the corresponding addresses noted below, and all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC, at the Reference Information Center, Federal Communications Commission, 445 12th. St., SW, Room CY- A257, Washington, DC 20554.

(b) The following materials are available for purchase from at least one of the following addresses: Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112 or at http://global.ihs.com; or American National Standards Institute, 25 West 43rd Street, 4th Floor, New York, NY 10036 or at http://webstore.ansi.org/ansidocstore/default.asp; or Society of Cable Telecommunications Engineers at http://www.scte.org/standards/index.cfm ; or Advanced Television Systems Committee, 1750 K Street, NW, Suite 1200, Washington, DC 20006 or at http://www.atsc.org/standards.

(1) ANSI/SCTE 26 2001 (formerly DVS 194): "Home Digital Network Interface Specification with Copy Protection," 2001, IBR approved for §76.640.

(2) SCTE 28 2003 (formerly DVS 295): "Host-POD Interface Standard," 2003, IBR approved for § 76.640.

(3) SCTE 41 2003 (formerly DVS 301): "POD Copy Protection System," 2003, IBR approved for §76.640.

(4) ANSI/SCTE 54 2003 (formerly DVS 241): "Digital Video Service Multiplex and Transport System Standard for Cable Television," 2003, IBR approved for §76.640.

(5) ANSI/SCTE 65 2002 (formerly DVS 234): "Service Information Delivered Out-of-Band for Digital Cable Television," 2002, IBR approved for §76.640.

(6) CEA-931-A: "Remote Control Command Pass-through Standard for Home Networking," 2003, IBR approved for §76.640.

(7) SCTE 40 2003 (formerly DVS 313): "Digital Cable Network Interface Standard," 2003, IBR approved for §76.640.

(8) ATSC Document A/65B: "ATSC Standard: Program and System Information Protocol for Terrestrial Broadcast and Cable (Revision B)," 2003, IBR approved for §76.640.

(9) EIA IS-132: "Cable Television Channel Identification Plan," 1994, IBR approved for §76.605.

* * * * *

7. Add §76.640 to subpart B to read as follows:

§76.640 Support for Unidirectional Digital Cable Products on Digital Cable Systems.

(a) The requirements of this section shall apply to digital cable systems. For purposes of this section, digital cable systems shall be defined as a cable system with one or more channels utilizing QAM modulation for transporting programs and services from its headend to receiving devices. Cable systems that only pass through 8 VSB broadcast signals shall not be considered digital cable systems.

(b) No later than July 1, 2004, cable operators shall support unidirectional digital cable products, as defined in §15.123 of this chapter, through the provisioning of Point-of-Deployment modules (PODs) and services, as follows:

(1) Digital cable systems with an activated channel capacity of 750 MHz or greater shall comply with the following technical standards and requirements:

(i) SCTE 40 2003 (formerly DVS 313): "Digital Cable Network Interface Standard" (incorporated by reference, see § 76.602), provided however that with respect to Table B.11, the Phase Noise requirement

shall be -86 dB/Hz, and also provided that the "transit delay for most distant customer" requirement in Table B.3 is not mandatory.

(ii) ANSI/SCTE 65 2002 (formerly DVS 234): "Service Information Delivered Out-of-Band for Digital Cable Television" (incorporated by reference, see § 76.602), provided however that the referenced Source Name Subtable shall be provided for Profiles 1, 2, and 3.

(iii) ANSI/SCTE 54 2003 (formerly DVS 241): "Digital Video Service Multiplex and Transport System Standard for Cable Television" (incorporated by reference, see § 76.602).

(iv) For each digital transport stream that includes one or more services carried in-the-clear, such transport stream shall include virtual channel data in-band in the form of ATSC Document A/65B: "ATSC Standard: Program and System Information Protocol for Terrestrial Broadcast and Cable (Revision B)" (incorporated by reference, see § 76.602), when available from the content provider**.** With respect to in-band transport:

(A) The data shall, at minimum, describe services carried within the transport stream carrying the PSIP data itself;

(B) PSIP data describing a twelve-hour time period shall be carried for each service in the transport stream. This twelve-hour period corresponds to delivery of the following event information tables: EIT-0, -1, -2 and -3;

(C) The format of event information data format shall conform to ATSC Document A/65B: "ATSC Standard: Program and System Information Protocol for Terrestrial Broadcast and Cable (Revision B)" (incorporated by reference, see § 76.602);

(D) Each channel shall be identified by a one-or two-part channel number and a textual channel name; and

(E) The total bandwidth for PSIP data may be limited by the cable system to 80 kbps for a 27 Mbits multiplex and 115 kbps for a 38.8 Mbits multiplex.

(v) When service information tables are transmitted out-of-band for scrambled services:

(A) The data shall, at minimum, describe services carried within the transport stream carrying the PSIP data itself;

(B) A virtual channel table shall be provided via the extended channel interface from the POD module. Tables to be included shall conform to ANSI/SCTE 65 2002 (formerly DVS 234): "Service

Information Delivered Out-of-Band for Digital Cable Television" (incorporated by reference, see § 76.602).

(C) Event information data when present shall conform to ANSI/SCTE 65 2002 (formerly DVS 234): "Service Information Delivered Out-of-Band for Digital Cable Television" (incorporated by reference, see § 76.602) (profiles 4 or higher).

(D) Each channel shall be identified by a one-or two-part channel number and a textual channel name; and

(E) The channel number identified with out-of-band signaling information data should match the channel identified with in-band PSIP data for all unscrambled in-the-clear services.

(2) All digital cable systems shall comply with:

(i) SCTE 28 2003 (formerly DVS 295): "Host-POD Interface Standard" (incorporated by reference, see § 76.602).

(ii) SCTE 41 2003 (formerly DVS 301): "POD Copy Protection System" (incorporated by reference, see § 76.602).

(3) Cable operators shall ensure, as to all digital cable systems, an adequate supply of PODs that comply with the standards specified in paragraph (b)(2) of this section to ensure convenient access to such PODS by customers. Without limiting the foregoing, cable operators may provide more advanced PODs (i.e., PODs that are based on successor standards to those specified in paragraph (b)(2) of this section) to customers whose unidirectional digital cable products are compatible with the more advanced PODs.

(4) Cable operators shall:

(i) Effective April 1, 2004, upon request of a customer, replace any leased high definition set-top box, which does not include a functional IEEE 1394 interface, with one that includes a functional IEEE 1394 interface or upgrade the customer's set-top box by download or other means to ensure that the IEEE 1394 interface is functional.

(ii) Effective July 1, 2005, include both a DVI or HDMI interface and an IEEE 1394 interface on all high definition set-top boxes acquired by a cable operator for distribution to customers.

(iii) Ensure that these cable operator-provided high definition set-top boxes shall comply with ANSI/SCTE 26 2001 (formerly DVS 194): "Home Digital Network Interface Specification with Copy Protection" (incorporated by reference, see § 76.602), with transmission of bit-mapped graphics optional, and shall support the

CEA-931-A: "Remote Control Command Pass-through Standard for Home Networking" (incorporated by reference, see § 76.602), pass through control commands: tune function, mute function, and restore volume function. In addition these boxes shall support the power control commands (power on, power off, and status inquiry) defined in A/VC Digital Interface Command Set General Specification Version 4.0 (as referenced in ANSI/SCTE 26 2001 (formerly DVS 194): "Home Digital Network Interface Specification with Copy Protection" (incorporated by reference, see § 76.602)).

* * * * *

8. Add subpart W to read as follows:

Subpart W – Encoding Rules

Sec.
76.1901 Applicability.
76.1902 Definitions.
76.1903 Interfaces.
76.1904 Encoding Rules for Defined Business Models.
76.1905 Petitions to Modify Encoding Rules for New Services Within Defined Business Models
76.1906 Encoding Rules for Undefined Business Models.
76.1907 Temporary Bona Fide Trials.
76.1908 Certain Practices Not Prohibited.

§76.1901 Applicability

(a) Each multi-channel video programming distributor shall comply with the requirements of this subpart.

(b) This subpart shall not apply to distribution of any content over the Internet, nor to a multichannel video programming distributor's operations via cable modem or DSL.

(c) With respect to cable system operators, this subpart shall apply only to cable services. This subpart shall not apply to cable modem services, whether or not provided by a cable system operator or affiliate.

§76.1902 Definitions

(a) Commercial Advertising Messages shall mean, with respect to any service, Program, or schedule or group of Programs, commercial advertising messages other than: (1) advertising relating to such service itself or the programming contained therein, (2) interstitial programming relating to such service itself or the programming contained therein, or (3) any advertising which is displayed concurrently with the display of any part of such Program(s), including but not limited to "bugs," "frames" and "banners."

(b) Commercial Audiovisual Content shall mean works that consist of a series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any, regardless of the nature of the material objects, such as films or tapes, in which the works are embodied, transmitted by a Covered Entity and that are: (1) not created by the user of a Covered Product, and (2) offered for transmission, either generally or on demand, to subscribers or purchasers or the public at large or otherwise for commercial purposes, not uniquely to an individual or a small, private group.

(c) Commercially-Adopted Access Control Method shall mean any commercially-adopted access control method including digitally controlled analog scrambling systems, whether now or hereafter in commercial use.

(d) Copy Never shall mean, with respect to Commercial Audiovisual Content, the Encoding of such content so as to signal that such content may not to be copied by a Covered Product.

(e) Copy One Generation shall mean, with respect to Commercial Audiovisual Content, the Encoding of such content so as to permit a first generation of copies to be made by a Covered Product but not copies of such first generation of copies.

(f) Copy No More shall mean, with respect to Commercial Audiovisual Content, the Encoding of such content so as to reflect that such content is a first generation copy of content Encoded as Copy One Generation and no further copies are permitted.

(g) Covered Product shall mean a device used by consumers to access Commercial Audiovisual Content offered by a Covered Entity (excluding delivery via cable modem or the Internet); and any device to which Commercial Audiovisual Content so delivered from such Covered Product may be passed, directly or indirectly.

(h) Covered Entity shall mean any entity that is subject to this subpart.

(i) Defined Business Model shall mean Video-on-Demand, Pay-Per View, Pay Television Transmission, Non-Premium Subscription Television, Free Conditional Access Delivery and Unencrypted Broadcast Television.

(j) Encode shall mean, in the transmission of Commercial Audiovisual Content, to pass, attach, embed, or otherwise apply to, associate with, or allow to persist in or remain associated with such content, data or information which when read or responded to in a Covered Device has the effect of preventing, pausing, or limiting

copying, or constraining the resolution of a Program when output from the Covered Device.

(k) Encoding Rules shall mean the requirements or prohibitions describing or limiting Encoding of audiovisual content as set forth in this Rule.

(l) Free Conditional Access Delivery shall mean a delivery of a service, Program, or schedule or group of Programs via a Commercially-Adopted Access Control Method, where viewers are not charged any fee (other than government-mandated fees) for the reception or viewing of the programming contained therein, other than Unencrypted Broadcast Television.

(m) Non-Premium Subscription Television shall mean a service, or schedule or group of Programs (which may be offered for sale together with other services, or schedule or group of Programs), for which subscribers are charged a subscription fee for the reception or viewing of the programming contained therein, other than Pay Television, Subscription-on-Demand and Unencrypted Broadcast Television. By way of example, "basic cable service" and "extended basic cable service" (other than Unencrypted Broadcast Television) are "Non-Premium Subscription Television."

(n) Pay-Per-View shall mean a delivery of a single Program or a specified group of Programs, as to which each such single Program is generally uninterrupted by Commercial Advertising Messages and for which recipients are charged a separate fee for each Program or specified group of Programs. The term Pay-Per-View shall also include delivery of a single Program as described above for which multiple start times are made available at time intervals which are less than the running time of such Program as a whole. If a given delivery qualifies both as Pay-Per-View and a Pay Television Transmission, then, for purposes of this Rule, such delivery shall be deemed Pay- Per-View rather than a Pay Television Transmission.

(o) Pay Television Transmission shall mean a transmission of a service or schedule of Programs, as to which each individual Program is generally uninterrupted by Commercial Advertising Messages and for which service or schedule of Programs subscribing viewers are charged a periodic subscription fee, such as on a monthly basis, for the reception of such programming delivered by such service whether separately or together with other services or programming, during the specified viewing period covered by such fee. If a given delivery qualifies both as a Pay Television Transmission and Pay-Per-View, Video-on-Demand, or Subscription-on-Demand then, for purposes of this Rule, such delivery shall be deemed Pay-Per-View, Video-on-Demand or Subscription-on-Demand rather than a Pay Television Transmission.

(p) Program shall mean any work of Commercial Audiovisual

Content.

(q) Subscription-on-Demand shall mean the delivery of a single Program or a specified group of Programs for which: (1) a subscriber is able, at his or her discretion, to select the time for commencement of exhibition thereof, (2) where each such single Program is generally uninterrupted by Commercial Advertising Messages; and (3) for which Program or specified group of Programs subscribing viewers are charged a periodic subscription fee for the reception of programming delivered by such service during the specified viewing period covered by the fee. In the event a given delivery of a Program qualifies both as a Pay Television Transmission and Subscription-on-Demand, then for purposes of this Rule, such delivery shall be deemed Subscription-on-Demand rather than a Pay Television Transmission.

(r) Undefined Business Model shall mean a business model that does not fall within the definition of a Defined Business Model.

(s) Unencrypted Broadcast Television means any service, Program, or schedule or group of Programs, that is a further transmission of a broadcast transmission (i.e., an over-the-air transmission for reception by the general public using radio frequencies allocated for that purpose) that substantially simultaneously is made by a terrestrial television broadcast station located within the country or territory in which the entity further transmitting such broadcast transmission also is located, where such broadcast transmission is not subject to a Commercially- Adopted Access Control Method (e.g., is broadcast in the clear to members of the public receiving such broadcasts), regardless of whether such entity subjects such further transmission to an access control method.

(t) Video-on-Demand shall mean a delivery of a single Program or a specified group of Programs for which: (1) each such individual Program is generally uninterrupted by Commercial Advertising Messages; (2) recipients are charged a separate fee for each such single Program or specified group of Programs; and (3) a recipient is able, at his or her discretion, to select the time for commencement of exhibition of such individual Program or specified group of Programs. In the event a delivery qualifies as both Video-on-Demand and a Pay Television Transmission, then for purposes of this Rule, such delivery shall be deemed Video-on-Demand.

§76.1903 Interfaces

A Covered Entity shall not attach or embed data or information with Commercial Audiovisual Content, or otherwise apply to, associate with, or allow such data to persist in or remain associated with such content, so as to prevent its output through any analog or digital output authorized or permitted under license, law or regulation governing such Covered Product.

§76.1904 Encoding Rules for Defined Business Models

(a) Commercial Audiovisual Content delivered as Unencrypted Broadcast Television shall not be Encoded so as to prevent or limit copying thereof by Covered Products or, to constrain the resolution of the image when output from a Covered Product.

(b) Except for a specific determination made by the Commission pursuant to a petition with respect to a Defined Business Model other than Unencrypted Broadcast Television, or an Undefined Business Model subject to the procedures set forth in §76.1906:

(1) Commercial Audiovisual Content shall not be Encoded so as to prevent or limit copying thereof except as follows:

(i) to prevent or limit copying of Video-on-Demand or Pay-Per-View transmissions, subject to the requirements of paragraph (b)(2) of this section; and

(ii) to prevent or limit copying, other than first generation of copies, of Pay Television Transmissions, Non-Premium Subscription Television, and Free Conditional Access Delivery transmissions; and

(2) With respect to any Commercial Audiovisual Content delivered or transmitted in form of a Video-on-Demand or Pay-Per-View transmission, a Covered Entity shall not Encode such content so as to prevent a Covered Product, without further authorization, from pausing such content up to 90 minutes from initial transmission by the Covered Entity (e.g., frame-by-frame, minute-by-minute, megabyte by megabyte).

§76.1905 Petitions to Modify Encoding Rules for New Services Within Defined Business Models

(a) The Encoding Rules for Defined Business Models in §76.1904 reflect the conventional methods for packaging programs in the MVPD market as of December 31, 2002, and are presumed to be the appropriate rules for Defined Business Models. A Covered Entity may petition the Commission for approval to allow within a Defined Business Model, other than Unencrypted Broadcast Television, the Encoding of a new service in a manner different from the Encoding Rules set forth in §76.1904(b)(1)-(2). No such petition will be approved under the public interest test set forth below unless the new service differs from existing services provided by any Covered Entity under the applicable Defined Business Model prior to December 31, 2002.

(b) Petitions. A petition to Encode a new service within a Defined Business Model other than as permitted by the Encoding Rules set forth in §76.1904(b)(1)-(2) shall describe:

(1) The Defined Business Model, the new service, and the proposed Encoding terms, including the use of Copy Never and Copy One Generation Encoding, and the Encoding of content with respect to "pause" set forth in §76.1904(b)(2).

(2) Whether the claimed benefit to consumers of the new service, including, but not limited to, the availability of content in earlier release windows, more favorable terms, innovation or original programming, outweighs the limitation on the consumers' control over the new service;

(3) The ways in which the new service differs from existing services offered by any Covered Entity within the applicable Defined Business Model prior to December 31, 2002;

(4) All other pertinent facts and considerations relied on to support a determination that grant of the Petition would serve the public interest.

(5) Factual allegations shall be supported by affidavit or declaration of a person or persons with actual knowledge of the facts, and exhibits shall be verified by the person who prepares them.

(c) Petition Process.

(1) Public Notice. The Commission shall give public notice of any such Petition.

(2) Comments. Interested persons may submit comments or oppositions to the petition within thirty (30) days after the date of public notice of the filing of such petition. Comments or oppositions shall be served on the petitioner and on all persons listed in petitioner's certificate of service, and shall contain a detailed full statement of any facts or considerations relied on. Factual allegations shall be supported by affidavit or declaration of a person or persons with actual knowledge of the facts, and exhibits shall be verified by the person who prepares them.

(3) Replies. The petitioner may file a reply to the comments or oppositions within ten (10) days after their submission, which shall be served on all persons who have filed pleadings and shall also contain a detailed full showing, supported by affidavit or declaration, of any additional facts or considerations relied on. There shall be no further pleadings filed after petitioner's reply, unless authorized by the Commission.

(4) Commission Determination as to Encoding Rules for a new service within a Defined Business Model.

(i) Proceedings initiated by petitions pursuant to this section shall be permit-but-disclose proceedings, unless otherwise specified by the Commission. The Covered Entity shall have the burden of proof to

establish that the proposed change in Encoding Rules for a new service is in the public interest. In making its determination, the Commission shall take into account the following factors:

(A) Whether the benefit to consumers of the new service, including but not limited to earlier release windows, more favorable terms, innovation or original programming, outweighs the limitation on the consumers' control over the new service;

(B) Ways in which the new service differs from existing services offered by any Covered Entity within the applicable Defined Business Model prior to December 31, 2002; and

(ii) The Commission may specify other procedures, such as oral argument, evidentiary hearing, or further written submissions directed to particular aspects, as it deems appropriate.

(iii) A petition may, upon request of the petitioner, be dismissed without prejudice as a matter of right prior to the adoption date of any final action taken by the Commission with respect to the petition. A petitioner's request for the return of a petition will be regarded as a request for dismissal.

(d) Complaint Regarding a New Service Not Subject to Petition. In an instance in which an interested party has a substantial basis to believe and does believe in good faith that a new service within a Defined Business Model has been launched without a petition as required by this Rule, such party may file a complaint pursuant to section 76.7 of the Commission's rules.

§76.1906 Encoding Rules for Undefined Business Models

(a) Upon public notice and subject to requirements as set forth herein, a Covered Entity may launch a program service pursuant to an Undefined Business Model. Subject to Commission review upon Complaint, the Covered Entity may initially Encode programs pursuant to such Undefined Business Model without regard to limitations set forth in §76.1904(b).

(1) Notice. Concurrent with the launch of an Undefined Business Model by a Covered Entity, the Covered Entity shall issue a press release to the PR Newswire so as to provide public notice of the Undefined Business Model, and the proposed Encoding terms. The notice shall provide a concise summary of the Commercial Audiovisual Content to be provided pursuant to the Undefined Business Model, and of the terms on which such content is to be available to consumers. Immediately upon request from a party entitled to be a Complainant, the Covered Entity shall make available information that indicates the proposed Encoding terms, including the use of Copy Never or Copy One Generation Encoding, and the Encoding of content with respect to "pause" as

defined in §76.1904(b)(2).

(2) Complaint Process. Any interested party ("Complainant") may file a complaint with the Commission objecting to application of Encoding as set forth in the notice.

(i) Pre-complaint resolution. Prior to initiating a complaint with the Commission under this subsection, the Complainant shall notify the Covered Entity that it may file a complaint under this subsection. The notice must be sufficiently detailed so that the Covered Entity can determine the specific nature of the potential complaint. The potential Complainant must allow a minimum of thirty (30) days from such notice before filing such complaint with the Commission. During this period the parties shall endeavor in good faith to resolve the issue(s) in dispute. If the parties fail to reach agreement within this 30 day period, Complainant may initiate a complaint in accordance with the procedures set forth herein.

(ii) Complaint. Within two years of publication of a notice under paragraph (a)(1) of this section, a Complainant may file a complaint with the Commission objecting to application of the Encoding terms to the service at issue. Such complaint shall state with particularity the basis for objection to the Encoding terms.

(A) The complaint shall contain the name and address of the complainant and the name and address of the Covered Entity.

(B) The complaint shall be accompanied by a certification of service on the named Covered Entity.

(C) The complaint shall set forth with specificity all information and arguments relied upon. Specific factual allegations shall be supported by a declaration of a person or persons with actual knowledge of the facts, and exhibits shall be verified by the person who prepares them.

(D) The complaint shall set forth attempts made by the Complainant to resolve its complaint pursuant to paragraph (a)(2)(i) of this section.

(iii) Public Notice. The Commission shall give public notice of the filing of the complaint. Once the Commission has issued such public notice, any person otherwise entitled to be a Complainant shall instead have the status of a person submitting comments under paragraph (a)(2)(iv) of this section rather than a Complainant.

(iv) Comments and Reply.

(A) Any person may submit comments regarding the complaint within thirty (30) days after the date of public notice by the Commission.

Comments shall be served on the Complainant and the Covered Entity and on any persons listed in relevant certificates of service, and shall contain a detailed full statement of any facts or considerations relied on. Specific factual allegations shall be supported by a declaration of a person or persons with actual knowledge of the facts, and exhibits shall be verified by the person who prepares them.

(B) The Covered Entity may file a Response to the Complaint and comments within twenty (20) days after the date that comments are due. Such Response shall be served on all persons who have filed complaints or comments and shall also contain a detailed full showing, supported by affidavit or declaration, of any additional facts or considerations relied on. Replies shall be due ten (10) days from the date for filing a Response.

(v) Basis for Commission determination as to encoding terms for an Undefined Business Model. In a permit-but-disclose proceeding, unless otherwise specified by the Commission, to determine whether Encoding terms as noticed may be applied to an Undefined Business Model, the Covered Entity shall have the burden of proof to establish that application of the Encoding terms in the Undefined Business Model is in the public interest. In making any such determination, the Commission shall take into account the following factors:

(A) Whether the benefit to consumers of the new service, including but not limited to earlier release windows, more favorable terms, innovation or original programming, outweighs the limitation on the consumers' control over the new service;

(B) Ways in which the new service differs from services offered by any Covered Entity prior to December 31, 2002;

(vi) Determination Procedures. The Commission may specify other procedures, such as oral argument, evidentiary hearing, or further written submissions directed to particular aspects, as it deems appropriate.

(b) Complaint Regarding a Service Not Subject to Notice. In an instance in which an interested party has a substantial basis to believe and believes in good faith that a service pursuant to an Undefined Business Model has been launched without requisite notice, such party may file a complaint pursuant to section 76.7 of the Commission's rules.

§76.1907 Temporary Bona Fide Trials

The obligations and procedures as to Encoding Rules set forth in §§76.1904(b)-(c) and §§76.1905(a)-(b) do not apply in the case of a temporary bona fide trial of a service.

§76.1908 Certain Practices Not Prohibited

Nothing in this subpart shall be construed as prohibiting a Covered Entity from:

(a) encoding, storing or managing Commercial Audiovisual Content within its distribution system or within a Covered Product under the control of a Covered Entity's Commercially Adopted Access Control Method, provided that the outcome for the consumer from the application of the Encoding Rules set out in §§76.1904(a)-(b) is unchanged thereby when such Commercial Audiovisual Content is released to consumer control, or

(b) causing, with respect to a specific Covered Product, the output of content from such product in a format as necessary to match the display format of another device connected to such product, including but not limited to providing for content conversion between widely-used formats for the transport, processing and display of audiovisual signals or data, such as between analog and digital formats and between PAL and NTSC or RGB and Y,Pb,Pr.

* * * * *

APPENDIX C
FINAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980, as amended ("RFA")[1] an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in the *Further Notice of Proposed Rulemaking* ("*FNPRM*").[2] The Commission sought written public comment on the proposals in the *FNPRM*, including comment on the IRFA. Comments were received on the IRFA. This present Final Regulatory Flexibility Analysis ("FRFA") conforms to the RFA.[3]

A. Need for, and Objectives of, the Second Report and Order and Second Further Notice of Proposed Rulemaking. The need for FCC regulation in this area derives from the lack of a so-called cable compatibility "plug and play" standard for a digital cable television receiver and related digital cable television consumer electronics equipment. The absence of such a standard has been identified as a key impediment to the anticipated rate and scope of the transition to digital television ("DTV"). Such a standard would allow consumers to directly attach their DTV receivers to cable systems and receive certain cable television services without the need for an external navigation device. Since more than sixty percent of television households subscribe to cable programming services, the availability of digital cable television receivers and products would encourage more consumers to convert to DTV, thereby furthering the transition. Private industry negotiations between cable operators and consumer electronics manufacturers resulted in a Memorandum of Understanding ("MOU") on a cable compatibility standard for an integrated, unidirectional digital cable television receiver, as well as for other unidirectional digital cable products. The MOU requires the consumer electronics and cable television industries to each commit to certain voluntary acts and sought the creation or revision of certain relevant Commission rules. The objective of the final rules, as set forth in the *Second Report and Order* portion of the *Second Report and Order and Further Notice of Proposed Rulemaking* ("*Second Report and Order*"), is to facilitate the DTV transition.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA. The Commission received comments from the American Cable Association ("ACA") in response to the IRFA accompanying the *FNPRM*. In these comments, ACA expresses its support for the Commission's efforts to advance the DTV transition, but asks that the Commission take into account the special circumstances of smaller cable companies in this proceeding. Specifically, ACA asks that the Commission consider: (1) the costs of compliance for smaller cable systems, (2) how plug-and-play requirements might affect smaller cable systems that use Comcast's Headend-in-the-Sky ("HITS") programming, and (3) why some of the plug-and-play requirements are limited to systems having 750 MHz activated channel capacity or higher, while other requirements apply to all digital cable systems.[4] To the extent that the Commission determines that there would be a disparate cost impact upon small cable systems, ACA asks that the Commission consider waivers and an extended phase-in for small system

[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 18 FCC Rcd 518 (2003) ("*FNPRM*").

[3] *See* 5 U.S.C. § 604.

[4] ACA IRFA Comments at 2.

compliance.[5] We have discussed compliance impacts in this FRFA in Sections D and E, *infra*.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the proposed rules.[6] The RFA generally defines the term "small entity" as encompassing the terms "small business," "small organization," and "small governmental entity."[7] In addition, the term "small Business" has the same meaning as the term "small business concern" under the Small Business Act.[8] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration ("SBA").[9]

Television Broadcasting. The Small Business Administration defines a television broadcasting station that has no more than $12 million in annual receipts as a small business.[10] Business concerns included in this industry are those "primarily engaged in broadcasting images together with sound."[11] According to Commission staff review of the BIA Publications, Inc. Master Access Television Analyzer Database as of May 16, 2003, about 814 of the 1,220 commercial television stations in the United States have revenues of $12 million or less. We note, however, that, in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations[12] must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. There are

[5] ACA IRFA Comments at 3.

[6] 5 U.S.C. § 603(b)(3).

[7] 5 U.S.C. § 601(6).

[8] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[9] 15 U.S.C. § 632.

[10] *See* OMB, North American Industry Classification System: United States, 1997 at 509 (1997) (NAICS code 513120, which was changed to code 515120 in October 2002)

[11] OMB, North American Industry Classification System: United States, 1997, at 509 (1997) (NAICS code 513120, which was changed to code 51520 in October 2002). This category description continues, "These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public. These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studios, from an affiliated network, or from external sources." Separate census categories pertain to businesses primarily engaged in producing programming. *See id.* at 502-05, NAICS code 51210. Motion Picture and Video Production: code 512120, Motion Picture and Video Distribution, code 512191, Teleproduction and Other Post-Production Services, and code 512199, Other Motion Picture and Video Industries.

[12] "Concerns are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has to power to control both." 13 C.F.R. § 121.103(a)(1).

also 2,127 low power television stations (LPTV).[13] Given the nature of this service, we will presume that all LPTV licensees qualify as small entities under the SBA definition.

In addition, an element of the definition of "small business" is that the entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific television station is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply do not exclude any television station from the definition of a small business on this basis and are therefore over-inclusive to that extent. Also as noted, an additional element of the definition of "small business" is that the entity must be independently owned and operated. We note that it is difficult at times to assess these criteria in the context of media entities and our estimates of small businesses to which they apply may be over-inclusive to this extent.

Cable and Other Program Distribution. The SBA has developed a small business size standard for cable and other program distribution services, which includes all such companies generating $12.5 million or less in revenue annually.[14] This category includes, among others, cable operators, direct broadcast satellite ("DBS") services, home satellite dish ("HSD") services, multipoint distribution services ("MDS"), multichannel multipoint distribution service ("MMDS"), Instructional Television Fixed Service ("ITFS"), local multipoint distribution service ("LMDS"), satellite master antenna television ("SMATV") systems, and open video systems ("OVS"). According to the Census Bureau data, there are 1,311 total cable and other pay television service firms that operate throughout the year of which 1,180 have less than $10 million in revenue.[15] We address below each service individually to provide a more precise estimate of small entities.

Cable Operators. The Commission has developed, with SBA's approval, our own definition of a small cable system operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving fewer than 400,000 subscribers nationwide.[16] We last estimated that there were 1,439 cable operators that qualified as small cable companies.[17] Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small entity cable system operators that may be affected by the decisions and rules proposed in this Further Notice.

---

[13] FCC News Release, "Broadcast Station Totals as of September 30, 2002."

[14] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220). This NAICS code applies to all services listed in this paragraph.

[15] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series – Establishment and Firm Size, Information Sector 51, Table 4 at 50 (2000). The amount of $10 million was used to estimate the number of small business firms because the relevant Census categories stopped at $9,999,999 and began at $10,000,000. No category for $12.5 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.

[16] 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determinations that a small cable system operator is one with annual revenues of $100 million or less. *Sixth Report and Order and Eleventh Order on Reconsideration*, 10 FCC Rcd. 7393 (1995).

[17] Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

The Communications Act, as amended, also contains a size standard for a small cable system operator, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1% of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[18] The Commission has determined that there are 68,500,000 subscribers in the United States. Therefore, an operator serving fewer than 685,000 subscribers shall be deemed a small operator if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed $250 million in the aggregate.[19] Based on available data, we find that the number of cable operators serving 685,000 subscribers or less totals approximately 1,450.[20] Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed $250,000,000, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

Direct Broadcast Satellite ("DBS") Service. Because DBS provides subscription services, DBS falls within the SBA-recognized definition of cable and other program distribution services.[21] This definition provides that a small entity is one with $12.5 million or less in annual receipts.[22] There are four licensees of DBS services under Part 100 of the Commission's Rules. Three of those licensees are currently operational. Two of the licensees that are operational have annual revenues that may be in excess of the threshold for a small business.[23] The Commission, however, does not collect annual revenue data for DBS and, therefore, is unable to ascertain the number of small DBS licensees that could be impacted by these proposed rules. DBS service requires a great investment of capital for operation, and we acknowledge, despite the absence of specific data on this point, that there are entrants in this field that may not yet have generated $12.5 million in annual receipts, and therefore may be categorized as a small business, if independently owned and operated.

Home Satellite Dish ("HSD") Service. Because HSD provides subscription services, HSD falls within the SBA-recognized definition of cable and other program distribution services.[24] This definition provides that a small entity is one with $12.5 million or less in annual receipts.[25] The market for HSD service is difficult to quantify. Indeed, the service itself bears little resemblance to other MVPDs. HSD owners have access to more than 265 channels of programming placed on C-band satellites by programmers for receipt and distribution by MVPDs, of which 115 channels are scrambled and approximately 150 are unscrambled.[26] HSD owners can watch unscrambled channels without paying a subscription fee. To receive scrambled

[18] 47 U.S.C. § 543(m)(2).

[19] 47 C.F.R. § 76.1403(b).

[20] Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

[21] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[22] *Id.*

[23] *Id*.

[24] 13 C.F.F. § 121.201, NAICS code 517510 (formerly 513220).

[25] *Id.*

[26] *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming,* 12 FCC Rcd 4358, 4385 (1996) (*"Third Annual Report").*

channels, however, an HSD owner must purchase an integrated receiver-decoder from an equipment dealer and pay a subscription fee to an HSD programming package. Thus, HSD users include: (1) viewers who subscribe to a packaged programming service, which affords them access to most of the same programming provided to subscribers of other MVPDs; (2) viewers who receive only non-subscription programming; and (3) viewers who receive satellite programming services illegally without subscribing. Because scrambled packages of programming are most specifically intended for retail consumers, these are the services most relevant to this discussion.[27]

Multipoint Distribution Service ("MDS"), Multichannel Multipoint Distribution Service ("MMDS") Instructional Television Fixed Service ("ITFS") and Local Multipoint Distribution Service ("LMDS"). MMDS systems, often referred to as "wireless cable," transmit video programming to subscribers using the microwave frequencies of the MDS and ITFS.[28] LMDS is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.[29]

In connection with the 1996 MDS auction, the Commission defined small businesses as entities that had annual average gross revenues of less than $40 million in the previous three calendar years.[30] This definition of a small entity in the context of MDS auctions has been approved by the SBA.[31] The MDS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas ("BTAs"). Of the 67 auction winners, 61 met the definition of a small business. MDS also includes licensees of stations authorized prior to the auction. As noted, the SBA has developed a definition of small entities for pay television services, which includes all such companies generating $12.5 million or less in annual receipts.[32] This definition includes multipoint distribution services, and thus applies to MDS licensees and wireless cable operators that did not participate in the MDS auction. Information available to us indicates that there are approximately 850 of these licensees and operators that do not generate revenue in excess of $12.5 million annually. Therefore, for purposes of the IRFA, we find there are approximately 850 small MDS providers as defined by the SBA and the Commission's auction rules.

The SBA definition of small entities for cable and other program distribution services, which includes such companies generating $12.5 million in annual receipts, seems reasonably applicable to ITFS.[33] There are presently 2,032 ITFS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in the definition of a small

[27] *Id.* at 4385.

[28] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, 10 FCC Rcd at 9589, 9593 (1995) ("*ITFS Order*").

[29] *See Local Multipoint Distribution Service,* 12 FCC Rcd 12545 (1997) ("*LMDS Order*").

[30] 47 C.F.R. § 21.961(b)(1).

[31] *See ITFS Order*, 10 FCC Rcd at 9589.

[32] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[33] *Id*.

business.[34] However, we do not collect annual revenue data for ITFS licensees, and are not able to ascertain how many of the 100 non-educational licensees would be categorized as small under the SBA definition. Thus, we tentatively conclude that at least 1,932 licensees are small businesses.

Additionally, the auction of the 1,030 LMDS licenses began on February 18, 1998, and closed on March 25, 1998. The Commission defined "small entity" for LMDS licenses as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[35] An additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding calendar years.[36] These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.[37] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licenses will include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the SBA and the Commission's auction rules.

In sum, there are approximately a total of 2,000 MDS/MMDS/LMDS stations currently licensed. Of the approximate total of 2,000 stations, we estimate that there are 1,595 MDS/MMDS/LMDS providers that are small businesses as deemed by the SBA and the Commission's auction rules.

Satellite Master Antenna Television ("SMATV") Systems. The SBA definition of small entities for cable and other program distribution services includes SMATV services and, thus, small entities are defined as all such companies generating $12.5 million or less in annual receipts.[38] Industry sources estimate that approximately 5,200 SMATV operators were providing service as of December 1995.[39] Other estimates indicate that SMATV operators serve approximately 1.5 million residential subscribers as of July 2001.[40] The best available estimates indicate that the largest SMATV operators serve between 15,000 and 55,000 subscribers each. Most SMATV operators serve approximately 3,000-4,000 customers. Because these operators are not rate regulated, they are not required to file financial data with the Commission. Furthermore, we are not aware of any privately published financial information regarding these operators. Based on the estimated number of operators and the estimated number of units served by the largest ten SMATVs, we believe that a substantial number of SMATV operators qualify as

[34] SBREFA also applies to nonprofit organizations and governmental organizations such as cities, counties, towns, townships, villages, school districts, or special districts, with populations of less than 50,000. 5 U.S.C. § 601(5).

[35] *See LMDS Order,* 12 FCC Rcd at 12545.

[36] *Id.*

[37] *See* Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

[38] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[39] *See Third Annual Report*, 12 FCC Rcd at 4403-4.

[40] *See Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, 17 FCC Rcd 1244, 1281 (2001) ("*Eighth Annual Report*").

small entities

Open Video Systems ("OVS"). Because OVS operators provide subscription services,[41] OVS falls within the SBA-recognized definition of cable and other program distribution services.[42] This definition provides that a small entity is one with $ 12.5 million or less in annual receipts.[43] The Commission has certified 25 OVS operators with some now providing service. Affiliates of Residential Communications Network, Inc. ("RCN") received approval to operate OVS systems in New York City, Boston, Washington, D.C. and other areas. RCN has sufficient revenues to assure us that they do not qualify as small business entities. Little financial information is available for the other entities authorized to provide OVS that are not yet operational. Given that other entities have been authorized to provide OVS service but have not yet begun to generate revenues, we conclude that at least some of the OVS operators qualify as small entities.

Electronics Equipment Manufacturers. Rules adopted in this proceeding could apply to manufacturers of DTV receiving equipment and other types of consumer electronics equipment. The SBA has developed definitions of small entity for manufacturers of audio and video equipment[44] as well as radio and television broadcasting and wireless communications equipment.[45] These categories both include all such companies employing 750 or fewer employees. The Commission has not developed a definition of small entities applicable to manufacturers of electronic equipment used by consumers, as compared to industrial use by television licensees and related businesses. Therefore, we will utilize the SBA definitions applicable to manufacturers of audio and visual equipment and radio and television broadcasting and wireless communications equipment, since these are the two closest NAICS Codes applicable to the consumer electronics equipment manufacturing industry. However, these NAICS categories are broad and specific figures are not available as to how many of these establishments manufacture consumer equipment. According to the SBA's regulations, an audio and visual equipment manufacturer must have 750 or fewer employees in order to qualify as a small business concern.[46] Census Bureau data indicates that there are 554 U.S. establishments that manufacture audio and visual equipment, and that 542 of these establishments have fewer than 500 employees and would be classified as small entities.[47] The remaining 12 establishments have 500 or more employees; however, we are unable to determine how many of those have fewer than 750 employees and therefore, also qualify as small entities under the SBA definition. Under the SBA's regulations, a radio and television broadcasting and wireless communications equipment manufacturer must also have 750 or fewer employees in order to qualify as a small business

[41] *See* 47 U.S.C. § 573.

[42] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[43] *Id.*

[44] 13 CFR § 121.201, NAICS code 334310.

[45] 13 CFR § 121.201, NAICS code 334220.

[46] 13 CFR § 121.201, NAICS code 334310.

[47] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series – Manufacturing, Audio and Video Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information.

concern.[48] Census Bureau data indicates that there 1,215 U.S. establishments that manufacture radio and television broadcasting and wireless communications equipment, and that 1,150 of these establishments have fewer than 500 employees and would be classified as small entities.[49] The remaining 65 establishments have 500 or more employees; however, we are unable to determine how many of those have fewer than 750 employees and therefore, also qualify as small entities under the SBA definition. We therefore conclude that there are no more than 542 small manufacturers of audio and visual electronics equipment and no more than 1,150 small manufacturers of radio and television broadcasting and wireless communications equipment for consumer/household use.

Computer Manufacturers. The Commission has not developed a definition of small entities applicable to computer manufacturers. Therefore, we will utilize the SBA definition of electronic computers manufacturing. According to SBA regulations, a computer manufacturer must have 1,000 or fewer employees in order to qualify as a small entity.[50] Census Bureau data indicates that there are 563 firms that manufacture electronic computers and of those, 544 have fewer than 1,000 employees and qualify as small entities.[51] The remaining 19 firms have 1,000 or more employees. We conclude that there are approximately 544 small computer manufacturers.

[48] 13 C.F.R. § 121.201, NAICS code 334220.

[49] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series – Manufacturing, Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information.

[50] 13 C.F.R. § 121.201, NAICS code 334111.

[51] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series – Manufacturing, Electronic Computer Manufacturing, Table 4 at 9 (1999).

D. Description of Projected Reporting, Recordkeeping and other Compliance Requirements. The final rules set technical and other criteria that manufacturers would have to meet in order to label or market unidirectional digital cable televisions and other unidirectional digital cable products as "digital cable ready." This regime includes testing and self-certification standards. The final rules also require consumer information disclosures to purchasers of unidirectional digital cable televisions receivers in appropriate post-sale materials that describe the functionality of these devices and the need to obtain a security module from their cable operator. Cable operators with digital systems of 750 MHz or greater activated channel capacity will be required to support operation of unidirectional digital cable products on digital cable systems. Certain other technical support requirements apply to all digital cable systems, regardless of channel capacity, including those systems whose only digital programming comes from HITS. In addition, all cable operators will be required to supply digital subscribers with point-of-deployment modules ("PODs") and high definition set-top boxes that comply with certain technical standards by April 1, 2004 and July 1, 2005 deadlines.[52] Finally, all MVPDs would be prohibited from encoding content to activate selectable output controls on consumer premises equipment, or the down-resolution of unencrypted broadcast television programming. MVPDs would also be limited in the levels of copy protection that could be applied to various categories of programming.

E. Steps Taken to Minimize Significant Impact on Small Entities, and Significant Alternatives Considered. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[53]

Because the "digital cable ready" labeling regime does not require manufacturers to affix a label to devices, we do not anticipate that small manufacturers will be significantly affected. Although the consumer information disclosure in post-sale is mandatory, we do not believe that it will adversely affect small manufacturers since they already include owner's manuals and other documentation inside equipment packaging.

The record in this proceeding did not provide the Commission with detailed cost information on the digital cable system support requirements. In an effort to take into account the concerns of small cable systems, the Commission has indicated that it will consider waiver requests for these requirements on a case-by-case basis. As to the POD-provisioning mandate, cable operators are already required to provide PODs to subscribers by request. We therefore do not believe that the new provisioning requirements will have a significant impact on small cable systems. Likewise, we anticipate that the upcoming high definition set-top box deadlines will not negatively impact small operators since the 2004 deadline only applies to output upgrades upon subscriber request, and the 2005 deadline will only apply to inventory acquired after that date.

Finally, we anticipate that the encoding prohibitions on selectable output controls and the down-resolution of unencrypted broadcast programming will largely impact upon the DBS

[52] *Proposed Technical Rules* at 1-6.

[53] 5 U.S.C. § 603(b).

industry, which is primarily composed of large entities. While the caps on copy protection will affect all MVPDs, we do not believe they will negatively impact small entities.

F. Federal Rules Which Duplicate, Overlap, or Conflict with the Commission's Proposals. None.

Report to Congress: The Commission will send a copy of the *Second Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.[54] In addition, the Commission will send a copy of the *Second Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Second Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.[55]

[54] *See* 5 U.S.C. § 801(a)(1)(A).

[55] *See* 5 U.S.C. § 604(b).

APPENDIX D
INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980, as amended ("RFA")[1] the Commission has prepared this present Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *Second Further Notice of Proposed Rulemaking* portion of this item. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Second Further Notice of Proposed Rulemaking* portion of this item provided in paragraph 91. The Commission will send a copy of this entire *Second Order and Second Further Notice of Proposed Rulemaking* ("*Second Report and Order and Second Further Notice*"), including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration ("SBA").[2] In addition, the *Second Further Notice of Proposed Rulemaking* portion of this item and the IRFA (or summaries thereof) will be published in the Federal Register.[3]

A. Need for, and Objectives of, the Proposed Rules. In connection with the Commission's efforts to ensure the commercial availability of navigation devices pursuant to Section 629 of the Communication's Act,[4] the *Second Report and Order* part of the *Second Report and Order and Second Further Notice* adopts technical, labeling and encoding rules which will set a one-way specification for digital cable "plug and play" compatibility for DTV equipment. The negotiations between the consumer electronics and cable television industries which led to the agreement underlying these rules call for the cable television industry to make initial determinations about which new device connectors and associated content protection technologies may be used in connection with unidirectional digital cable products produced under this specification. Commenters have indicated that the cable industry should not be the sole arbiter of such decisions, however, the record currently before the Commission is insufficient on this matter. In order to ensure the connectivity and interoperability of unidirectional digital cable products, and to fulfill the Commission's commercial availability mandate under Section 629, we are initiating the *Second Further Notice* to seek comment on the mechanisms and standards by which new connectors and associated content protection technologies can be approved for use in this context. The *Second Further Notice* also seeks comment on: (1) the potential extension of the transmission requirements applicable to digital cable systems with an activated channel capacity of 750 MHz or higher to digital cable systems with an activated channel capacity of 550 MHz or higher; (2) whether it is necessary to require consumer electronics manufacturers to provide pre-sale information to consumers regarding the functionalities of unidirectional digital cable televisions; and (3) whether the Commission should ban or permit the down-resolution of non-broadcast MVPD programming.

B. Legal Basis. The authority for this proposed rulemaking is contained in Sections 1, 4(i) and (j), 303, 403, 601, 624A and 629 of the Communications Act of 1934, 47 U.S.C §§

[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See* 5 U.S.C. § 603(a).

[3] *See* 5 U.S.C. § 603(a).

[4] *See* 47 U.S.C. § 629.

151, 154(i) and (j), 303, 403, 521, 544a and 549.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the proposed rules.[5] The RFA generally defines the term "small entity" as encompassing the terms "small business," "small organization," and "small governmental entity."[6] In addition, the term "small Business" has the same meaning as the term "small business concern" under the Small Business Act.[7] A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration ("SBA").[8]

Television Broadcasting. The Small Business Administration defines a television broadcasting station that has no more than $12 million in annual receipts as a small business.[9] Business concerns included in this industry are those "primarily engaged in broadcasting images together with sound."[10] According to Commission staff review of the BIA Publications, Inc. Master Access Television Analyzer Database as of May 16, 2003, about 814 of the 1,220 commercial television stations in the United States have revenues of $12 million or less. We note, however, that, in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations[11] must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. There are also 2,127 low power television stations (LPTV).[12] Given the nature of this service, we

[5] 5 U.S.C. § 603(b)(3).

[6] 5 U.S.C. § 601(6).

[7] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[8] 15 U.S.C. § 632.

[9] *See* OMB, North American Industry Classification System: United States, 1997 at 509 (1997) (NAICS code 513120, which was changed to code 515120 in October 2002)

[10] OMB, North American Industry Classification System: United States, 1997, at 509 (1997) (NAICS code 513120, which was changed to code 51520 in October 2002). This category description continues, "These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public. These establishments also produce or transmit visual programming to affiliated broadcast television stations, which in turn broadcast the programs to the public on a predetermined schedule. Programming may originate in their own studios, from an affiliated network, or from external sources." Separate census categories pertain to businesses primarily engaged in producing programming. *See id.* at 502-05, NAICS code 51210. Motion Picture and Video Production: code 512120, Motion Picture and Video Distribution, code 512191, Teleproduction and Other Post-Production Services, and code 512199, Other Motion Picture and Video Industries.

[11] "Concerns are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has to power to control both." 13 C.F.R. § 121.103(a)(1).

[12] FCC News Release, "Broadcast Station Totals as of September 30, 2002."

will presume that all LPTV licensees qualify as small entities under the SBA definition.

In addition, an element of the definition of "small business" is that the entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific television station is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply do not exclude any television station from the definition of a small business on this basis and are therefore over-inclusive to that extent. Also as noted, an additional element of the definition of "small business" is that the entity must be independently owned and operated. We note that it is difficult at times to assess these criteria in the context of media entities and our estimates of small businesses to which they apply may be over-inclusive to this extent.

Cable and Other Program Distribution. The SBA has developed a small business size standard for cable and other program distribution services, which includes all such companies generating $12.5 million or less in revenue annually.[13] This category includes, among others, cable operators, direct broadcast satellite ("DBS") services, home satellite dish ("HSD") services, multipoint distribution services ("MDS"), multichannel multipoint distribution service ("MMDS"), Instructional Television Fixed Service ("ITFS"), local multipoint distribution service ("LMDS"), satellite master antenna television ("SMATV") systems, and open video systems ("OVS"). According to the Census Bureau data, there are 1,311 total cable and other pay television service firms that operate throughout the year of which 1,180 have less than $10 million in revenue.[14] We address below each service individually to provide a more precise estimate of small entities.

Cable Operators. The Commission has developed, with SBA's approval, our own definition of a small cable system operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving fewer than 400,000 subscribers nationwide.[15] We last estimated that there were 1,439 cable operators that qualified as small cable companies.[16] Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small entity cable system operators that may be affected by the decisions and rules proposed in this Further Notice.

The Communications Act, as amended, also contains a size standard for a small cable system operator, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1% of all subscribers in the United States and is not affiliated with any

[13] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220). This NAICS code applies to all services listed in this paragraph.

[14] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series – Establishment and Firm Size, Information Sector 51, Table 4 at 50 (2000). The amount of $10 million was used to estimate the number of small business firms because the relevant Census categories stopped at $9,999,999 and began at $10,000,000. No category for $12.5 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.

[15] 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determinations that a small cable system operator is one with annual revenues of $100 million or less. *Sixth Report and Order and Eleventh Order on Reconsideration*, 10 FCC Rcd. 7393 (1995).

[16] Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

entity or entities whose gross annual revenues in the aggregate exceed $250,000,000."[17] The Commission has determined that there are 68,500,000 subscribers in the United States. Therefore, an operator serving fewer than 685,000 subscribers shall be deemed a small operator if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed $250 million in the aggregate.[18] Based on available data, we find that the number of cable operators serving 685,000 subscribers or less totals approximately 1,450.[19] Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed $250,000,000, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

Direct Broadcast Satellite ("DBS") Service. Because DBS provides subscription services, DBS falls within the SBA-recognized definition of cable and other program distribution services.[20] This definition provides that a small entity is one with $12.5 million or less in annual receipts.[21] There are four licensees of DBS services under Part 100 of the Commission's Rules. Three of those licensees are currently operational. Two of the licensees that are operational have annual revenues that may be in excess of the threshold for a small business.[22] The Commission, however, does not collect annual revenue data for DBS and, therefore, is unable to ascertain the number of small DBS licensees that could be impacted by these proposed rules. DBS service requires a great investment of capital for operation, and we acknowledge, despite the absence of specific data on this point, that there are entrants in this field that may not yet have generated $12.5 million in annual receipts, and therefore may be categorized as a small business, if independently owned and operated.

Home Satellite Dish ("HSD") Service. Because HSD provides subscription services, HSD falls within the SBA-recognized definition of cable and other program distribution services.[23] This definition provides that a small entity is one with $12.5 million or less in annual receipts.[24] The market for HSD service is difficult to quantify. Indeed, the service itself bears little resemblance to other MVPDs. HSD owners have access to more than 265 channels of programming placed on C-band satellites by programmers for receipt and distribution by MVPDs, of which 115 channels are scrambled and approximately 150 are unscrambled.[25] HSD owners can watch unscrambled channels without paying a subscription fee. To receive scrambled channels, however, an HSD owner must purchase an integrated receiver-decoder from an equipment dealer and pay a subscription fee to an HSD programming package. Thus, HSD users include: (1) viewers who subscribe to a packaged programming service, which affords them

[17] 47 U.S.C. § 543(m)(2).

[18] 47 C.F.R. § 76.1403(b).

[19] Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

[20] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[21] *Id.*

[22] *Id*.

[23] 13 C.F.F. § 121.201, NAICS code 517510 (formerly 513220).

[24] *Id.*

[25] *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming,* 12 FCC Rcd 4358, 4385 (1996) (*"Third Annual Report").*

access to most of the same programming provided to subscribers of other MVPDs; (2) viewers who receive only non-subscription programming; and (3) viewers who receive satellite programming services illegally without subscribing. Because scrambled packages of programming are most specifically intended for retail consumers, these are the services most relevant to this discussion.[26]

Multipoint Distribution Service ("MDS"), Multichannel Multipoint Distribution Service ("MMDS") Instructional Television Fixed Service ("ITFS") and Local Multipoint Distribution Service ("LMDS"). MMDS systems, often referred to as "wireless cable," transmit video programming to subscribers using the microwave frequencies of the MDS and ITFS.[27] LMDS is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.[28]

In connection with the 1996 MDS auction, the Commission defined small businesses as entities that had annual average gross revenues of less than $40 million in the previous three calendar years.[29] This definition of a small entity in the context of MDS auctions has been approved by the SBA.[30] The MDS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas ("BTAs"). Of the 67 auction winners, 61 met the definition of a small business. MDS also includes licensees of stations authorized prior to the auction. As noted, the SBA has developed a definition of small entities for pay television services, which includes all such companies generating $12.5 million or less in annual receipts.[31] This definition includes multipoint distribution services, and thus applies to MDS licensees and wireless cable operators that did not participate in the MDS auction. Information available to us indicates that there are approximately 850 of these licensees and operators that do not generate revenue in excess of $12.5 million annually. Therefore, for purposes of the IRFA, we find there are approximately 850 small MDS providers as defined by the SBA and the Commission's auction rules.

The SBA definition of small entities for cable and other program distribution services, which includes such companies generating $12.5 million in annual receipts, seems reasonably applicable to ITFS.[32] There are presently 2,032 ITFS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in the definition of a small business.[33] However, we do not collect annual revenue data for ITFS licensees, and are not able

[26] *Id.* at 4385.

[27] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, 10 FCC Rcd at 9589, 9593 (1995) ("*ITFS Order*").

[28] *See Local Multipoint Distribution Service,* 12 FCC Rcd 12545 (1997) ("*LMDS Order*").

[29] 47 C.F.R. § 21.961(b)(1).

[30] *See ITFS Order*, 10 FCC Rcd at 9589.

[31] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[32] *Id*.

[33] SBREFA also applies to nonprofit organizations and governmental organizations such as cities, counties, towns, townships, villages, school districts, or special districts, with populations of less than 50,000. 5 U.S.C. § 601(5).

to ascertain how many of the 100 non-educational licensees would be categorized as small under the SBA definition. Thus, we tentatively conclude that at least 1,932 licensees are small businesses.

Additionally, the auction of the 1,030 LMDS licenses began on February 18, 1998, and closed on March 25, 1998. The Commission defined "small entity" for LMDS licenses as an entity that has average gross revenues of less than $40 million in the three previous calendar years.[34] An additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than $15 million for the preceding calendar years.[35] These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.[36] There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licenses will include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the SBA and the Commission's auction rules.

In sum, there are approximately a total of 2,000 MDS/MMDS/LMDS stations currently licensed. Of the approximate total of 2,000 stations, we estimate that there are 1,595 MDS/MMDS/LMDS providers that are small businesses as deemed by the SBA and the Commission's auction rules.

Satellite Master Antenna Television ("SMATV") Systems. The SBA definition of small entities for cable and other program distribution services includes SMATV services and, thus, small entities are defined as all such companies generating $12.5 million or less in annual receipts.[37] Industry sources estimate that approximately 5,200 SMATV operators were providing service as of December 1995.[38] Other estimates indicate that SMATV operators serve approximately 1.5 million residential subscribers as of July 2001.[39] The best available estimates indicate that the largest SMATV operators serve between 15,000 and 55,000 subscribers each. Most SMATV operators serve approximately 3,000-4,000 customers. Because these operators are not rate regulated, they are not required to file financial data with the Commission. Furthermore, we are not aware of any privately published financial information regarding these operators. Based on the estimated number of operators and the estimated number of units served by the largest ten SMATVs, we believe that a substantial number of SMATV operators qualify as small entities

Open Video Systems ("OVS"). Because OVS operators provide subscription services,[40]

[34] *See LMDS Order,* 12 FCC Rcd at 12545.

[35] *Id.*

[36] *See* Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

[37] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[38] *See Third Annual Report*, 12 FCC Rcd at 4403-4.

[39] *See Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, 17 FCC Rcd 1244, 1281 (2001) ("*Eighth Annual Report*").

[40] *See* 47 U.S.C. § 573.

OVS falls within the SBA-recognized definition of cable and other program distribution services.[41] This definition provides that a small entity is one with $ 12.5 million or less in annual receipts.[42] The Commission has certified 25 OVS operators with some now providing service. Affiliates of Residential Communications Network, Inc. ("RCN") received approval to operate OVS systems in New York City, Boston, Washington, D.C. and other areas. RCN has sufficient revenues to assure us that they do not qualify as small business entities. Little financial information is available for the other entities authorized to provide OVS that are not yet operational. Given that other entities have been authorized to provide OVS service but have not yet begun to generate revenues, we conclude that at least some of the OVS operators qualify as small entities.

Electronics Equipment Manufacturers. Rules adopted in this proceeding could apply to manufacturers of DTV receiving equipment and other types of consumer electronics equipment. The SBA has developed definitions of small entity for manufacturers of audio and video equipment[43] as well as radio and television broadcasting and wireless communications equipment.[44] These categories both include all such companies employing 750 or fewer employees. The Commission has not developed a definition of small entities applicable to manufacturers of electronic equipment used by consumers, as compared to industrial use by television licensees and related businesses. Therefore, we will utilize the SBA definitions applicable to manufacturers of audio and visual equipment and radio and television broadcasting and wireless communications equipment, since these are the two closest NAICS Codes applicable to the consumer electronics equipment manufacturing industry. However, these NAICS categories are broad and specific figures are not available as to how many of these establishments manufacture consumer equipment. According to the SBA's regulations, an audio and visual equipment manufacturer must have 750 or fewer employees in order to qualify as a small business concern.[45] Census Bureau data indicates that there are 554 U.S. establishments that manufacture audio and visual equipment, and that 542 of these establishments have fewer than 500 employees and would be classified as small entities.[46] The remaining 12 establishments have 500 or more employees; however, we are unable to determine how many of those have fewer than 750 employees and therefore, also qualify as small entities under the SBA definition. Under the SBA's regulations, a radio and television broadcasting and wireless communications equipment manufacturer must also have 750 or fewer employees in order to qualify as a small business concern.[47] Census Bureau data indicates that there 1,215 U.S. establishments that manufacture radio and television broadcasting and wireless communications equipment, and that 1,150 of

[41] 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

[42] *Id.*

[43] 13 CFR § 121.201, NAICS code 334310.

[44] 13 CFR § 121.201, NAICS code 334220.

[45] 13 CFR § 121.201, NAICS code 334310.

[46] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series – Manufacturing, Audio and Video Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information.

[47] 13 C.F.R. § 121.201, NAICS code 334220.

these establishments have fewer than 500 employees and would be classified as small entities.[48] The remaining 65 establishments have 500 or more employees; however, we are unable to determine how many of those have fewer than 750 employees and therefore, also qualify as small entities under the SBA definition. We therefore conclude that there are no more than 542 small manufacturers of audio and visual electronics equipment and no more than 1,150 small manufacturers of radio and television broadcasting and wireless communications equipment for consumer/household use.

Computer Manufacturers. The Commission has not developed a definition of small entities applicable to computer manufacturers. Therefore, we will utilize the SBA definition of electronic computers manufacturing. According to SBA regulations, a computer manufacturer must have 1,000 or fewer employees in order to qualify as a small entity.[49] Census Bureau data indicates that there are 563 firms that manufacture electronic computers and of those, 544 have fewer than 1,000 employees and qualify as small entities.[50] The remaining 19 firms have 1,000 or more employees. We conclude that there are approximately 544 small computer manufacturers.

D. Description of Projected Reporting, Recordkeeping and other Compliance Requirements. At this time, we do not expect that the proposed rules would impose any additional reporting or recordkeeping requirements. However, compliance with the rules, if they are adopted, may require consumer electronics manufacturers to seek approval for new device connectors and associated content protection technologies to be used in conjunction with unidirectional digital cable products.[51] These requirements could have an impact on consumer electronics manufacturers, including small entities. We seek comment on the possible burden these requirements would place on small entities. Also, we seek comment on whether a special approach toward any possible compliance burdens on small entities might be appropriate.

E. Steps Taken to Minimize Significant Impact on Small Entities, and Significant Alternatives Considered. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[52]

As indicated above, the *Second Further Notice* seeks comment on whether the

[48] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series – Manufacturing, Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information.

[49] 13 C.F.R. § 121.201, NAICS code 334111.

[50] Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series – Manufacturing, Electronic Computer Manufacturing, Table 4 at 9 (1999).

[51] *See Second Further Notice* at ¶¶ 83-86.

[52] 5 U.S.C. § 603(b).

Commission should adopt rules establishing an approval mechanism for new connectors and associated content protection technologies to be used with unidirectional digital cable products. Consumer electronics manufacturers may be required to seek such approval prior to implementing new connectors and associated content protection technologies in unidirectional digital cable products. We welcome comment on modifications of this proposal to lessen any potential impact on small entities, while still remaining consistent with our policy goals.

The *Second Further Notice* also seeks comment on the potential applicablity of certain transmission standards for digital cable systems to systems with an activated channel capacity of 550 MHz or greater. Since such cable systems are often owned by small cable operators, we seek comment on the potential impact of this proposed rule upon small cable operators and whether some relief mechanism, such as waivers, would help alleviate any potential impact on small entities.[53]

With respect to the proposed requirement for consumer electronics manufacturers to provide consumers with pre-sale information regarding the functionalities of unidirectional digital cable televisions, we seek comment on how this might affect small manufacturers. We also seek comment on whether the potential economic burden on small entities might be lessened, while still generally retaining the requirement or the intended effect of the requirements.

Finally, the *Second Further Notice* seeks comment on whether to permit or ban the down-resolution by MVPDs of non-broadcast MVPD programming. We believe this requirement would largely impact the DBS industry, which is primarily composed of large entities. To the extent that small entities might be adversely affected by this potential requirement, we welcome comments on possible small entity-related alternatives.

Federal Rules Which Duplicate, Overlap, or Conflict with the Commission's Proposals. None.

[53] *See Second Further Notice* at ¶ 80.

STATEMENT OF CHAIRMAN MICHAEL K. POWELL

Re: Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices; and Compatibility Between Cable Systems and Consumer Electronics Equipment.

Today's decision by a unanimous Commission is a victory for consumers and a major step in the digital television transition. Consumers who want digital television sets will have an easier time connecting them to their cable service and having them work with high definition and other digital programming. I am more convinced than ever that high definition programming is becoming a competitive differentiator among television programmers.

But programmers who want to roll out new high definition programming need people to be able to see the programming. Until now, many consumers have been reluctant to invest in the newest televisions because of uncertainties about compatibility with cable systems and set top boxes. The FCC's actions today are a major step toward alleviating those problems.

I would take this opportunity to acknowledge the leadership of key Congressional leaders, including Chairman Billy Tauzin and Chairman Fred Upton, on the issue of digital television. Their personal commitment in this area bears fruit today, and consumers are the beneficiaries.

Of course, at core of the digital television transition is programming. It is important to me that we preserve incentives for program producers to invest in high value content. Today's decision facilitates protection of high value content on cable systems by providing incentives for cable and consumer electronics manufacturers to work together to include various content protection technologies in consumer devices.

Now that we have taken this step in the cable world, we must immediately turn our attention to broadcasting. Over 35 million Americans continue to receive television programming exclusively from over-the-air broadcasters. And over 30% of all television sets in this country are not connected to cable or satellite service. The viability of our free broadcasting system is a high priority for me, and the government needs to ensure that broadcast television is not disadvantaged as a delivery platform for high value content.

In that regard, I plan to deliver to my colleagues a draft decision on the Broadcast Flag proceeding in the very near future. All affected parties should be aware that this proceeding is in the on-deck circle. I look forward to working with my colleagues and the public on this important proceeding.

Finally, I wish to be clear that our encoding rules included in today's Plug & Play decision are not intended to modify existing copyright law. Consumers and content owners retain all of their existing rights and remedies under copyright law. In this proceeding, the FCC simply looks to copyright law for guidance on policies that will promote the DTV transition.

STATEMENT OF COMMISSIONER KATHLEEN Q. ABERNATHY

Re: Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; and Compatibility Between Cable Systems and Consumer Electronics Equipment, Second Report and Order and Second Further Notice of Proposed Rulemaking, CS Docket No. 97-80, PP Docket No. 00-67

The plug-and-play agreement between the cable television and consumer electronics industries and today's Order adopting final rules are critical milestones in the digital television transition. As a result of this Order, millions of consumers will be able to receive high-definition and other digital programming by connecting a cable wire directly to a digital television or other device — without using a set-top box. Such cable-ready digital television sets should be commercially available by the end of next year or shortly thereafter. I commend the industry groups for their commitment to the collaborative process that made this rulemaking possible, and I appreciate the excellent work of the Media Bureau and my colleagues in drafting the Order and Further Notice.

The Order adopts technical standards regarding the distribution of video programming on digital cable systems and labeling requirements for devices marketed as "digital cable ready." More controversially, the Order establishes encoding rules — a ban on selectable output control, a ban on the down-resolution of broadcast programming, and copy-protection limits for various categories of programming. Ordinarily, I would strongly prefer to leave such matters to the marketplace. I am quite reluctant to employ regulation to dictate how programming should be protected. Nevertheless, the record demonstrates that the cable and consumer electronics industries would not have resolved these thorny issues without an assurance that *all* MVPDs would be subject to the same rules. In other words, absent regulatory intervention to ensure a level playing field, the digital transition may well have been derailed.

Given this context, I support the encoding rules in the Order, and I take comfort from the fact that our rules are both balanced and narrowly tailored to the governmental interests at stake. For example, we concluded that, at this time, a flat ban on selectable output control is necessary in light of the extreme consequences of an MVPD's use of that tool. By contrast, we have proscribed down-resolution only for broadcast content — rather than banning this tool across the board — because the record demonstrates that this partial ban strikes the optimal balance among the interests of content owners, MVPDs, manufacturers, and, most importantly, consumers. Likewise, we have attempted to maximize flexibility for subscription video-on-demand services and other new business models by declining to mandate uniform copy-protection caps for such services, since they do not fall neatly into the established categories. Wherever possible, I have strived to minimize the degree of governmental intervention.

Finally, I am also pleased that the Order and Further Notice, on balance, will promote innovation to a far greater degree than the existing PHILA licensing process. I recognize that computer manufacturers, software companies, and others are concerned that the compliance and robustness rules associated with the new DFAST license are skewed in favor of digital televisions and against PCs. Yet, unlike the status quo, which is characterized by a closed certification process and a PHILA license that assigned no express role to the FCC, the Commission's new rules establish a more open certification process and the DFAST license gives the FCC an oversight role in the approval of new outputs and content protection technologies. Through this

oversight, the Commission can assure that PCs and other devices with open architectures and alternative copy-protection schemes are included in the DTV transition. It is also important for the Commission to establish this initial framework for one-way digital television receivers, after which a broader array of interests can participate in the development of a two-way standard. I look forward to that second phase and stand ready to take other steps to promote competition in the market for navigation devices and to continue furthering the DTV transition.

STATEMENT OF COMMISSIONER MICHAEL J. COPPS

Re: Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment

This item demonstrates once again the commitment of this Commission and our Chairman to move forward to resolve important issues in order to expedite the digital transition. With some 70 percent of U.S. households subscribing to cable television services, issues like cable compatibility and other technical matters that have been holding up the digital transition need to be decided.

Today's decision is not an ideal solution, but it is a step forward and far preferable to a status quo in which consumers are unable to access digital cable services without a set-top box and in which innovators face continued uncertainty. By establishing a standard to ensure the compatibility of cable systems with DTV devices and providing a process for approval of new products and technologies with the Commission as neutral arbiter, this decision should speed the commercial availability of digital cable ready products with greater functionality, thereby providing consumers with more choices and ultimately reducing the costs of DTV technology.

We will, however, only succeed in accelerating the digital transition when we confront head-on the significant consumer confusion that exists in this area. Consumer education and outreach are indispensable in gaining consumer acceptance. Today's Order requires manufacturers to include post-sales material describing the features and limitations of unidirectional cable televisions. I would prefer to see information provided to consumers up-front. I believe we need a greater commitment from the industry and from the Commission for consumer outreach and education if we are to succeed in this transition. What we can require, we should require. Where we can't require, we should exhort, bring parties together, and encourage the development of such practices that will bring needed consumer information to buyers before they become owners.

I vote for today's Order with the understanding that it will not affect any of the rights or remedies available under our nation's copyright laws and cognizant that it is Congress that ultimately sets national policy in this critical and sensitive area. As we implement this decision, I for one, and I trust my colleagues, will remain sensitive to this and not venture into content matters beyond our authority.

I commend the cable and consumer electronics industries for their efforts to reach agreement. It is, however, not the end of the process. There are still many miles to walk here. I expect this decision will provide added impetus to work out the remaining details on bi-directional cable compatibility. As this process moves forward, I hope that the cable and consumer electronics industries will reach out and work more closely with other interested parties to reach consensus. Many individuals and groups have an interest in the outcomes here, and in the next round I will be looking to see if they are more fully consulted as we struggle toward resolution of these often-thorny issues. So when I say that I look forward to working with my colleagues, the industry, and all interested stakeholders to resolve those issues together, I say it with more than passing interest. The bi-directional agreement will need to be more than a bi-polar discussion. We live in a multi-polar world.

The issues attending this item were many, complicated and often highly technical. Our Bureau and personal staffs did yeoman work in developing and plowing through an item that, while it may not answer everyone's fondest hopes and dreams, keeps the digital television transition on track and provides processes to monitor and resolve issues as they develop. I want to salute my colleagues, too, for their immersion in all this and for the constructive cooperation that brought the item to us this morning.

STATEMENT OF
COMMISSIONER KEVIN J. MARTIN

Re: Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment, Second Report and Order and Second Further Notice of Proposed Rulemaking, CS Docket No. 97-80; PP Docket No. 00-67

I support today's decision on compatibility between cable systems and consumer electronics equipment. I believe it is extremely important for the Commission to resolve outstanding DTV-related issues quickly so that affected industries and consumers know the rules of the road. As I wrote a year ago, resolving issues surrounding digital cable compatibility would benefit consumers significantly by allowing the majority of consumers – about 70 percent of consumers who access their programming via cable – to more easily view digital programming. I am glad that we are taking action on this and hope that manufacturers can now incorporate digital broadcast and cable reception capabilities for approximately the same cost as the digital broadcast tuner alone. By ensuring equipment functionality and interoperability for digital cable systems, our action allows manufacturers to build fully integrated "digital cable ready" sets that also incorporate broadcast tuners.

I am disappointed that we were not able to resolve the Broadcast Flag proceeding at the same time. Acting on the content protection rules in both the Plug & Play proceeding and the Broadcast Flag proceeding at the same time would have clarified the rules of the road for all participants in the DTV transition. Still, I am pleased that the Commission has committed in this item to resolving the Broadcast Flag proceeding in the near future, and I look forward to working with my colleagues on this difficult and important issue.

I also note some concerns that I have about the process used to reach this agreement. A number of parties complained to the Commission that they were not afforded an opportunity to express their concerns during the negotiations that culminated in the Plug & Play agreement. These parties argue that the agreement between the cable and consumer electronics industries – which is limited to one-way products – impacts them. I understand that a similar round of industry discussions focused on interactive, two-way products is about to start. I strongly encourage that *all* interested parties be allowed to participate in setting the groundwork for any necessary rules.

Finally, I note the difficulty of these issues and the importance of ensuring that our rules do not impede the legal rights of copyright holders to protect their content.

In all, I believe that today's decision is a good step forward for the transition to digital television.

STATEMENT OF COMMISSIONER JONATHAN S. ADELSTEIN

Re: Second Report and Order and Second Further Notice of Proposed Rulemaking (CS Docket No. 97-80; PP Docket No. 00-67)

Today, the Commission responds to the public readiness for "Digital Cable Ready" devices. The agreement between the cable television and consumer electronics industries giving consumers the ability to get beyond the set-top box and plug their televisions and other devices directly into the digital cable system was a positive step in the resolution of long-pending and complex issues. Today we take the first step toward this reality. Although not perfect, today's action gives us reason for optimism that we can embark on a world of innovation and growth in one-way digital devices and digital content delivery systems. This decision, along with anticipated resolution of these issues and more for two-way interactive devices, should result in more choice of new products and services using the cable infrastructure which will entice consumers to embrace the digital transition.

Our goals are simple – to promote innovation, interoperability, and the inevitable transition to high-definition digital television. It is the methods that have proven complicated over the past several years. I believe we have struck the right balance today between the delicate and competing interests at stake. We adopt rules that will enable new business models to launch. We adopt processes that will allow the Commission to serve as arbiter of disputes. And we seek further comment on those aspects surrounding the agreement where we are least able to predict the results for consumers, cable operators, consumer electronics companies, content providers, and other interested parties.

Today's decision is fundamentally about innovation in the delivery of high value content into people's homes, and in the products that will receive such content. We are taking steps to ensure that all technologies will be evaluated objectively and that testing and certification of devices can be administered by neutral parties. These new devices and technologies will be central to the consumer's experience with digital content as it is integrated into the home network.

We are mindful today of the needs of copyright owners to protect high value content. Our action does not affect any rights or limitations of copyright holders under the copyright law. We preserve flexibility for the later use of certain methods of protecting premium content if it is shown that such uses are necessary and consumer-friendly.

I look forward to the outcome of the ongoing discussions to devise standards and rules for interactive, two-way devices, and encourage the industries to consult with other interested parties as those discussions progress. I also encourage manufacturers and cable operators to work with retailers in a broad outreach campaign to the public. As the public begins to enjoy the new choices available to them, I suspect they will quickly become "Interactive Digital Cable Ready" and demand even more innovative interactive devices which can be brought to market right away.