

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

JAN 14 2003

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

**FURTHER NOTICE OF PROPOSED RULEMAKING**

**Adopted: January 7,2003**

**Released: January 10,2003**

**Comment Date: March 28,2003**

**Reply Comment Date: April 28,2003**

By the Commission:

1. In connection with the ongoing digital television (“DTV”) transition, certain commenters in the above-captioned proceedings have expressed the need for adoption of a standard to ensure the compatibility of cable television systems with DTV receivers and related consumer electronics equipment. To this end, the consumer electronics and cable industries are engaged in ongoing inter-industry discussions seeking to establish a so-called “cable plug and play” standard. Such a standard would allow consumers to directly attach their DTV receivers to cable systems and receive cable television services without the need for an external navigation device.

2. On December 19, 2002, the members of this discussion group, headed by the Consumer Electronics Association (“CEA”) and the National Cable and Telecommunications Association (“NCTA”), filed with the Commission a Memorandum of Understanding (“MOU”) which details an agreement on a cable compatibility standard for an integrated, unidirectional digital cable television receiver, as well as other unidirectional digital cable products.<sup>1</sup> NCTA and CEA assert that unidirectional digital cable television receivers manufactured pursuant to the MOU 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.<sup>2</sup> The receivers would have a Digital Visual Interface

<sup>1</sup> See Letter from Carl E. Vogel, President and CEO, Charter Communications, et al., to Michael K. Powell, Chairman, FCC (Dec. 19, 2002) (“NCTA/CEA Letter”); *Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers* (“NCTNCEA MOU”) (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).

<sup>2</sup> NCTA/CEA MOU at 4.

("DVI") connector with High-Bandwidth Digital Content Protection ("HDCP) to connect with other consumer electronics devices.<sup>7</sup> The MOU also calls for such receivers to contain a point of deployment ("POD") interface slot into which a POD module provided by the cable operator would be inserted in order to view encrypted programming.<sup>4</sup> Due to the unidirectional nature of this receiver specification, an external navigation device will 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").<sup>5</sup> The MOU indicates that the discussion group continues to work on a bidirectional receiver specification which would eliminate the need for an external navigation device to receive advanced services.<sup>6</sup>

3. The compromise reached in the MOU, appended with related supporting materials as Appendix B hereto, requires, *inter alia*, the consumer electronics and cable television 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 an IEEE 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 that would be voluntarily used by consumer electronics manufacturers. This regime would include testing and self-certification standards, as well as consumer information disclosures to purchasers of such receivers and products;

(3) Prohibiting the use of selectable output controls by all multichannel video programming providers ("MVPDs"); and

(4) Adopting encoding rules for audiovisual content applicable to all MVPDs.<sup>7</sup>

4. We hereby seek comment on the MOU and the proposed Commission rules contained therein. We also seek comment on the potential impact of the MOU and its proposed rules upon consumers, content providers, small cable operators and MVPDs other than cable operators, as well as the jurisdictional basis for Commission action in this area, including the creation of encoding rules for audiovisual content provided by MVPDs. As to issues not addressed by the MOU, such as the down-resolution of programming, we seek comment on whether Commission action is needed and authorized.<sup>8</sup> We also seek comment on any other issues germane to the Commission's consideration of the MOU and these proposed rules.

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<sup>1</sup> *Id.* at 5-6.

<sup>4</sup> *Id.* at 5.

<sup>5</sup> *Id.* at 4.

<sup>6</sup> *Id.* at 10.

<sup>7</sup> *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; *Encoding Rules As Proposed to the FCC* at 1-10.

<sup>8</sup> NCTA/CEA Letter at 3.

**ADMINISTRATIVE MATTERS**

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

6. *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).

7. *Accessibility Information.* Accessible formats of this *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](mailto:bmillin@fcc.gov).

8. *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 **March 28, 2003**, and reply comments on or before **April 28, 2003**. 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).

9. 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](mailto: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, Vistrionix, 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.

10. *Initial Paperwork Reduction Act of 1995 Analysis.* This *Further Notice of Proposed Rulemaking* contains proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA). It will be submitted to the Office of Management and Budget (OMB) for review under the PRA. OMB, the general public, and other Federal agencies are invited to comment on the proposed information collection(s) contained in this proceeding.

11. Written comments by the public on the proposed information collection(s) are due 60

days from date of publication of this *Further Notice of Proposed Rulemaking* 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 *Further Notice of Proposed Rulemaking* 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 Judith Boley Herman, Federal Communications Commission, Room 1-C804, 445 12<sup>th</sup> Street, SW, Washington, DC 20554, or via the Internet to [jboley@fcc.gov](mailto:jboley@fcc.gov), and to Kim A. Johnson, OMB Desk Officer, Room 10236 NEOB, 725 17<sup>th</sup> Street, NW, Washington, DC 20503, or via the Internet to [Kim\\_A\\_Johnson@omb.eop.gov](mailto:Kim_A_Johnson@omb.eop.gov).

12. *Regulatory Flexibility Act.* As required by the Regulatory Flexibility Act,<sup>9</sup> the Commission has 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 this *Further Notice of Proposed Rulemaking*. The IRFA is set forth in Appendix A. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines for comments on the *Further Notice of Proposed Rulemaking*, and they should have a separate and distinct heading designating them as responses to the IRFA.

#### ORDERING CLAUSES

13. **IT IS ORDERED** that, pursuant to Sections 1, 4(i) and (j), 303,403, 601, 624A and 629 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i) and (j), 303,403, 521, 544a, 549, **COMMENT IS HEREBY SOUGHT** on the proposals in this *Further Notice of Proposed Rulemaking*.

14. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this *Further Notice of Proposed Rulemaking*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act."

FEDERAL COMMUNICATIONS COMMISSION

  
Marlene H. Dortch  
Secretary

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<sup>9</sup> See 5 U.S.C. § 603.

<sup>10</sup> See 5 U.S.C. § 603(a)

**APPENDIX A**  
**INITIAL REGULATORY FLEXIBILITY ANALYSIS**

As required by the Regulatory Flexibility Act of 1980, as amended ("RFA")<sup>1</sup> the Commission has prepared this Initial Regulatory Flexibility Analysis ("IRFA") of the possible significant economic impact on small entities by the policies and rules proposed in this Further Notice of Proposed Rulemaking ("Further Notice"). 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 Further Notice provided above in paragraph 8. The Commission will send a copy of the Further Notice, including this IRFA, to the Chief Counsel for Advocacy of the **Small Business Administration**.<sup>2</sup> In addition, the Further Notice and IRFA (or summaries thereof) will be published in the Federal Register.]

**A. Need for, and Objectives of, the Proposed Rules.** 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 have 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.<sup>4</sup> The MOU requires the consumer electronics and cable television industries to each commit to certain voluntary acts and seeks the creation or revision of certain relevant Commission rules. The objective of the Proposed Rules, as embodied in the MOU, will be to facilitate the DTV transition.

**B. Legal Basis.** The authority for the action proposed in this rulemaking is contained in Sections 1, 4(i) and (j), 303, 403, 601, 624A and 629 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 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.<sup>5</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental entity" under Section 3 of the Small Business Act.<sup>6</sup> In addition,

<sup>1</sup> 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).

<sup>2</sup> See 5 U.S.C. § 603(a).

<sup>3</sup> See *id.*

<sup>4</sup> See ¶ 2, *supra*, and associated footnotes.

<sup>5</sup> 5 U.S.C. § 603(b)(3).

<sup>6</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies, "unless an agency, after consultation with the Office of Advocacy of the SBA and after opportunity for public comment, establishes one or more definitions of such the term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.

the term “small Business” has the same meaning as the term “small business concern” under the Small Business Act.’ 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”).<sup>8</sup>

Television Broadcasting. The proposed rules and policies could affect television broadcasting licensees, and potential licensees of television service. The Small Business Administration defines a television broadcasting station that has no more than \$12 million in annual receipts as a **small business**.<sup>9</sup> Television broadcasting consists of establishments primarily engaged in broadcasting images together with sound, including the production or transmission of visual programming which is broadcast to the public on a predetermined schedule.” Included in this industry are commercial, religious, educational, and other television stations.” Also included are establishments primarily engaged in television broadcasting and which produce programming in their own studios.<sup>12</sup> Separate establishments primarily engaged in producing programming are classified under other NAICS numbers.<sup>13</sup>

There were 1,509 television stations operating in the nation in 1992.<sup>14</sup> That number has remained

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<sup>7</sup> 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.”

<sup>8</sup> 15 U.S.C. § 632. Application of the statutory criteria of dominance in its field of operation, and independence are sometime difficult to apply in the context of broadcast television. Accordingly, the Commission’s statistical account of television stations may be over-inclusive.

<sup>9</sup> 13 C.F.R. § 121.201, North American Industry Classification System (“NAICS”) code 515120

<sup>10</sup> Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce. 1997 Economic Census, Subject Series – Source of Receipts, Information Sector 51, Appendix B at B-7-8 (2000).

<sup>11</sup> *Id.* See Executive Office of the President, Office of Management and Budget, Standard Industrial Classification Manual (1987), at 283, which describes “Television Broadcasting Stations (SIC code 4833)” as:

Establishments primarily engaged in broadcasting visual programs by television to the public, except cable and other pay television services. Included in this industry are commercial, religious, educational and other television stations. Also included here are establishments primarily engaged in television broadcasting and which produce taped television program materials.

NAICS code 513120, by its terms, supercedes the former SIC code 4833, but incorporates the foregoing inclusive definitions of different types of television stations. See Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series – Source of Receipts, Information Sector 51, Appendix B at B-7-8 (2000).

<sup>12</sup> Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series – Source of Receipts, Information Sector 51, Appendix B at B-7 (2000).

<sup>13</sup> NAICS code 512110 (Motion Picture and Video Production); NAICS code 512120 (Motion Picture and Video Distribution); NAICS code 512191 (Teleproduction and Other Post-Production Services); NAICS code 512199 (Other Motion Picture and Video Industries). We note, however, that these entities are not FCC regulatees or licensees and are not subject to the RFA in this context.

<sup>14</sup> FCC News Release No. 31327, Jan. 13, 1993; Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, Appendix A-9.

fairly constant as indicated by the approximately 1,686 operating television broadcasting stations in the nation as of September 2001.<sup>15</sup> For 1992, the number of television stations that produced less than \$10.0 million in revenue was 1,155 establishments.<sup>16</sup> Thus, the new rules could affect approximately 1,686 television stations; approximately 77%, or 1,298 of those stations are considered small businesses.” These estimates may overstate the number of small entities since the revenue figures on which they are based do not include or aggregate revenues from non-television affiliated companies.

**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.<sup>18</sup> 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.<sup>19</sup> 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.” We last estimated that there were 1,439 cable operators that qualified as small cable companies.” 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 entity or entities whose gross

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<sup>15</sup> FCC News Release, Broadcast Station Totals as of September 30,2001 (rel. Oct. 30,2001).

<sup>16</sup> The amount of \$10 million was used to estimate the number of small business establishments because the relevant Census categories stopped at \$9,999,999 and began at \$10,000,000. No category for \$12 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.

<sup>17</sup> We use the 77 percent figure of TV stations operating at less than \$10 million for 1992 and **apply** it to the 2001 total of 1,686 TV stations to arrive at 1,298 stations categorized as **small** businesses.

<sup>18</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220). This **NAICS** code applies to all services listed **in** this paragraph.

<sup>19</sup> 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.

<sup>20</sup> 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).

<sup>21</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

annual revenues in the aggregate exceed \$250,000,000.”<sup>22</sup> 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.” Based on available data, we find that the number of cable operators serving 685,000 subscribers or less totals approximately 1,450.<sup>24</sup> 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.<sup>25</sup> This definition provides that a small entity is one with \$12.5 million or less in annual receipts.<sup>26</sup> 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.<sup>27</sup> 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.<sup>28</sup> This definition provides that a small entity is one with \$12.5 million or less in annual receipts.<sup>29</sup> 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.<sup>30</sup> 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 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.”

<sup>22</sup> 47 U.S.C. § 543(m)(2).

<sup>23</sup> 47 C.F.R. § 76.1403(b).

<sup>24</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

<sup>25</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>29</sup> *Id.*

<sup>30</sup> *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming*, 12 FCC Rcd 4358,4385 (1996) (“*Third Annual Report*”).

<sup>31</sup> *Id.* at 4385

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**.<sup>32</sup> **LMDS** is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.”

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.” This definition of a small entity in the context of **MDS** auctions has been approved by the SBA.<sup>35</sup> 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.<sup>36</sup> 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**.<sup>37</sup> 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.” 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.<sup>39</sup> 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.” These regulations defining “small entity” in the context of **LMDS** auctions have been approved by the SBA.<sup>41</sup>

<sup>32</sup> *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*”).

<sup>33</sup> *See Local Multipoint Distribution Service*, 12 FCC Rcd 12545 (1997) (“*LMDS Order*”).

<sup>34</sup> 47 C.F.R. § 21.961(b)(1).

<sup>35</sup> *See ITFS Order*, 10 FCC Rcd at 9589.

<sup>36</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220)

<sup>37</sup> *id.*

<sup>38</sup> 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).

<sup>39</sup> *See LMDS Order*, 12 FCC Rcd at 12545.

<sup>40</sup> *id.*

<sup>41</sup> *See* Letter to Daniel Phythyon, Chef, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

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.<sup>42</sup> Industry sources estimate that approximately 5,200 SMATV operators were providing service as of December 1995.<sup>43</sup> Other estimates indicate that SMATV operators serve approximately 1.5 million residential subscribers as of July 2001.<sup>44</sup> 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,<sup>45</sup> OVS falls within the SBA-recognized definition of cable and other program distribution services.<sup>46</sup> This definition provides that a small entity is one with \$ 12.5 million or less in annual receipts.<sup>47</sup> 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<sup>48</sup> as well as radio and television broadcasting and wireless communications equipment.<sup>49</sup> These categories both

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<sup>42</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>43</sup> See *Third Annual Report*, 12 FCC Rcd at 4403-4.

<sup>44</sup> 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*").

<sup>45</sup> See 47 U.S.C. § 573.

<sup>46</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>47</sup> *Id.*

<sup>48</sup> 13 CFR § 121.201, NAICS code 334310.

<sup>49</sup> 13 CFR § 121.201, NAICS code 334220.

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**.<sup>50</sup> 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." 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**.<sup>52</sup> 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**.<sup>53</sup> 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**.<sup>54</sup> 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**.<sup>55</sup> The remaining 19 firms have 1,000 or more employees. We conclude that there are approximately 544 small computer manufacturers.

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<sup>50</sup> 13 CFR § 121.201, NAICS code 334310

<sup>51</sup> 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.

<sup>52</sup> 13 C.F.R. § 121.201, NAICS code 334220.

<sup>53</sup> 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.

<sup>54</sup> 13 C.F.R. § 121.201, NAICS code 334111

<sup>55</sup> 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. 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 the manufacture of digital cable television receivers and other digital cable television consumer electronics equipment. Consumer electronics manufacturers may be required to establish a voluntary labeling regime for unidirectional digital cable television receivers and related digital cable products that meet certain technical specifications.<sup>56</sup> This regime would include testing and self-certification standards, as well as consumer information disclosures to purchasers of such receivers and products.<sup>57</sup> Compliance may also require multichannel video programming distributors to encode certain commercial audiovisual content to prevent or limit its copying and prohibit the use of selectable output controls.<sup>58</sup> Cable operators with systems of 750 MHz or greater activated channel capacity may be required to support operation of unidirectional digital cable products on digital cable systems and to ensure that navigation devices utilized in connection with such systems have an IEEE 1394 interface and comply with specified technical standards.” While these requirements could have an impact on consumer electronics manufacturers and multichannel video programming distributors, it remains unclear whether there would be a differential impact on small entities. We seek comment on whether the burden of these requirements would fall on large and small entities differently.

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.<sup>60</sup>

As indicated above, the Further Notice seeks comment on whether the Commission should adopt or revise rules relating to the creation of a cable “plug and play” standard for digital cable television receivers and other digital cable television consumer electronics equipment in order to facilitate the DTV transition. This regime may require the manufacture of digital cable television receivers and other digital cable television consumer electronics equipment. Consumer electronics manufacturers may be required to establish a labeling regime for unidirectional digital cable television receivers and related digital cable products that meet certain technical specifications. This regime would include testing and self-certification standards, as well as consumer information disclosures to purchasers of such receivers and products. Compliance may also require multichannel video programming distributors to encode certain commercial audiovisual content to prevent or limit its copying and prohibit the use of selectable output controls. Cable operators with systems of 750 MHz or greater activated channel capacity may be required to support operation of unidirectional digital cable products on digital cable systems and to ensure that navigation devices utilized in connection with such systems have an IEEE 1394 interface and comply with specified technical standards. However, we welcome comment on modifications of the proposals if based on evidence of potential differential impact on smaller entities. In addition, the

<sup>56</sup> See *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 (“Proposed Technical Rules”).

<sup>57</sup> *Id.*

<sup>58</sup> See *Encoding Rules As Proposed to the FCC* at 1-10.

<sup>59</sup> *Proposed Technical Rules* at 1-6

<sup>60</sup> 5 U.S.C. § 603(b).

Regulatory Flexibility Act requires agencies to seek comment on possible small entity-related alternatives, as noted above. We therefore seek comment on alternatives to the proposed rules that would assist small entities while maintaining the compromise reached in the Memorandum of Understanding.”

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

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<sup>61</sup> See also ¶ 2, *supra*.

**APPENDIX B**  
**CONSENSUS CABLE MSO-CONSUMER ELECTRONICS**  
**INDUSTRY AGREEMENT ON “PLUG & PLAY” CABLE COMPATIBILITY**  
**AND RELATED ISSUES**

**STAMP AND RETURN**

December 19, 2002

The Honorable Michael K. Powell  
Chairman  
Federal Communications Commission  
445 12<sup>th</sup> Street, S W  
Room 8-B201  
Washington, D.C. 20554

**RECEIVED**

**DEC 19 2002**

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: *Consumer Cable Co. Industry Agreement on*  
*"Plug & Play" Cable Initiative and Related Issues*

Dear Chairman Powell:

We are pleased to report to you today that major cable and consumer electronics companies have reached agreement on a package of joint recommendations to the Commission and agreements on critical technical, legal, and financial issues, that will expedite the deployment of a national "plug and play" digital (DTV) cable standard. When implemented, this initiative will provide the certainty the cable and CE industries need to invest and develop services to spur the digital transition, while preserving the ability of both industries to create innovative products and services on a timely basis in the rapidly-changing marketplace. The parties' agreements are reflected in the attached Memorandum of Understanding.

Assuming implementation of this package, consumers will have the ability to access scrambled digital cable television channels (as well as unscrambled digital and analog channels) through future digital cable-compatible DTV and HDTV receivers on a nationally portable basis, without the use of a cable set-top box. Our agreement also calls for a phase-in schedule for digital connectors on DTV receivers to assure secure connectivity to advanced interactive set-top boxes.

We have also committed to continue working together, expeditiously, toward development of a similar package providing for future product compatibility with advanced interactive digital cable services and we intend to hold our first meeting on these issues in January 2003. These agreements will enable support for "plug and play" consumer electronic products, including DTV and HDTV products with additional interactive features and services such as access to the operator's enhanced electronic program guide, video-on-demand and interactive on-demand services, also without need of a cable set-top box.

"Plug and play" is the short-hand term applied to digital DTV products such as DTV sets with cable set-top functionality included in the set. In recent remarks you described this as one of the remaining steps to the successful migration from analog to digital television. You have observed that the "basic technical standards are now largely complete" for such interactive TV products, and noted that the "cable and CE industries are working to resolve remaining technical issues, and they are making good progress." Our

The Honorable Michael K. Powell  
December 19, 2002

agreement, embracing a range of regulatory recommendations and private sector technical, licensing, and customer support regimes. should put us on a clear path and schedule to meeting this challenge.

With the encouragement of Commission officials such as yourself; the other Commissioners, Media Bureau Chief Ferree, DTV Task Force Chair Chessen and other Commission staff, as well as Congressional leaders such as Chairman Tauzin, Chairman Upton and Ranking Members Dingell and Markey and their staffs and Senators McCain and Hollings, senior executives of cable multiple system operators ("MSOs") and consumer electronics ("CE") manufacturers have engaged in five months of extensive negotiations to resolve questions and concerns regarding the interoperability of cable systems and consumer electronics equipment, particularly (but not exclusively) DTV receivers with integrated set-top functionality.

You have **described** some of the key issues that needed resolution as "business" issues. We share your belief that voluntary inter-industry commercial agreements are generally preferable to government regulation. Therefore, our voluntary, private sector agreements about standards, testing, interoperability, and consumer support are at the core of our "package." These agreements, however, assume and depend upon implementation by the Commission of certain regulations that we recommend. Accordingly, we have drafted and enclosed a set of documents that include draft regulations. Clearly these are in the Commission's purview. However, we consider the joint agreements embodied in these recommendations for regulations to be essential elements of the mutual understandings we have achieved.

The enclosed documents include jointly recommended draft regulations. The regulations would provide that cable operators, in digital cable systems of 750 MHz or greater activated channel capacity, shall provision their systems to support the "plug and play" operation of "Unidirectional Digital Cable Products." Cable operators must support devices with the POD-Host Interface built to SCTE standards, supply compatible separate security "POD" modules to customers, and upon their request, HD set-top boxes with IEEE 1394 digital connectors. The proposed regulations also provide that products, including DTV receivers, that are labeled or marketed as able to connect directly to digital cable systems shall meet certain criteria. In particular, those HDTVs that bear the specified labels, or are otherwise marketed as "cable ready," "cable compatible," or as accepting a POD, or otherwise convey the impression that the device is fully compatible with digital cable service, must include "DVVHDCP" or "HDMI/HDCP" secure digital connectors on a phased-in basis. The labeling/marketing regime would also ensure that manufacturers will self-certify their products under a test suite to be developed jointly by manufacturers and cable operators, which will include tests specifically aimed to prevent harm to the cable network. **As** part of the self-certification process, a manufacturer's first digital television product will be submitted for interoperability testing. A manufacturer's first non-television product will be submitted for testing with regard to harm to the network unless such manufacturer has previously completed testing for a digital television product.

The Honorable Michael K. Powell  
December 19, 2002

Also enclosed is a joint regulatory recommendation related to copy protection issues, including "encoding rules." This recommendation provides for "encoding rules" modeled generally on those of Section 1201(k) of the Digital Millennium Copyright Act of 1998 ("DMCA") and the existing license for "DTCP" technology, including provisions for new business models, and that would apply to content delivered by all Multichannel Video Program Distributors ("MVPDs"), including cable. The rules include a ban on the use of "selectable output control" technology by all MVPDs, and the parties' agreement is contingent on FCC adoption of such rules. With the exception of unencrypted broadcast television, the proposed rules do not address down-resolution of programming. However, the lack of such a provision should not be construed as an indication that down-resolution should or should not be permitted, but rather that the Commission should resolve this issue.

We are also attaching, for informational purposes only, a patent license for the "DFAST" patent technology that ensures secure receipt of certain programming scrambled by local cable operators. Use of this technology in the "PODs" provided by the operators, and in the DTV receivers and other products made by consumer electronics manufacturers, is a key to "plug and play" compatibility on a nationally portable basis. The DFAST license is contingent upon implementation by the FCC of the attached regulatory recommendations, and the undertakings of the parties as described in the enclosed Memorandum of Understanding. We are not seeking any FCC action on the terms of this license.

This agreement is a comprehensive package, reflecting compromises by all of the parties, with the goal of each industry being to provide the American consumer with innovative and valuable digital products and services. As a result, our mutual support for this agreement rests on the recognition that all elements of it are essential. Our proposed regulations address a number of essential technical issues, and are complemented by our commitments with respect to testing, interoperability, the DFAST technology license agreement, labeling, and customer support. Therefore our mutual, private sector undertakings, described in the attached Memorandum of Understanding, are contingent on the adoption of FCC rules as described above.

Mr. Chairman, we applaud the leadership that you, the other Commissioners, and Congressional leaders have shown in guiding the many industries with a stake in the digital transition along a path to, as you put it, "bring the transition home." You have said that "pieces of the puzzle are starting to come together." We hope the agreement we present to you today will provide a critical piece for that puzzle and will hasten the day when all consumers can enjoy the benefits of the digital television world.

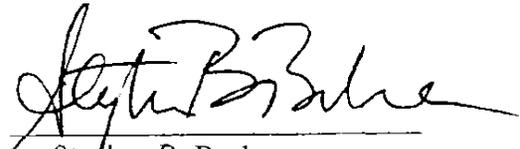
Sincerely,

The Honorable Michael K. Powell  
December 19, 2002

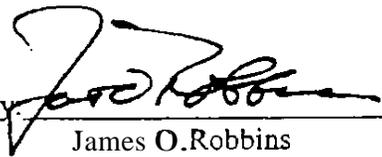
Charter Communications, Inc

By:   
\_\_\_\_\_  
Carl E. Vogel  
President and CEO

Comcast Cable Communications, Inc

By:   
\_\_\_\_\_  
Stephen B. Burke  
President

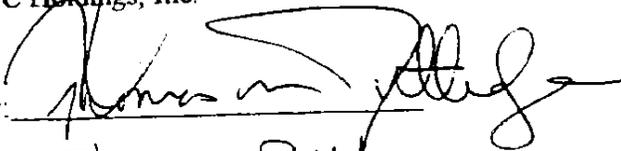
Cox Communications, Inc

By:   
\_\_\_\_\_  
James O. Robbins  
President and CEO

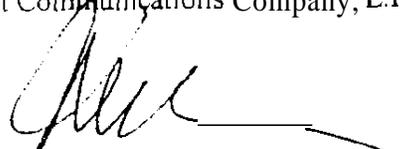
Time Warner Cable

By:   
\_\_\_\_\_  
Glenn A. Britt  
Chairman and CEO

CSC Holdings, Inc.

By:   
\_\_\_\_\_  
Thomas M. Rutledge  
President

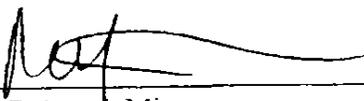
Insight Communications Company, L.P

By:   
\_\_\_\_\_  
Michael S. Willner  
Vice Chairman and CEO

Cable One, Inc.

By:   
\_\_\_\_\_  
Thomas O. Might  
President and CEO

Advance/Newhouse Communications

By:   
\_\_\_\_\_  
Robert Miron  
Chairman and CEO

The Honorable Michael K. Powell  
December 19, 2002

Hitachi America, Ltd



By: \_\_\_\_\_  
Name: Shigetaka Hikosaka  
Title: Vice President and Deputy  
General Manager

JVC Americas Corp



By: \_\_\_\_\_  
Name: Shigeharu Tsuchitani  
Title: Chairman, President, C.E.O.

Mitsubishi Digital Electronics America, Inc



By: \_\_\_\_\_  
Name: Robert A. Perry  
Title: Vice-President, Marketing

Matsushita Electric Corp. of America  
(Panasonic)



By: \_\_\_\_\_  
Name: Paul F. Liao  
Title: Chief Technology Officer

Philips Consumer Electronics North America,  
a division of Philips Electronics North America  
Corporation



By: \_\_\_\_\_  
Name: Thomas M. Hafner  
Title: Vice President and General Counsel

Pioneer North America, Inc



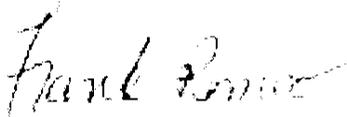
By: \_\_\_\_\_  
Name: Yuichiro Takayanagi  
Title: Senior Vice President -  
Business Relations &  
Intellectual Property

The Honorable Michael K. Powell  
December 19, 2002

Runco International, Inc.

By: \_\_\_\_\_  
Name: Sam Runco  
Title: CEO

Samsung Electronics Corporation

  
By: \_\_\_\_\_  
Name: Frank Romeo  
Title: Director, DTV Business  
Development

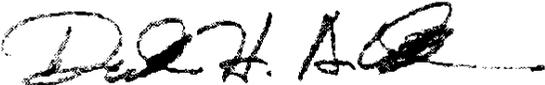
Sharp Electronics Corporation

  
Name: Rick B. Calacci  
Title: Senior Vice President & Group  
General Manager, Consumer  
Electronics Group

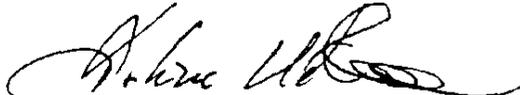
Sony Electronics Inc.

  
Name: Frank M. Leshner  
Title: Executive Vice President,  
Law, External Affairs  
and Intellectual Property

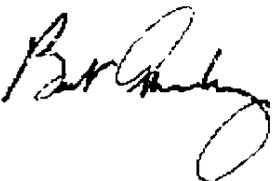
Thomson

  
By: \_\_\_\_\_  
Name: Dave Arland  
Title: Director, Worldwide Public &  
Trade Relations. Consumer Products

Toshiba America Consumer Electronics  
Inc

  
By: \_\_\_\_\_  
Name: Tom Uchiike  
Title: President & C.E.O.

Yamaha Electronics Corporation, USA

  
By: \_\_\_\_\_  
Name: Bart Greenberg  
Title: National Sales Manager -  
Video Products

Zenith Electronics Corporation

  
By: \_\_\_\_\_  
Name: John I. Taylor  
Title: Corporate Vice President

The Honorable Michael K. Powell  
December 19,2002

cc: Commissioner Kathleen Q. Abernathy  
Commissioner Michael J. Copps  
Commissioner Kevin J. Martin  
Commissioner Jonathan S. Adelstein  
Susan Eid, Legal Advisor to Chairman Powell  
Stacy Robinson, Legal Advisor to Commissioner Abemathy  
Alexis Johns, Legal Advisor to Cornmissioner Copps  
Catherine Bohigian, Legal Advisor to Commissioner Martin  
Sarah Whitesell, Legal Advisor to Commissioner Adelstein  
W. Kenneth Ferree, Chief, Media Bureau  
Rick Chessen, Associate Bureau Chief, Media Bureau  
Thomas Horan. Legal Advisor to Chief, Media Bureau  
William Johnson, Deputy Chief, Media Bureau  
Deborah Klein, Chief of Staff, Media Bureau  
Mary Beth Murphy, Division Chief, Policy Division. Media Bureau  
Steve Broeckhart, Deputy Chief, Policy Division. Media Bureau  
John Wong, Division Chief. Engineering Division, Media Bureau  
Michael Lance, Deputy Chief, Engineering Division, Media Bureau  
Robert Pepper, Chief, Office of Plans and Policy  
Amy Nathan, Senior Legal Counsel. Office of Plans and Policy  
Jonathan Levy. Deputy Chief Economist. Office of Plans and Policy  
Bruce Franca, Deputy Chief. Office of Engineering and Technology  
Susan Mort, Attorney Advisor, Media Bureau  
Marlene H. Dortch, Secretary (for inclusion in CS Docket No. 97-80 and PP Docket No.  
00-67)  
Hon. W.J. "Billy" Tauzin  
Hon. Fred Upton  
Hon. John D. Dingell  
Hon. Edward J. Markey  
Hon. John McCain  
Hon. Ernest F. Hollings

Attachments:

Memorandum of Understanding  
DFAST Technology License Agreement  
Recoinmended Regulations to Ensure Compatibility  
Recommended Regulations, Encoding Rules  
February 2000 NCTA/CEA PSIP Agreement