

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

In the Matter of:
Digital Broadcast Content Protection¹
MB Docket 02-230

REPORT AND ORDER AND
FURTHER NOTICE OF PROPOSED RULEMAKING

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By the Commission: Commissioner Abernathy issuing a separate statement; Commissioners Copps and Adelstein approving in part, dissenting in part and issuing separate statements.

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¹ The name of this proceeding has been changed from Digital Broadcast Copy Protection to Digital Broadcast Content Protection to reflect that the redistribution control regime adopted herein for digital broadcast television in no way limits or prevents consumers from making copies of digital broadcast television content.

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## I. INTRODUCTION AND SUMMARY

1. As the digital television (“DTV”) transition progresses, the issue of content protection has become increasingly important and contentious. Content owners assert that content protection mechanisms are needed to assure the availability of high value digital content to consumers in a secure, protected format. Others express concerns that the use of technical measures to protect content will inhibit consumers’ ability to enjoy programming when and where they choose. In order to advance the DTV transition, a delicate balance must be struck between these sometimes competing interests.

2. We have already explored this dynamic in the cable and multichannel video programming distribution (“MVPD”) context in our recent *Second Report and Order and Second Further Notice of Proposed Rulemaking* relating to digital cable compatibility.<sup>2</sup> In that proceeding, we set forth technical and labeling rules designed to ensure that unidirectional digital cable products will be able to connect to and interoperate with digital cable systems, as well as encoding rules that establish certain parameters within which MVPDs may implement copy protection mechanisms.<sup>3</sup> Resolution of these issues in the MVPD context, however, has

<sup>2</sup> *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment*, CS Docket No. 97-80 and PP Docket NO. 00-67, FCC No. 03-225 (rel. Oct. 9, 2003) (“*Digital Cable Compatibility Order and FNPRM*”).

<sup>3</sup> *Digital Cable Compatibility Order and FNPRM* at Sections III, IV and V.

highlighted the importance of content protection to digital broadcasting.

3. Issues relating to content protection are particularly acute in the broadcast realm because of the service's nature – it is transmitted in the clear via the public airwaves. In our *Notice of Proposed Rulemaking*, we sought comment on whether some mechanism was needed to protect digital broadcast television content from potential unauthorized redistribution concerns.<sup>4</sup> We also sought comment on the appropriate protection mechanism, including the Redistribution Control Descriptor set forth in ATSC Standard A/65 (the “ATSC flag” or “flag”),<sup>5</sup> as well as on what regulations were needed on the transmission or reception side to give effect to such mechanism.<sup>6</sup>

4. In this *Report and Order*, we conclude that the potential threat of mass indiscriminate redistribution will deter content owners from making high value digital content available through broadcasting outlets absent some content protection mechanism. Although the threat of widespread indiscriminate retransmission of high value digital broadcast content is not imminent, it is forthcoming and preemptive action is needed to forestall any potential harm to the viability of over-the-air television. Of the mechanisms available to us at this time, we believe that an ATSC flag-based regime will provide content owners with reasonable assurance that DTV broadcast content will not be indiscriminately redistributed while protecting consumers' use and enjoyment of broadcast video programming. Pursuant to the doctrine of ancillary jurisdiction, we adopt use of the ATSC flag as currently defined for redistribution control purposes and establish compliance and robustness rules for devices with demodulators to ensure that they respond and give effect to the ATSC flag. We decline to adopt similar compliance and robustness rules for devices with modulators as the record in this proceeding does not reflect a need for regulation in this sphere to protect the viability of over-the-air television. Finally, we defer decision on a permanent approval mechanism for content protection and recording technologies to be used in conjunction with device outputs. We initiate a *Further Notice of Proposed Rulemaking* to examine these issues in greater detail. As an interim procedure, however, we will allow proponents of a particular content protection or recording technology to certify to the Commission that such technology is an appropriate tool to give effect to the ATSC flag, subject to public notice and objection.

## II. DIGITAL BROADCAST TELEVISION AND CONTENT PROTECTION

5. As an initial matter, we must address the appropriate type of content protection for digital broadcast television. MPAA advances the use of a redistribution control system which would limit the redistribution of digital broadcast television content, but not restrict consumers from copying programming for their personal use.<sup>7</sup> A number of commenters agree in principle that consumers' ability to record digital broadcast television should not be restricted.<sup>8</sup> We concur

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<sup>4</sup> *Digital Broadcast Copy Protection*, 17 FCC Rcd 16027 (2002) (“*NPRM*”).

<sup>5</sup> See ATSC A/65B, Program and System Information Protocol for Terrestrial Broadcast and Cable (ATSC 2003) (“ATSC A/65B”).

<sup>6</sup> *Digital Broadcast Copy Protection*, 17 FCC Rcd at 16028-29.

<sup>7</sup> Motion Picture Association of America (“MPAA”) Comments at 6-8.

<sup>8</sup> Arizona Consumers Council, *et al.* Comments (“Joint Consumer Groups”) at 5-6; Center for Democracy and Technology (“CDT”) Comments at 1-2; Computer and Communications Industry Assoc. (“CCIA”) Comments at 5-6, 16-17, 19; Consumer Electronics Assoc. (“CEA”) Comments at 2-3, 7-8; CEA Reply (continued....)

and find that redistribution control is a more appropriate form of content protection for digital broadcast television than copy restrictions. This determination is in keeping with our earlier decision to prohibit copy restrictions on unencrypted digital broadcast television when retransmitted on MVPD systems.<sup>9</sup>

6. In this context, we examine the potential vulnerability of digital broadcast content to indiscriminate redistribution. Supporters of a content protection system state that compelling digital broadcast programming is critical to the DTV transition and that such content is inherently at a greater risk of widespread redistribution as compared to its analog counterpart because digital media can be easily copied and distributed with little or no degradation in quality.<sup>10</sup> Content owners and broadcasters uniformly assert that DTV broadcast content must be protected and that, in the absence of some protection mechanism, high value content will be withheld from broadcast television and migrate to pay services.<sup>11</sup> Viacom specifically argues that a redistribution control system is needed in order to maintain multiple distribution channels for content as a means of recouping the content's cost.<sup>12</sup> For example, if first run DTV broadcast content were freely available over the Internet, then secondary, international and webcast markets could be threatened.<sup>13</sup> MPAA cautions that if current trends in compression efficiency, storage capacity and broadband speed persist, then in a few years it will take less time to download a high definition movie than to watch it.<sup>14</sup>

7. Critics suggest that this threat is overstated and that limits to existing broadband capacity will prevent widespread Internet retransmission of high definition digital content for the immediate future.<sup>15</sup> One estimate indicates that it could take as much as four days to upload a one

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Comments at 1, 8; DIRECTV, Inc. ("DIRECTV") Reply Comments at 6-7; Electronic Frontier Foundation ("EFF") Reply Comments at 24-25; Home Recording Rights Coalition ("HRC") Comments at 1-2, 4; Information Technology Assoc. of America ("ITAA") Comments at 14; Information Technology Industry Council ("ITIC") Comments at 4; Internet Commerce Coalition, *et al.* ("ICC") Comments at 6; National Cable and Telecommunications Assoc. ("NCTA") Comments at 2, 9, 12-13; National Music Publishers Assoc. ("NMPA") Comments at 9, 13; NBC, Inc. ("NBC") Comments at 4; North American Broadcasters Assoc. ("NABA") Comments at 1; Philips Electronics North America ("Philips") Comments at 9-11, 20, 27; Thomson Inc. ("Thomson") Comments at 6-9, 11; TiVo Inc. ("TiVo") Comments at 2-4.

<sup>9</sup> *Digital Cable Compatibility Order and FNPRM* at Section V.D.

<sup>10</sup> Motorola Comments at 3; Viacom Comments at 12-15; NFL, *et al.* ("NFL") Reply Comments at 2-7 ("NFL").

<sup>11</sup> American Society of Composers, Authors and Publishers, *et al.* ("ASCAP") Comments at 1-2; CBS Television Affiliates Assoc. ("CBS Affiliates") Comments at 2-3; Center for Public Broadcasting, *et al.* ("CPB") Reply Comments at 2; Directors Guild of America, Inc. ("DGA") Comments at 1-3; Banks Broadcasting, Inc., *et al.* ("Banks") Comments at 2; MPAA Comments at 6-8; MPAA Reply Comments at 2-13; NMPA Reply Comments at 2-5; NBC Television Affiliates Assoc. ("NBC Affiliates") Comments at 1-3; NBC Comments at 2; NFL Comments at 6-12; NFL Reply Comments 2-7; NABA Comments at 1.

<sup>12</sup> Viacom Comments at 4-6.

<sup>13</sup> NFL Comments at 6-12.

<sup>14</sup> Letter from Bruce E. Boyden, Council for MPAA, Proskauer Rose LLP, to Marlene Dortch, Secretary, FCC at Attachment (May 7, 2003).

<sup>15</sup> American Library Assoc. ("Library Group") Comments at 9; Joint Consumer Groups Comments at 1-5, 9; CCIA Comments at 7-10, 17, 20; EFF Comments at 2-7; EFF Reply Comments at 2-9; HRC

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hour HDTV broadcast program to the Internet at standard consumer broadband speeds.<sup>16</sup> In direct contrast to the estimates for future broadband capacity supplied by MPAA, Public Knowledge suggests that there are hard limits on the possible advances in video compression and broadband speed.<sup>17</sup> Indeed, several commenters emphasize that programming in analog or standard definition is more susceptible to Internet redistribution than high definition content.<sup>18</sup> To the extent that television content is being redistributed over the Internet today, EFF contends that such content does not come from DTV broadcasts but rather has been captured from analog NTSC broadcasts or cable transmissions.<sup>19</sup>

8. Although we acknowledge that technological constraints will inhibit the redistribution of HDTV over the Internet for the immediate future, we anticipate that the potential for piracy will increase as technology advances.<sup>20</sup> As demonstrated by the presence today of analog broadcast content on peer-to-peer file sharing networks, we believe that content owners are justifiably concerned about protecting all DTV broadcast content, including both standard definition and high definition formats, from indiscriminate retransmission in the future. We recognize that piracy concerns are likely to be addressed through a number of approaches, including consumer education, law enforcement, and changed business models. In order to effectively address these concerns, however, we believe that technological steps must be taken now before the DTV transition matures any further. We are reaching a critical juncture in the transition – the forthcoming availability of digital cable ready televisions with off-air reception capability will dramatically increase the number of consumers with access to DTV content and services.<sup>21</sup> Rather than exacerbate the potential legacy problem, we believe that these devices must have some mechanism for protecting digital broadcast content. We conclude that by taking preventative action today, we can forestall the development of a problem in the future similar to that currently being experienced by the music industry. In so doing, we believe that this will not

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Comments at 4-5; HRRC Reply Comments at 1-3; ITAA Reply Comments at 1, 4; Law Office of Adam Hill Comments at 9; Philips Comments at 2, 7, 11, 13-15; Philips Reply Comments at 2, 12, 15-19; Public Knowledge and Consumers Union (“PK & CU”) Comments at 6-12; PK & CU Reply Comments at 2, 4, 6-11; Raffi Krikorian Reply Comments at 14-15.

<sup>16</sup> Raffi Krikorian Reply Comments at 15.

<sup>17</sup> Letter from Mike Godwin, Senior Technology Counsel, Public Knowledge, to Marlene Dortch, Secretary, FCC at Attachment (May 23, 2003) (“*How to Misuse Tech Statistics*”).

<sup>18</sup> CCIA Comments at 7-8; Philips Reply Comments at 19-20; PK & CU Reply Comments at 6-11.

<sup>19</sup> EFF Reply Comments at 3.

<sup>20</sup> See Letter from Alan Davidson, Center for Democracy and Technology, to Marlene Dortch, Secretary, FCC at Attachment (Oct. 24, 2003) (“[c]ontent provider concerns about the long-term risk of widespread online copying of DTV content have merit, and it is reasonable to seek a solution before it is too late”); Letter from Fritz Attaway, MPAA, to W. Kenneth Ferree, FCC at Attachment (Oct. 3, 2003) (announcement and related press article reporting that Comcast is doubling its downstream speed for broadband service from 1.5 Mbps to 3.0 Mbps at no additional cost to consumers). Experiments to further increase Internet speeds are ongoing. See Letter from Mace J. Rosenstein, Hogan & Hartson, to Marlene Dortch, Secretary, FCC at Attachment (Sept. 26, 2003) (California Institute of Technology press release “Caltech computer scientists develop FAST protocol to speed up Internet”).

<sup>21</sup> See *Digital Cable Compatibility Order and FNPRM* at Section III; *Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, 17 FCC Red 15978 (2002) (directing that television sets contain digital tuners on a phased-in basis, beginning in July 2004).

only alleviate the concerns of content owners, but also will ensure the continued availability of high value DTV content to consumers through broadcast outlets.

9. In light of our decision to adopt a redistribution control scheme and to avoid any confusion, we wish to reemphasize that our action herein in no way limits or prevents consumers from making copies of digital broadcast television content. Furthermore, the scope of our decision does not reach existing copyright law. The creation of a redistribution control regime establishes a technical protection measure that broadcasters may use to protect content. However, 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, circumvention, or other applicable laws.

10. We also wish to clarify our intent that the express goal of a redistribution control system for digital broadcast television be to prevent the indiscriminate redistribution of such content over the Internet or through similar means. This goal will not (1) interfere with or preclude consumers from copying broadcast programming and using or redistributing it within the home or similar personal environment as consistent with copyright law, or (2) foreclose use of the Internet to send digital broadcast content where it can be adequately protected from indiscriminate redistribution. In our *Further Notice of Proposed Rulemaking* below, we seek comment on the appropriate process and criteria for approving content protection technologies and recording methods to be used in conjunction with a flag-based redistribution control system. It is our intent and belief that these technologies can protect content while facilitating innovative consumer uses and practices, including use of the Internet as a secure means of transmission. We also anticipate that these technologies can promote consumer access to content in new and meaningful ways, such as helping to devise accessible formats of content for the blind and visually impaired. It is our hope, therefore, that many different content protection and recording technologies, including but not limited to digital rights management, software-based, and non-encryption alternatives, will emerge to facilitate these uses. Our *Further Notice of Proposed Rulemaking* also seeks comment on the usefulness of defining a personal digital network environment (“PDNE”) within which consumers could freely redistribute digital broadcast television content. We do not, however, believe that it is necessary at this time to define the precise boundaries of a PDNE in order to initiate a redistribution control scheme for digital broadcast television. Our immediate concern is to adopt and begin implementation of a content protection scheme that will prevent the unfettered dissemination of digital broadcast content through means such as the Internet. Below we consider the various mechanisms advanced by commenters.

### III. CONTENT PROTECTION ALTERNATIVES

11. In our *Notice of Proposed Rulemaking*, we sought comment on different mechanisms that could potentially be used to protect DTV broadcast content from indiscriminate redistribution, including but not limited to the so-called “broadcast flag” proposal.<sup>22</sup> Although most commenters focused on a flag-based scheme, several alternative protection mechanisms were proffered. We conclude that, of the mechanisms available to us today, an ATSC flag-based system is the best option for providing a reasonable level of redistribution protection at a minimal cost to consumers and industry.

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<sup>22</sup> *NPRM*, 17 FCC Rcd at 16028.

### A. The ATSC Flag

12. One of the leading proposals for a DTV broadcast content protection mechanism involves the use of a redistribution control descriptor or flag to signal DTV reception equipment to limit the indiscriminate redistribution of digital broadcast content. Development of an ATSC flag system occurred in the Broadcast Protection Discussion Subgroup (“BPDG”) under the auspices of the Copy Protection Technical Working Group (“CPTWG”). From November 2001 to June 2002, more than 80 representatives from the consumer electronics, information technology, motion picture, cable and broadcast industries took part in the BPDG discussions.<sup>23</sup>

13. The *BPDG Final Report* states that there was agreement among the participants concerning the technological means for signaling protection in a flag-based system, which has otherwise been adopted as a part of the ATSC A/65B standard, but disagreements remained on other aspects of a flag protection system.<sup>24</sup> The ATSC flag itself represents a series of bits, several of which define the descriptor tag and length with others reserved for “optional additional redistribution control information that may be defined in the future.”<sup>25</sup> The *BPDG Final Report* anticipates that demodulators in DTV broadcast reception equipment would recognize the presence of the ATSC flag and then signal the device to output the marked content to connectors associated with approved content protection or recording technologies.<sup>26</sup> In order for a flag-based protection system to work, therefore, all demodulators used in DTV broadcast reception equipment would need to have the ability to recognize and give effect to the ATSC flag and a list of approved content protection and recording technologies would need to be developed.

14. MPAA advocates adoption of the ATSC flag system and characterizes it as an effective and unobtrusive content protection mechanism that will serve as a “speed bump” to ensure that DTV broadcast content is not indiscriminately redistributed.<sup>27</sup> MPAA stresses that an ATSC flag system would only limit redistribution of content and not prevent consumer copying.<sup>28</sup> Compared with alternative content protection systems, MPAA suggests that implementation of an ATSC flag scheme would add little or no cost to reception devices as it would “piggy-back” on existing content protection mechanisms in place for pay television content.<sup>29</sup> Legacy devices

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<sup>23</sup> Final Report of the Co-Chairs of the Broadcast Protection Discussion Subgroup to the Copy Protection Technical Working Group at 4 (June 3, 2002) (“*BPDG Final Report*”); see also Letter from Mace Rosenstein, Hogan & Hartson, to Marlene Dortch, Secretary, FCC at Attachment 1 (Sept. 26, 2003).

<sup>24</sup> ATSC A/65B, Program and System Information Protocol for Terrestrial Broadcast and Cable (ATSC 2003) (referred to in the *BPDG Final Report* as its predecessor version ATSC A/65A) (“ATSC A/65B”). See Philips Comments at 25-26; American Federation for the Blind (“AFB”) Comments at 2; PK & CU Comments at 13-18. We clarify that we are adopting the technical parameters of the redistribution control descriptor identified in the March 18, 2003 version of ATSC A/65B.

<sup>25</sup> ATSC A/65B at 79.

<sup>26</sup> *BPDG Final Report* at 11-12.

<sup>27</sup> MPAA Comments at 12.

<sup>28</sup> *Id.* at 6 n.3.

<sup>29</sup> MPAA Reply Comments at 16. See also Letter from David H. Arland, Thomson, to Marlene Dortch, Secretary, FCC (Oct. 8, 2003) (“there is very little cost involved for a manufacturer to implement [flag recognition], assuming that existing technologies such as DTCP (5C) are accepted as approved Broadcast Flag protection technologies”) (“Thomson 10/8/03 Letter”); Letter from John Taylor, Zenith, to Michael K. Powell, FCC (Oct. 30, 2003) (“Zenith expects that the cost of implementing the broadcast flag in its  
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would also remain functional under a flag regime, allowing consumers to continue their use without the need for new or additional equipment to receive and view signals.<sup>30</sup>

15. Several commenters voice qualified support for a flag-based system, subject to certain conditions. CEA indicates that it would not object to a flag-based system, so long as it did not interfere with consumer copying abilities.<sup>31</sup> Multichannel video programming distributors (“MVPDs”) also endorse use of the ATSC flag, although the cable industry would prefer an express limitation restricting its use to the prevention of Internet retransmission as well as a professional equipment exemption for MVPDs that can protect broadcast content through other mechanisms, such as encryption.<sup>32</sup>

16. Critics of the ATSC flag point out that the *BPDG Final Report* did not reflect widespread consensus among the group’s participants.<sup>33</sup> A number of significant issues were left unresolved by the participants, including the identification of an approval process for content protection or recording technologies (referred to as the “Table A” process) and defining the scope of which downstream consumer electronics devices might constitute part of a digital home network under an ATSC flag redistribution scheme.<sup>34</sup> Opponents also question the implementation costs involved in a flag system by suggesting that the inclusion of technology in television receivers and other equipment to recognize and give effect to the flag will unfairly burden consumers.<sup>35</sup>

17. Other criticisms levied at the proposed ATSC flag involve potential holes in its protection system. Consumer groups argue that the ATSC flag is an inadequate tool to protect content and would stifle innovation.<sup>36</sup> Other commenters suggest that the ATSC flag could be easily circumvented, potentially through the use of digital to analog converters.<sup>37</sup> Several commenters also express concern that the presence of component analog outputs on reception devices would vitiate any protection offered by flag recognition technology.<sup>38</sup> The term “analog

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products with digital outputs to be very small”) (“Zenith 10/30/03 Letter”). There may be additional cost to implement the flag to the extent manufacturers cannot or do not rely on existing content protection technologies. See Thomson 10/8/03 Letter.

<sup>30</sup> MPAA Comments at 27.

<sup>31</sup> CEA Comments at 3-4.

<sup>32</sup> DIRECTV Comments at 2-3; NCTA Comments at 2-3, 8, 10-11, 13-14; NCTA Reply Comments at 1-2, 4-7.

<sup>33</sup> See Philips Comments at 25-26; AFB Comments at 2; PK & CU Comments at 13-18.

<sup>34</sup> *BPDG Final Report* at 18-21.

<sup>35</sup> Veridian Corporation (“Veridian”) Comments at 12-13; Veridian Reply Comments at 3-4.

<sup>36</sup> EFF Comments at 17-19; Joint Consumer Groups Comments at 1, 9; PK & CU Comments at 2; PK & CU Reply Comments at 11-15.

<sup>37</sup> See e.g., IT Coalition Comments at 17 n.44; PK & CU Comments at 15-17.

<sup>38</sup> Digimarc Corporation & Macrovision Corporation (“Digimarc & Macrovision”) Comments at 3-6; EFF Comments at 11-12; EFF Reply Comments at 27; HRRC Comments at 2; ITIC Comments at 3; NMPA Reply Comments at 3, 13; NFL Comments at 13-14; NFL Reply Comments at 11-12; Philips Comments at 3, 11-13, Appendix A; Philips Reply Comments at 3, 14-15; PK & CU Comments at 15-17; PK & CU Reply Comments at 13-15; Verizon Comments at 3.



hole” refers to the fact that high quality content can be transmitted over component analog outputs without content protection.<sup>39</sup> Although several technological approaches, including watermarks and forensic fingerprints, are being developed to potentially address this problem by the inter-industry Analog Reconversion Discussion Group (“ARDG”), the record in this proceeding does not reflect that an immediate solution is forthcoming.<sup>40</sup> In a similar vein, critics note that non-compliant legacy devices will allow content to be output without giving recognition and effect to the ATSC flag and that non-compliant hardware or software demodulators could be produced with relative ease by individuals with some degree of technical sophistication.<sup>41</sup>

18. A number of parties have questioned whether adoption of a flag system would restrict legitimate activities relating to the use of digital broadcast content. The American Library Association stresses that public access to digital media for educational purposes is critical and that certain copyright law principles, including fair use, exemptions for preservation and archiving, and distance education, should be codified by the Commission.<sup>42</sup> The American Foundation for the Blind expresses concern that a flag system could interfere with the ability of handicapped individuals to reverse engineer commercial hardware and software equipment or to manipulate digital broadcast content in order to produce assistive devices.<sup>43</sup> As discussed above, our adoption of a flag redistribution control system for digital broadcast television content is not intended to alter or affect any underlying copyright principles, rights or remedies. It is therefore unnecessary for the Commission to independently codify existing copyright law. To the extent that the Digital Millennium Copyright Act prevents the circumvention of technical protection measures in some circumstances, we recognize that specific exceptions exist for nonprofit libraries, archives and educational institutions, as well as for reverse engineering in certain circumstances.<sup>44</sup> Nothing in the rules we are adopting interferes with these exceptions or the ability of parties to make use of assistive technologies. To the extent allowed by other laws, we will administer our flag rules and, in particular, our approval process of output content protection technologies and recording methods to foster the continued availability of content to consumers in accessible formats.

19. We recognize the concerns of commenters regarding potential vulnerabilities in a flag-based protection system. We are equally mindful of the fact that it is difficult if not impossible to construct a content protection scheme that is impervious to attack or circumvention. We believe, however, that the benefits achieved by creation of a flag-based system – creating a “speed bump” mechanism to prevent indiscriminate redistribution of broadcast content and

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<sup>39</sup> The analog hole is not a problem specific to a flag-based system; it also exists in the MVPD context. See *Digital Cable Compatibility Order and FNPRM* at Section V.B and V.C.

<sup>40</sup> The ARDG is a subgroup of the Copy Protection Technology Working Group. See <http://www.cptwg.org>.

<sup>41</sup> EFF Comments at 10-11; Electronic Privacy Information Center (“EPIC”) Comments at 2; HRRC Comments at 7; PK & CU Comments at 15-17; Veridian Comments at 2-3.

<sup>42</sup> Library Group Comments at 6-18.

<sup>43</sup> Areas of particular concern include: the ability to access and manipulate user-level controls and service menus, the deconstruction of protected material in order to re-purpose it into accessible formats, the interconnection of devices without reduction in functionality or prohibitive licensing costs, and a circumvention exemption to facilitate reverse engineering. AFB Comments at 2.

<sup>44</sup> 17 U.S.C. §§ 1201(d)-(f).

ensure the continued availability of high value content to broadcast outlets – outweighs the potential vulnerabilities cited by commenters. For example, the “analog hole” problem is not specific to a flag based regime, but rather is one shared by cable and satellite delivery platforms. As noted above, various industry efforts are focusing on technological and other potential solutions to this difficult problem. While an immediate “analog hole” solution is not forthcoming, the window of opportunity for adopting a flag based redistribution control regime for digital broadcast television is closing. The number of legacy devices existing today is still sufficiently small that content owners remain willing to provide high value content to broadcast outlets. At some point, however, when the number of legacy devices becomes too great, that calculus will change. By acting now, the Commission can protect both content and consumers’ expectations.<sup>45</sup>

20. We also recognize that with any content protection system, the potential exists that some individuals may attempt to circumvent the protection technology. We do not believe, however, that individual acts of circumvention necessarily undermine the value or integrity of an entire content protection system. The DVD example is instructive in this regard. Although the CSS copy protection system for DVDs has been “hacked” and circumvention software is available on the Internet, DVDs remain a viable distribution platform for content owners.<sup>46</sup> The CSS content protection system serves as an adequate “speed bump” for most consumers, allowing the continued flow of content to the DVD platform. We believe the same rationale applies here.

21. Our approval of an ATSC flag content protection system for DTV broadcasts relies on a balancing of the level of protection gained relative to the cost and burdens associated with its implementation. When compared with the alternative proposals described below, we conclude that the ATSC flag provides a satisfactory level of redistribution control at a minimal cost to both consumers and manufacturers. In particular, we note that a flag based regime will not render today’s consumer equipment obsolete – existing devices will continue to work at their full functionality and will not require replacement.<sup>47</sup> Current consumer uses of these products

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<sup>45</sup> We note that several manufacturers have publicly stated that they intend to move forward with inclusion of flag recognition technology in devices for the 2004 product cycle, one year prior to the mandate’s effective date. *See* Thomson 10/8/03 Letter; Zenith 10/30/03 Letter (indicating that while most Zenith 2004 models will not have digital outputs, which limits the number of legacy devices to be deployed, “Zenith will make every effort to accelerate its implementation of the broadcast flag in sets with digital outputs”); Letter from Angela Lee, Mitsubishi Electric, to Michael Powell, FCC (Oct. 31, 2003) (stating that Mitsubishi “may be in a position, on a voluntary basis, to incorporate the most commonly discussed approach to reading and triggering some response to a ‘broadcast flag’ trigger in many of [its] products by 3Q 2004”). The decisions by these manufacturers represent additional positive steps in the digital transition by reducing the number of legacy devices available prior to the flag becoming mandatory in 2005.

<sup>46</sup> *See* MPAA Reply Comments at 43 (DVDs are “now the fastest growing consumer electronics platform in history – with new titles being released at a rate of roughly 100 every week”). *See also* Letter from James M. Burger, Dow, Lohnes & Albertson, to Marlene Dortch, Secretary, FCC at 4 n.8 (Oct. 2, 2003) (noting on behalf of IT Coalition that “[d]espite the hack of CSS, content owners using CSS protection last year received a record \$11.6 billion in revenue from the sale and rental of DVDs,” surpassing the \$9.3 billion in box office revenue garnered by the movie industry in 2002).

<sup>47</sup> We recognize that currently, content recorded onto a DVD with a flag-compliant device will only be able to be viewed on other flag compliant devices and not on legacy DVD players. While we are sensitive to any potential incompatibilities between new and legacy devices, we believe that this single, narrow example presented to us is not unique to a flag system and is outweighed by the overall benefits gained in  
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will therefore be accommodated to the greatest extent possible. The flag also has a distinct advantage over alternative mechanisms in so far as it can be implemented quickly, thereby minimizing the number of non-compliant legacy devices that might otherwise be deployed in the marketplace over the next several years. To the extent that certain commenters object to elements of the *BPDG Final Report* and MPAA's proposed rules in this proceeding, we believe that implementation of an ATSC flag system can and should be tailored to limit any harm to innovation and to consumers' home viewing abilities. As set forth in greater detail below, we are adopting certain aspects of the flag system advanced by MPAA, modifying some parts, and declining to act altogether on others. We believe that these actions are necessary to ensure the continued viability of over-the-air broadcasting in the digital age and the continued availability of high value content to consumers via the public airwaves.

## B. Encryption at the Source

22. Proponents of encryption at the source as an alternative protection mechanism assert that it is more effective than a flag system since encryption protects content at its transmission source rather than at the point of demodulation.<sup>48</sup> Under an encryption regime, a specific encryption technology would need to be adopted by the Commission.<sup>49</sup> Broadcasters and consumer electronics manufacturers would then need to integrate this technology into transmission and reception equipment to allow consumers to receive and view broadcast programming. As a result, broadcast television would no longer be transmitted in-the-clear.

23. Although content owners do not question the technical effectiveness of an encryption system, they express doubts about its timing.<sup>50</sup> Estimates on a timeframe for the development and approval of an appropriate encryption algorithm vary from several years to the near term.<sup>51</sup> Even if an encryption standard were developed in short order, several commenters question the cost burden associated with its implementation. Content owners and the consumer electronics industry express concern that encryption would render legacy devices obsolete and force all consumers to purchase new or additional equipment in order to receive and decrypt broadcast programming.<sup>52</sup> Philips argues that an encryption regime should be considered critically because it could potentially limit the playback functionality of legacy recording equipment.<sup>53</sup> Other commenters recognize that encryption would not resolve the analog hole

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terms of consumer access to high value content. Changes in DVD technology, such as the transition to high definition DVD devices, will present other unrelated format incompatibilities.

<sup>48</sup> ITIC Comments at 3; IT Coalition Comments at 17; Motorola Comments at 4-6; Veridian Comments at 1-3; Veridian Reply Comments at 2, 15-16.

<sup>49</sup> Some encryption supporters advocate use of advisory committee and negotiated rulemaking procedures to achieve consensus around an encryption standard. See Motorola Comments at 10-11; Veridian Reply Comments at 20-23.

<sup>50</sup> MPAA Comments at 17.

<sup>51</sup> See e.g., Letter from Jon Baumgarten, Proskauer Rose, to Marlene Dortch, Secretary, FCC at 4-5 (Oct. 8, 2003) ("MPAA 10/8/03 Letter").

<sup>52</sup> MPAA Comments at 17; CEA Reply Comments at 1-4.

<sup>53</sup> Philips Comments at 21.

problem.<sup>54</sup>

24. Despite the robust security generally associated with encryption technologies, we conclude that the associated implementation costs and delays make it a less desirable content protection system for DTV broadcasts than the ATSC flag. We view the obsolescence of legacy equipment as particularly burdensome on consumers. Furthermore, the record in this proceeding lacks evidence suggesting that the security benefits gained from encryption on balance outweigh the costs that would be levied on consumers. Although the exact timeframe needed to develop and approve a particular encryption technology is unclear, we believe that a fair amount of advance time would be needed before an encryption scheme could be implemented. Given the anticipated growth in DTV equipment sales over the next few years, we conclude that the development time needed for an encryption system would exacerbate the existing legacy problem and frustrate early adopters. As such, we decline to adopt encryption at the source as a content protection mechanism for DTV broadcasts.

### C. Other Mechanisms

25. In addition to the flag and encryption at the source, several emerging content protection technologies have been suggested by commenters, notably watermarking and fingerprinting.<sup>55</sup> Digimarc, Macrovision and Philips each favor the use of watermarking to secure DTV broadcast content.<sup>56</sup> Proponents advance this technology as a more complete solution than the ATSC flag since watermarks are embedded within content and can survive digital and analog processing as well as format conversion.<sup>57</sup> In addition to its potential use for redistribution control purposes, supporters suggest that a watermark can also be devised to address the analog hole.<sup>58</sup> Indeed, several commenters that otherwise support implementation of the ATSC flag encourage the further development of watermarking technology as a complementary measure to deal with the issue of component analog outputs.<sup>59</sup> Digimarc and Macrovision assert that the implementation costs for watermarking are similar to the costs associated with a flag regime and that watermarks can be made backwards-compatible with legacy devices.<sup>60</sup> In a similar vein, Philips believes that a specific type of watermarking technology known as fingerprinting may evolve into an appropriate mechanism to address both redistribution control and analog hole concerns.<sup>61</sup>

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<sup>54</sup> HRRC Reply Comment at 3-4; ITIC Comments at 3; EFF Reply Comments at 27.

<sup>55</sup> The Corporation for National Research Initiatives (“CNRI”) advocates adoption of their “handle system” technology. CNRI Reply Comments at 2. This system resolves unique identifiers to handle records with usage conditions, which could include redistribution control as well as other content protection measures. *Id.* at 2-3, Appendix C. No other comments were received discussing CNRI’s proposal; the record with respect to this technology is insufficient to merit its adoption in this context.

<sup>56</sup> Digimarc and Macrovision Comments at 3-14; Philips Comments at 2-3, 15; Philips Reply Comments at 33-34.

<sup>57</sup> Digimarc and Macrovision Comments at 4.

<sup>58</sup> *Id.* at 7-8.

<sup>59</sup> NMPA Reply Comments at 13-14; NBC Comments at 3; NFL Comments at 6, 13-14.

<sup>60</sup> Digimarc and Macrovision Comments at 9-10.

<sup>61</sup> Philips Comments at 3.

26. As new content protection technologies develop, watermarking and fingerprinting may emerge as useful tools to protect DTV broadcasts. At this time, however, the record reflects that these technologies are insufficiently mature for implementation. We recognize that the ARDG is discussing watermarking and fingerprinting among various alternative solutions to the analog hole.<sup>62</sup> We encourage the further development of alternative mechanisms and technologies that could be used to protect digital broadcast content in the future. As discussed above, however, we conclude that a narrowly-tailored flag system in the near term will provide a sufficient level of redistribution control protection for DTV broadcasts at minimal cost to consumers and manufacturers.

#### IV. COMMISSION AUTHORITY

27. Commenters disagree whether the Commission has authority to impose redistribution control regulations. Proponents of a flag-based system contend that Section 336 of the Communications Act confers direct authority on the Commission to prescribe rules requiring DTV reception equipment to have the ability to recognize and give effect to the ATSC flag.<sup>63</sup> These commenters also argue that the Commission may promulgate such regulations on the basis of its ancillary jurisdiction and the Commission's plenary authority over broadcast transmissions.<sup>64</sup>

28. Critics, on the other hand, argue that the Commission lacks clear jurisdiction to require manufacturers of consumer electronics and IT products to design this equipment to recognize and respond to the ATSC flag.<sup>65</sup> According to these commenters, legal precedent requires a specific grant of authority by Congress before the Commission may impose regulatory requirements on consumer electronics manufacturers and such requisite statutory authority is absent here.<sup>66</sup> Critics further maintain that Section 336 cannot be the source of authority for such requirements because the manufacturers are not broadcast licensees, and an ATSC flag requirement is beyond the regulatory scope of Section 336.<sup>67</sup> Critics also argue that the Commission may not exercise ancillary authority because consumer electronics and computer manufacturers are unregulated entities, and imposing the ATSC flag requirement is not necessary to effectuate any specific provision or policy of the Communications Act.<sup>68</sup> Critics claim that *reception* equipment, as opposed to *transmission* equipment, falls outside the Commission's

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<sup>62</sup> See [www.cptwg.org/Assets/Presentations/ARDG/ARDG%20page.htm](http://www.cptwg.org/Assets/Presentations/ARDG/ARDG%20page.htm).

<sup>63</sup> See MPAA Comments at 31-34.

<sup>64</sup> *Id.* at 35-39.

<sup>65</sup> See, e.g., Philips Reply Comments at 34.

<sup>66</sup> See, e.g., Philips Comments at 28-31 ((citing 1962 All Channel Receiver Act (codified at 47 U.S.C. §§ 303(s), 330(a)) (television frequencies); 1990 Television Decoder Circuitry Act (codified at 47 U.S.C. §§ 303(u), 330(b)) (closed-caption transmissions); Parental Choice in Television Programming provisions of the 1996 Telecommunications Act (codified at 47 U.S.C. §§ 303(x), 330(c)) (V-Chip); Section 624A of the Communications Act, 47 U.S.C. § 544a (cable compatibility); Section 629 of the Communications Act, 47 U.S.C. § 549 (navigation devices)).

<sup>67</sup> See, e.g., Philips Reply Comments at 36; Written Ex Parte Presentation of Philips Electronics at 1-2 (Oct. 7, 2002).

<sup>68</sup> See, e.g., Philips Reply Comments at 36-42.

general jurisdictional grant in Title I of the Communications Act.<sup>69</sup>

29. We find that the Commission has ancillary authority to regulate equipment manufacturers in order to effectuate a redistribution control system for DTV broadcasts. Ancillary jurisdiction may be employed, in the Commission's discretion, where the Commission's general jurisdictional grant in Title I of the Communications Act covers the subject of the regulation<sup>70</sup> and the assertion of jurisdiction is "reasonably ancillary to the effective performance of the [its] various responsibilities."<sup>71</sup> Both predicates for jurisdiction are satisfied here. First, based on Sections 1 and 2(a) of the Communications Act, coupled with the definitions set forth in Section 3(33) ("radio communication") and section 3(52) ("wire communication"), we find that television reception equipment is covered by the Commission's general jurisdictional grant. Specifically, Section 1 states that the Commission is created "[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges," and that the agency "shall execute and enforce the provisions of th[e] Act."<sup>72</sup> Section 2(a), in turn, confers on the Commission regulatory authority over all interstate communication by wire or radio.<sup>73</sup> Under the Communications Act, the terms "radio communication" and "wire communication" are defined broadly to include not merely the transmission of the communication over the air or by wire, but also all incidental "instrumentalities, facilities, apparatus and services" that are used for the "receipt, forwarding and delivery" of such transmissions.<sup>74</sup> Based on this language, we find that television receivers are

<sup>69</sup> See Letter from Lawrence Sidman, Paul, Hastings, to Marlene Dortch, Secretary, FCC (Oct. 16, 2003) ("Philips October 16, 2003 *Ex Parte*").

<sup>70</sup> *United States v. Southwestern Cable Co.*, 392 U.S. 157, 177-78 (1968) ("*Southwestern Cable*"). *Southwestern Cable*, which constitutes the lead case on the ancillary jurisdiction doctrine, upheld certain regulations applied to cable television systems at a time before the Commission received any express Congressional grant of regulatory authority over that medium. *Id.* at 170-71. In *United States v. Midwest Video Corp.*, 406 U.S. 649 (1972) ("*Midwest Video I*"), the Supreme Court expanded upon its holding in *Southwestern Cable*. The plurality stated that "the critical question in this case 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 by increasing the number of outlets for community self-expression and augmenting the public's choice of programs and types of services . . .'" *Id.* at 667-68 (quoting *First Report and Order*, 20 FCC 2d 201, 202 (1969)). The Court later restricted the scope of *Midwest Video I* by finding that if the basis for jurisdiction over cable is that the authority is ancillary to the regulation of broadcasting, the cable regulation cannot be antithetical to a basic regulatory parameter established for broadcast. *FCC v. Midwest Video Corporation*, 440 U.S. 689, 700 (1979) ("*Midwest Video II*").

<sup>71</sup> *Southwestern Cable*, 392 U.S. at 178.

<sup>72</sup> 47 U.S.C. § 151.

<sup>73</sup> *Id.* § 152(a) (stating that the provisions of the Communications Act "shall apply to all interstate and foreign communication by wire or radio and all interstate and foreign transmission of energy by radio, which originates and/or is received within the United States, and to all persons engaged within the United States in such communication or such transmission of energy by radio").

<sup>74</sup> More specifically, Section 3(33) of the Communications Act defines the term "radio communication" or "communication by radio" to mean "the transmission by radio of writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission." *Id.* § 153(33).  
(continued...)

covered by the statutory definitions and therefore come within the scope of the Commission's general authority outlined in Section 2(a) of the Communications Act.<sup>75</sup>

30. The second step in our analysis requires us to evaluate whether imposing a flag-based regulatory system is reasonably ancillary to the effective performance of the Commission's various responsibilities. Based on the record in this matter, we find that the requisite nexus exists. The Communications Act charges the Commission with responsibility for developing a broadcasting system that is made available on a fair, efficient and equitable basis in communities throughout the United States.<sup>76</sup> Within the Commission's mandate for the regulation of television broadcasting are the long-established regulatory goals of increasing the number of outlets for community self-expression and augmenting the public's choice of programs and types of services.<sup>77</sup> In addition, the Commission is charged with the responsibility of shepherding the country's broadcasting system into the digital age<sup>78</sup> – a goal that has become central to the Commission's Section 303(g) mandate to “[s]tudy new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the

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Section 3(52) of the Communications Act defines the term “wire communication” or “communication by wire” to mean “the transmission of writing, signs, signals, pictures, and sounds of all kinds by aid of wire, cable, or other like connection between the points of origin and reception of such transmission, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission.” *Id.* § 153(52).

<sup>75</sup> We are not persuaded by commenters' argument that Section 3's definition of “radio communication” refers only to apparatus used for the *transmission*, and not the *reception*, of radio. *See* Philips October 16, 2003 *Ex Parte*. In so reading, commenters ignore the broad language of the definition, which gives a fuller meaning to the concept of “communication” so as to include all “instrumentalities, facilities, apparatus and services” that may be “incidental” to the literal transmission, but which are a part of an overall circuit of messages that are sent and received. Moreover, commenters' reliance on Section 303(e)'s grant of Commission authority to regulate the emissions of radio station apparatus is unavailing for at least two reasons. First, the Commission's general jurisdictional grant under Title I is much broader than the specific grant of authority in Section 303(e). Second, Section 303(e) contains no indication that Congress intended to limit the Commission's authority over radio station apparatus to the terms of that statutory provision. The mere fact that the provision grants the Commission the authority to regulate radio station apparatus along certain lines does not imply that the Commission is prohibited from regulating such apparatus under authority drawn from other portions of the statute. To hold otherwise would render the concept of ancillary jurisdiction largely meaningless.

<sup>76</sup> 47 U.S.C. §§ 151, 307(b). As indicated above, we are not relying on our authority under Section 303(e) to implement the broadcast flag regime. Moreover, our actions today are not in conflict or otherwise inconsistent with our authority under Section 303(e). Therefore, the fact that Section 303(e) focuses on transmission apparatus is irrelevant to our ancillary jurisdiction analysis.

<sup>77</sup> *See Midwest Video I*, 406 U.S. at 667-668, n.27 (recognizing that “it has long been a basic tenet of national communications policy that ‘the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public.’”).

<sup>78</sup> *See* 47 U.S.C. § 309(j)(14)(A) (“[a] television broadcast license that authorizes analog television service may not be renewed ... for a period that extends beyond December 31, 2006”). *See also Consumer Electronics Association v. FCC*, No. 02-1312, slip. op. at 15-16 (D.C. Cir. Oct. 28, 2003) (the DTV “transition is not a market-driven migration to a new technology, but rather the unambiguous command of an Act of Congress”).

public interest.”<sup>79</sup> To further this goal, Congress has woven into the Communications Act an intricate and detailed set of provisions for the DTV transition.<sup>80</sup> The legislative history of various statutory provisions reflects a clear Congressional expectation that the transition take place.<sup>81</sup> The statutory framework for the transition, coupled with the support in the legislative history and the Commission’s ongoing and prominent initiatives in the area, make it clear that advancing the DTV transition has become one of the Commission’s primary responsibilities under the Communications Act at this time.

31. Here, the record shows that creation of a redistribution control protection system, including compliance and robustness rules for so-called “Demodulator Products,” is essential for the Commission to fulfill its responsibilities under the Communications Act and achieve long-established regulatory goals in the field of television broadcasting. As discussed above, absent redistribution control regulation for DTV broadcasts, the record indicates that content providers will be reluctant to provide quality digital programming to broadcast outlets and will instead direct such content to pay television systems that can implement adequate content protection mechanisms.<sup>82</sup> The diversion of high quality digital programming away from broadcast television will lead to an erosion of our national television structure. Moreover, not only will free, over-the-air broadcast television deteriorate, but a critical element necessary to the success of the DTV transition – the availability of quality digital broadcast programming – will not develop. We thus

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<sup>79</sup> 47 U.S.C. § 303(g). See also *Midwest Video I*, 406 U.S. at 669 (citing Section 303(g) as articulating one of the policies of the Communications Act on which the cable origination rule “is specifically premised”).

<sup>80</sup> See, e.g., 47 U.S.C. §§ 309(j)(14) (aimed at the recapture of broadcast television spectrum used for analog service by 2007, unless one of three conditions exist); *Id.* § 337 (requires the removal and relocation of incumbent analog broadcast licensees operating on channels 60-69 after the DTV transition period terminates in order that frequencies can be used for public safety and commercial services); *Id.* § 336 (directing the Commission in the transition to digital television); *Id.* § 396(k)(1)(D) (creating \$20 million Fund for fiscal year 2001 for transition from analog to digital technology for public broadcasting services); *Id.* § 614(b)(4)(B) (digital must carry); *Id.* § 544a(c)(2) (subscriber notification requirements regarding the impact that cable converter boxes may have on advanced television picture generation and display features).

<sup>81</sup> In 1997, the legislative history to the newly enacted provisions of Sections 309 and 337 reflected the importance Congress attached to accomplishing the transition from analog to digital technology. See, e.g., H.R. Conf. Rep. No. 217, 105<sup>th</sup> Cong., 1<sup>st</sup> Sess. 1997, at 576 (stating that a new Section 309(j)(14)(A) was added to the Communications Act “to require the Commission to reclaim the 6 MHz each broadcaster now uses for transmission of analog television service signals by no later than December 31, 2006); *Id.* at 578 (“New section 309(j)(14) requires the Commission to ensure that the spectrum now used for analog television service is returned as required by Commission direction and that the Commission must reclaim and reorganize the spectrum, consistent with the objectives of section 309(j)(3) of the Communications Act”); *Id.* at 580 (“New section 337(e) requires the Commission to clear all broadcast television licensees from the spectrum located between 746 and 806 MHz at the end of the transition to digital television. The conferees recognize that in clearing this band, the Commission will displace not only full-power licensees but also secondary broadcast services, including low-power licensees and television translator licensees”). See also, H. R. Conf. Rep. No. 148, 107<sup>th</sup> Cong., 1<sup>st</sup> Sess. 2001, at 71 (“The conference agreement includes a provision authorizing the use of fiscal year 2001 funds specifically for transition from the use of analog to digital technology for the provision of public broadcasting services for fiscal year 2001”).

<sup>82</sup> ASCAP Comments at 1-2; CBS Affiliates Comments at 2-3; CPB Reply Comments at 2; DGA Comments at 1-3; Banks Comments at 2; MPAA Comments at 6-8; MPAA Reply Comments at 2-13; NMPA Reply Comments at 2-5; NBC Affiliates Comments at 1-3; NBC Comments at 2; NFL Comments at 6-12; NFL Reply Comments 2-7; NABA Comments at 1.



find adoption of redistribution control regulations necessary to accomplish various of our responsibilities under the Communications Act, such as our responsibilities to foster a diverse radio service that serves local communities throughout the country, to encourage the development of new and more effective radio service, and to lead the nation into a new era of free, over-the-air digital broadcasting.

32. We disagree with commenters that legal precedent requires an explicit grant of authority by Congress before the Commission may adopt redistribution control regulations. We recognize that the Commission's assertion of jurisdiction over manufacturers of equipment in the past has typically been tied to specific statutory provisions and that this is the first time the Commission has exercised ancillary jurisdiction over consumer equipment manufacturers in this manner.<sup>83</sup> We are also aware of precedent that stresses the narrow scope of at least one of those statutory authorizations (*i.e.*, the All Channel Receiver Act ("ACRA")).<sup>84</sup> However, in no case – whether in connection with the ACRA or any of the other explicit grants – did Congress indicate any intent to limit the Commission's ability to exercise its ancillary jurisdiction over manufacturers except, and only by implication, in the context of regulating manufacturers with respect to their activities that Congress specifically addressed by statute. Accordingly, Congressional admonitions and past Commission assurances of a narrow exercise of authority over manufacturers (such as those reflected in the ACRA and its legislative history) are properly limited to the context of those explicit authorizations.<sup>85</sup> The regulations at issue here do not fall within the subject matter of those explicit authorizations. We thus find that under the appropriate circumstances not covered by explicit statutory direction, such as that presented here, the Commission may exercise its ancillary authority to regulate manufacturers.

33. Further, even though this may be the first time the Commission exercises its ancillary jurisdiction over equipment manufacturers in this manner, the nation now stands at a juncture where such exercise of authority is necessary. The fact that the circumstances may not have warranted an exercise of such jurisdiction at earlier stages does not undermine our authority to exercise ancillary jurisdiction at this point in time. In this respect, our experience with cable

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<sup>83</sup> See, e.g., 47 U.S.C. § 302(a) (granting authority to regulate home electronic equipment in order to ensure that the equipment can withstand interference); *Id.* § 303(s) (granting authority to regulate television receivers in order to ensure that all such receivers adequately receive all television broadcasting signals); *Id.* § 303(u) (instructing Commission to require that television receivers be equipped to display closed-caption television transmissions); *Id.* §§ 303(x), 330(c) (instructing Commission to require that television receivers to be equipped to permit viewers to block the reception of programs with a common rating).

<sup>84</sup> Pub. L. No. 87-529, 76 Stat. 150 (codified at 47 U.S.C. §§ 303(s), 330(a)). See, e.g., *Electronic Industries Association Consumer Electronics Group v. FCC*, 636 F.2d 689 (D.C.Cir. 1980) (providing an extensive review of the legislative history of ACRA, including the then-FCC Chairman's assurances to Congress regarding the limited scope of authority sought in supporting the legislation leading up to the enactment of Section 303(s) of the Communications Act).

<sup>85</sup> See, e.g., *Texas Rural Legal Aid, Inc. v. Legal Services Corp.*, 940 F.2d 685, 694 (D.C. Cir 1991) (rejecting the simplistic application of the *expressio unius est exclusio alterius* ("the expression of one is the exclusion of the other") canon of statutory interpretation in the administrative law context, relying instead on the canon of interpretation that states that a congressional decision to prohibit certain activities does not imply an intent to disable the relevant administrative body from taking similar action with respect to activities that pose similar danger; and observing that case law suggests that the *expressio* maxim is inappropriate in the administrative context because its application would undermine the flexibility sought in vesting broad rulemaking authority in an administrative agency).

television – where our ancillary jurisdiction did not form until long after that industry had come into existence – is instructive. More specifically, that industry (then termed community antenna television, or “CATV”) had been in existence almost 15 years before the Commission asserted its ancillary jurisdiction.<sup>86</sup> In upholding the Commission’s regulatory authority, the Supreme Court found that the Commission had “reasonably concluded that regulatory authority over CATV is imperative if it is to perform with appropriate effectiveness certain of its other responsibilities” including “the obligation of providing a widely dispersed radio and television service’ with a ‘fair, efficient, and equitable distribution’ of service among the ‘several States and communities.’”<sup>87</sup> We find ourselves faced with the same type of situation now with respect to equipment manufacturers in that up until this point, exercise of our ancillary authority was not necessary to fulfill our responsibilities under the Communications Act.

34. Moreover, we find our exercise of ancillary authority over manufacturers of television receiver equipment here to be in line with our prior legislative grants of such authority. As in prior instances, we have tailored our rules to cover a narrowly defined feature and function (e.g., recognize and respond to the ATSC flag ) and a narrowly targeted class of equipment (e.g., devices that contain a tuner capable of receiving over-the-air television broadcast signals). The rules that we adopt today will thus allow DTV broadcasters, who are vying for content in a highly competitive media marketplace, with the ability to assure program creators that their high definition programming and high value content is secure from indiscriminate redistribution.

35. We further note that we intend our redistribution control regulations to apply to any device or piece of equipment – whether it be a consumer electronics, PC or IT device – that contains a tuner capable of receiving over-the-air television broadcast signals. Application of our rules in this manner is necessary in order not to create arbitrary lines of distinction that would result in vitiating the regulatory regime altogether.

## V. REDISTRIBUTION CONTROL OF DIGITAL BROADCAST TELEVISION

36. Our *Notice of Proposed Rulemaking* in this proceeding sought comment on a number of issues relating to a content protection system for digital broadcast television, making specific reference to certain proposals raised in the *BPDG Final Report*.<sup>88</sup> In response, MPAA submitted with its comments a revised version of its BPDG joint proposal with the 5C companies (“Joint Proposal”).<sup>89</sup> The Joint Proposal sets forth draft rules establishing a compliance and robustness regime for a flag-based system, as well as proposed criteria for the adoption of digital content protection and recording technologies to be used in conjunction with device outputs.<sup>90</sup> Although the Joint Proposal represents one of several approaches contemplated by the *BPDG Final Report*, we believe that the Joint Proposal serves as a useful starting point in the crafting of certain elements of a flag protection system. However, we conclude that certain portions of the Joint Proposal are unnecessary in order to implement the ATSC flag and therefore decline to

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<sup>86</sup> See *Southwestern Cable*, 392 U.S. at 162-167.

<sup>87</sup> *Id.* at 173-174 (citations omitted).

<sup>88</sup> *NPRM*, 17 FCC Rcd at 16027-29.

<sup>89</sup> MPAA Comments at Attachments A-C. The 5C companies include Sony, Hitachi, Intel, Mitsubishi and Toshiba.

<sup>90</sup> *Id.* at Attachments B-C.

adopt them. Additional public comment is also needed in certain areas, particularly with regard to the approval of new content protection and recording technologies for use with device outputs. Below we initiate a *Further Notice of Proposed Rulemaking* to address a permanent solution to these so-called “Table A” issues and establish interim approval procedures while the *Further Notice of Proposed Rulemaking* is pending.

#### A. Transmission

37. Most commenters were silent on the issue of whether use of the ATSC flag by broadcasters should be mandated. Of those commenters addressing this issue, each favored a discretionary approach that would generally allow broadcasters to decide whether or not to include the flag with specific types of programming.<sup>91</sup> We concur. Broadcasters and content owners have strong incentives to implement the ATSC flag in order to limit the indiscriminate redistribution of high value content, rendering a mandate unnecessary. To the extent that broadcasters and content owners feel that it is unnecessary to insert the flag into certain types of content, we believe they should have the latitude to do so.

38. Given the strong incentive of broadcasters and content owners to make use of the ATSC flag, CEA and various commenters advocate a prohibition on use of the flag for news and public interest programming.<sup>92</sup> The Corporation for Public Broadcasting, MPAA and NAB oppose a prohibition of this sort by suggesting that: (1) it would implicate FCC overview of content, and (2) news and public interest programming merits the same level of protection afforded to entertainment programming.<sup>93</sup> Further, the NBC Television Affiliates Association and other broadcast interests argue that local broadcasters should have the right to protect news programming as it has inherent economic value and that to do otherwise could discourage its creation.<sup>94</sup> We agree. We therefore decline to involve the Commission in the practical and legal difficulties of determining which types of broadcast content merit protection from indiscriminate

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<sup>91</sup> HRRRC Comments at 6; PK & CU Comments at 19; Thomson Comments at 14; MPAA Comments at 13; NFL Comments at 14-15.

<sup>92</sup> CEA Comments at 6; CEA Reply Comments at 7; PK & CU Comments at 19; Library Group Comments at 13-18, 22; HRRRC Comments at 6, 8; IT Coalition Comments at 31; International Assoc. of Broadcast Monitors Reply Comments at 2-3, 10-14.

<sup>93</sup> CPB Reply Comments at 2; *see also* MPAA 10/8/03 Letter at 6-7; Letter from Lonna Thompson, APTS, to Kenneth Ferree, Chief, Media Bureau, FCC (Oct. 8, 2003); Letter from Eddie Fritts, NAB, to Michael K. Powell, FCC (Oct. 27, 2003) (opposing any exemption for news and public affairs programs).

<sup>94</sup> Letter from Roger Ogden, NBC Television Affiliates Association, to Marlene Dortch, Secretary, FCC (Oct. 6, 2003); *see also* Letter from Bob Lee, CBS Affiliates Advisory Board, to Michael K. Powell, FCC (Oct. 8, 2003) (a news and public affairs programming exemption would seriously threaten the continued production of local news and public affairs, and make it difficult for the CBS network to support high quality news programming like 60 Minutes); Letter from Walter C. Liss, ABC Owned Televisions *et al.*, to Michael K. Powell, FCC (Oct. 22, 2003) (arguing that piracy poses same risk to producers of news and public affairs programming as it does to producers of other programming, and that failure to provide protection to news and public affairs would harm local stations who rely on the economic value of these programs to maintain a viable business); Letter from Robert Alan Garrett, Arnold and Porter, to Marlene H. Dortch, FCC (Oct. 24, 2003) (on behalf of Office of Commissioner of Baseball, opposing any exemption for news and public affairs programming that would include telecasts of sports events or sports-related programming).

redistribution and which do not.<sup>95</sup> In so doing, we recognize that the ATSC flag was devised to address redistribution control and not other forms of content protection. We clarify here and in Part 73 of the Commission's rules that to the extent broadcasters wish to use the ATSC flag to protect unencrypted DTV broadcasts, they may do so provided they do not transmit the optional additional bits provided for in ATSC A/65B.<sup>96</sup> We believe that this approach is commensurate with the encoding rules adopted in our recent *Digital Cable Compatibility Order and FNPRM* which prohibit MVPDs from encoding unencrypted broadcast content for copy control purposes.<sup>97</sup> Thus consumers will continue to have the ability to make copies of broadcast content, including news and public interest programming.

## B. Reception

39. The keystone of a flag protection system is the ubiquitous ability of reception devices to respond and give effect to the redistribution control descriptor. Numerous commenters acknowledge the need for compliance and robustness requirements on some universe of reception devices; no consensus exists on its exact scope.<sup>98</sup> For example, MPAA and the Digital Transmission Licensing Administrator, LLC ("DTLA") assert that all consumer electronics, personal computer ("PC") or information technology ("IT") products with demodulators that are used to receive DTV broadcast programming must respond and give effect to the ATSC flag.<sup>99</sup> MPAA also seeks regulation over consumer modulators that could be used to create a "false flag" that would undermine other forms of content protection.<sup>100</sup> For example, MPAA is concerned that a modulator could be used to insert a flag into DVD or premium pay television content that would override any associated copy protection and allow that content to be copied freely.<sup>101</sup> CEA and CCIA take an overall more restrictive view of the Commission's ability to require flag compliance, citing Section 1201(c)(3) of the Digital Millennium Copyright Act ("DMCA") as prohibiting mandates on consumer electronics devices to respond to particular content protection technologies.<sup>102</sup> EFF advocates excluding software demodulators from the scope of the flag compliance and robustness rules to encourage innovation in open source software for DTV

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<sup>95</sup> See Letter from Barbara S. Cochran, President, Radio-Television News Directors Association, to Michael K. Powell, FCC (Oct. 27, 2003) (segregating news and public affairs programming would prove unwieldy, constitutionally dubious, and serve as a disincentive to its creation).

<sup>96</sup> To the extent that content providers and broadcasters wish to employ the optional additional bits within the redistribution control descriptor in ATSC A/65B, we will consider petitions to that effect which demonstrate that such use is in the public interest.

<sup>97</sup> See *Digital Cable Compatibility Order and FNPRM* at Section VI.C.

<sup>98</sup> CBS Affiliates Comments at 3; CEA Comments at 5-6; DTLA Comments at 8; DIRECTV Comments at 3; DIRECTV Reply Comments at 4-5; HRRRC Comments at 6-7; MPAA Comments at 14-18; MPAA Reply Comments at 23-24, 39-40; NCTA Comments at 8; NMPA Comments at 3, 5; NMPA Reply Comments at 6, 12-13; NBC Comments at 3; NFL Comments at 14-15; Philips Comments at 6, 21-22; Thomson Comments at 3, 14-17; TiVo Comments at 6-7.

<sup>99</sup> MPAA Comments at 14-18; DTLA Comments at 8.

<sup>100</sup> MPAA Reply Comments at 39-41; *but see* IT Coalition Comments at 29-30; EFF Reply Comments at 26-27.

<sup>101</sup> MPAA Reply Comments at 39-41.

<sup>102</sup> CEA Comments at 5-6; CCIA Comments at 18-19; *see* 17 U.S.C. § 1201(c)(3).

applications.<sup>103</sup>

40. We conclude that in order for a flag-based content protection system to be effective, demodulators integrated within, or produced for use in, DTV reception devices (“Demodulator Products”) must recognize and give effect to the ATSC flag pursuant to the compliance and robustness rules described in greater detail below. This necessarily includes PC and IT products that are used for off-air DTV reception. We note, however, that the robustness rules we are adopting have been structured to account for technological differences between single purpose consumer electronics devices and general purpose PC and IT products. Further, we are not persuaded that our regulations should extend to cover consumer modulators. The express intent and scope of this proceeding is to ensure the viability of over-the-air broadcasting in the digital age and the continued availability of high value content to consumers via the public airwaves. By MPAA’s own admission, the proposed regulation of consumer modulators is directed at protecting forms of content other than digital broadcast television.<sup>104</sup> As such, we decline to adopt compliance and robustness rules relating to consumer modulators.

41. We do not interpret Section 1201(c)(3) of the DMCA to prohibit Commission action in this sphere. The scope of Section 1201(c)(3) is specifically limited with prefatory language:

*[n]othing in this section shall require that the design of, or the design and selection of parts and components for, a consumer electronics, telecommunications, or computing product provide for a response to any particular technological measure, so long as such part of component, or the product in which such part or component is integrated, does not otherwise fall within the prohibitions of subsection (a)(2) or (b)(1).<sup>105</sup>*

The phrase “nothing in this section” reflects the fact that the prohibition on circumvention devices contained in Section 1201(a) was not intended to make manufacturers design their equipment to respond to any particular technological protection measure.<sup>106</sup> Section 1201(c)(3) was therefore not a complete prohibition on the governmental implementation of particular content protection technologies. To the contrary, Section 1201(k) of the DMCA specifically requires manufacturers of analog video cassette recorders to design their products to respond to Macrovision’s copy protection technology.<sup>107</sup> We conclude that the DMCA does not forestall Commission adoption of an ATSC flag protection system.

### **1. Demodulators and Demodulator Products**

42. Compliance and robustness rules for Demodulator Products represent the means by which DTV reception and related devices would respond and give effect to the ATSC flag. A regulated Demodulator Product for purposes of this discussion includes both a demodulator and an associated transport stream processor (“TSP”) that inspects the data structure of the DTV

<sup>103</sup> EFF Comments at 19-21; EFF Reply Comments at 26-27, 29.

<sup>104</sup> MPAA Reply Comments at 39-42.

<sup>105</sup> 17 U.S.C. § 1201(c)(3) (emphasis added).

<sup>106</sup> See MPAA 10/8/03 Letter at 5.

<sup>107</sup> 17 U.S.C. § 1201(k).

broadcast signal to determine the presence or absence of the ATSC flag.<sup>108</sup> MPAA and the 5C companies propose Demodulator Product compliance rules which prescribe the manner in which DTV broadcast content is to be treated and output from devices where it has either not been screened for presence of the ATSC flag (“Unscreened Content”) or where it has determined that the ATSC flag is present (“Marked Content”).<sup>109</sup> The proposed rules would require Demodulator Products to output both Unscreened and Marked Content in one the following ways: (1) to an analog output; (2) to an 8-VSB, 16-VSB, 64-QAM or 256-QAM modulated output; (3) to a digital output associated with an approved output content protection technology; (4) to an approved digital recording technology; and (5) to unprotected Digital Visual Interface (“DVI”) outputs for resolutions no greater than standard digitally encoded component analog video signals.<sup>110</sup> The approval of digital output content protection technologies and digital recording technologies under this scheme would occur as a part of the so-called “Table A” process described in a separate part of the Joint Proposal.<sup>111</sup>

43. Although some parties acknowledge the need for compliance rules, few specific comments were received on this issue.<sup>112</sup> We conclude that, with certain modifications set forth in Attachment B hereto, the compliance rules proposed by MPAA and the 5C companies form an appropriate basis for Demodulator Products to respond and give effect to the ATSC flag. Our adoption of these compliance rules does not extend to the Joint Proposal’s approval process for digital output content protection technologies and digital recording technologies. As noted above, we believe that additional public comment is needed in order to formulate an open, objective approval process that will foster innovation and marketplace competition. Below we establish an interim policy for the approval of digital recording and output content protection technologies and initiate a *Further Notice of Proposed Rulemaking* to examine this issue in greater detail.

44. In their Joint Proposal, MPAA and the 5C companies also outline an extensive list of robustness rules which set forth how Demodulator Products, prior to directing the content to an output, must implement the compliance rules in a secure, reliable manner. The proposed robustness rules cover a wide scope of subject areas, including: (1) the construction of Demodulator Products; (2) how content may be transmitted on data paths within Demodulator Products; (3) the means by which content may be passed to other devices without being

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<sup>108</sup> The connection between these two elements of a Demodulator Product would need to be robust for the flag system to perform its intended function.

<sup>109</sup> MPAA Comments at Attachment B.

<sup>110</sup> *Id.* at Attachment B. The proposed rules permit Marked and Unscreened Content to be output over modulated outputs, provided that the ATSC flag is retained in both the EIT and PMT. *Id.* According to MPAA, the inclusion of unprotected DVI outputs with a resolution equal to or lower than that in ITU-R, BT 601.5 is an accommodation for legacy PC equipment and displays. *See* MPAA 10/8/03 Letter at 4; MPAA Reply Comments at Attachment A n.2.

<sup>111</sup> MPAA Comments at Attachment C.

<sup>112</sup> EPIC Comments at 3, 5; NMPA Comments at 7-8, 11; Philips Comments at 6, 21-22, 25; PK & CU Comments at 17. NMPA and Recoding Industry Assoc. of America (“RIAA”) express concern that the audio component of the A/V signal could be digitally output without protection under the compliance rules. NMPA Reply Comments at 4-5, 12-13; RIAA Reply Comments at 7. In response, MPAA states that its Joint Proposal would only allow a certain limited type of unprotected digital output to transmit audio content at compact disc-level quality in order to permit the continued functionality of existing legacy devices. Letter from Fritz Attaway, MPAA, to Marlene Dortch, Secretary, FCC (Sept. 29, 2003).

intercepted; (4) the use of different manufacturing techniques to frustrate attempts at defeating the content protection requirements of the compliance rules; (5) the level of protection needed to ensure that circumvention of the content protection requirements does not occur; and (6) how manufacturers must respond to new circumstances that render their previously compliant Demodulator Products insecure.<sup>113</sup> In essence, the Joint Proposal seeks a high or expert level of robustness in order to ensure the security of DTV broadcast content.

45. Several commenters challenge the substance of the proposed robustness rules, noting that consensus had not been reached in the *BPDG Final Report* on the appropriate level of robustness needed to effectuate the ATSC flag.<sup>114</sup> Several advocacy groups criticize the Joint Proposal's formulation by saying that it would threaten the interoperability of PCs and DTV devices and impede innovation in software development, particularly in open source software applications.<sup>115</sup> As an alternative, the IT Coalition suggests that the appropriate level of robustness is one that assumes ordinary users as attackers rather than experts.<sup>116</sup> NMPA also advocates the adoption of substantive robustness standards without detailed technical requirements.<sup>117</sup>

46. We concur with those critics of the Joint Proposal that find an expert level of robustness exceeds that which is needed to effectively implement an ATSC flag regime. MPAA itself describes the flag as a limited mechanism to inhibit theft of content:

A person who hacks their device will simply achieve the disabling of that single device, and no other impact. While hacks of individual devices will result in the theft of some content, it is wrong to presume that every consumer is a thief, and it is equally mistaken to assert that some burglars know how to pick locks, it is not worthwhile to lock the door. The Broadcast Flag will keep widespread unauthorized redistribution under control because most consumers will not hack their devices.<sup>118</sup>

We therefore conclude that an expert level of robustness is incongruous with the scope of protection offered by an ATSC flag system and that an "ordinary user" level is more appropriate in these circumstances. In lieu of the detailed robustness rules contained in the Joint Proposal, we are adopting a more generalized robustness standard that will afford consumer electronics, IT and PC manufacturers flexibility in determining how to effectuate our compliance rules and to ensure the security of content. We encourage manufacturers to consult with content owners on how to best achieve DTV content security and emphasize that this "ordinary user" level of robustness represents a floor that manufacturers are free to exceed. Should content owners or other interested parties believe that a particular manufacturer or product does not meet this baseline

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<sup>113</sup> MPAA Comments at Attachment B.

<sup>114</sup> ITAA Comments at 11-13; Law Office of Adam Hill Comments at 7-8; NMPA Comments at 7-8, 11; PK & CU Comments at 17.

<sup>115</sup> EFF Comments at 15-17; American Antitrust Institute Comments at 15-16; PK & CU Reply Comments at 16-20.

<sup>116</sup> IT Coalition Comments at 26-29.

<sup>117</sup> NMPA Reply Comments at 9-11

<sup>118</sup> MPAA Reply Comments at 16.

standard, we will consider complaints in this regard.

47. An additional enforcement mechanism is also needed to enable the commercial manufacture, sale and distribution of DTV demodulators that have not yet been associated with a TSP or incorporated into any consumer product and, thus, cannot demonstrate compliance with the Demodulator Product compliance and robustness obligations. To account for this situation, we will require manufacturers or importers of ATSC demodulators to obtain from buyers of such products a written commitment that they will: (1) only sell or distribute such products that are, or will be incorporated into, devices that meet our Demodulator Product compliance and robustness rules, and (2) only sell or distribute such products to another person that has committed in writing that they will abide by our Demodulator Product compliance and robustness rules.<sup>119</sup> This requirement is based upon a similar construct set forth in the Joint Proposal; no comments were received on this issue.<sup>120</sup> We believe that these written commitments, which must be filed with the Commission and will be made publicly available for inspection, should provide a streamlined framework for manufacturers, importers and resellers to verify compliance with the Commission's rules. Should a buyer violate their written commitment, it will be deemed a violation of the Commission's rules.

## 2. Peripheral TSP Products

48. The Joint Proposal includes within the scope of its draft rules references to so-called "Downstream Products" which are a limited subset of products different from the universe of products traditionally considered to be downstream from a reception device.<sup>121</sup> In this narrow context, "Downstream Products" encompass: (1) a single device within which the demodulator and the TSP are physically separate but connected using a robust method, or (2) two devices, one with a demodulator and a second with a TSP that is capable of connecting to the demodulator using a robust method. Because this definition differs greatly from the traditional concept of a downstream device – any peripheral that can attach to or network with a reception device – to avoid confusion we refer here to such products as "Peripheral TSP Products." We believe that the incorporation of this small group of devices within the scope of our Demodulator Product compliance and robustness rules will foster innovation and allow greater interoperability of devices.

49. In order to apply our Demodulator Product compliance and robustness rules to Peripheral TSP Products without demodulators, some enforcement mechanism is needed. To that end, we are adopting the written commitment procedures proposed in the Joint Proposal.<sup>122</sup> No

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<sup>119</sup> The written commitment should include the following information: (1) the manufacturer or importer's name and official mailing address; and either (2) a commitment that the manufacturer or importer shall abide by the Commission's compliance and robustness rules for Demodulator Products; or (3) a commitment that the manufacturer or importer will only sell demodulators to another person who has committed to comply with the Commission's compliance and robustness rules for Demodulator Products. A written commitment would not be required in the case of buyers who are bona fide resellers, licensed digital television broadcasters or MVPDs who retransmit Unencrypted Digital Broadcast Television Content. See Attachment B.

<sup>120</sup> MPAA Comments at Attachment B.

<sup>121</sup> *Id.* at Attachment B; MPAA Reply Comments at 23-24.

<sup>122</sup> MPAA Comments at Attachment B; MPAA Reply Comments at 23-24.



comments were received regarding these procedures. Manufacturers or importers of Peripheral TSP Products that wish to make their products available for use with DTV content and which are designed to be connected by a robust method to a covered demodulator shall file a written commitment with the Commission that they will abide by the Demodulator Product compliance and robustness rules and only output content in an authorized manner.<sup>123</sup> As in the case of Demodulator Products, we believe that extension of this written commitment regime to Peripheral TSP Products will facilitate verification of compliance with the Commission's rules by manufacturers, importers and resellers and will consider violations of the commitments to be violations of the Commission's rules.

### 3. Interim Procedures for Content Protection and Recording Technologies

50. As the digital transition accelerates, we anticipate that the primary means by which Demodulator Products will give effect to the flag will be to direct flag-marked content to digital outputs associated with approved content protection and recording technologies. The compliance rules which we are adopting for Demodulator Products permit content to be directed in this fashion and therefore need to specify the mechanism by which content protection and recording technologies would be approved for use with the ATSC flag. MPAA and the 5C companies included with their Joint Proposal a separate proposal for a set of so-called "Table A" criteria ("Table A Proposal") which established four ways in which a content protection or recording technology could be approved for use with the flag.<sup>124</sup> These criteria include: (1) the use or approval of 3 major studios or major television broadcast groups (of which at least 2 are major studios); (2) the use or approval of 2 major studios and the licensing of the technology by 10 major device manufacturers (including software vendors); (3) the technology is "at least as effective" at protecting content from unauthorized redistribution as any previously-approved technologies; (4) the technology is expressly referenced as an acceptable output or recording mechanism in the licensing terms of another technology at the time it is approved.<sup>125</sup> MPAA asserts that these criteria are appropriate as they rely on marketplace approval of technologies.<sup>126</sup>

51. Commenters levy a number of objections against the Table A Proposal and offer their own formulations in its place. Advocacy groups question the preeminent role of content owners in making determinations under the Table A Proposal and advocate non-discriminatory approval criteria that would be administered by an independent decision-maker.<sup>127</sup> NCTA concurs with the concept of a neutral decision maker and favors the use of market-based and

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<sup>123</sup> The written commitment should include the following information: (1) the manufacturer or importer's name and official mailing address; and either (2) a commitment that the manufacturer or importer shall abide by the Commission's compliance and robustness rules for Demodulator Products; or (3) a commitment that the manufacturer or importer will only sell demodulators to another person who has committed to comply with the Commission's compliance and robustness rules for Demodulator Products.

<sup>124</sup> MPAA Comments at Attachment C.

<sup>125</sup> *Id.* at Attachment C.

<sup>126</sup> MPAA Reply Comments at 18-20.

<sup>127</sup> EPIC Comments at 6; Law Office of Adam Hill Comments at 4-7; American Antitrust Institute Reply Comments at 12-15; EFF Reply Comments at 27-29; PK & CU Reply Comments at 12-13; *see also* Philips Comments at 25-27.

technical criteria in approval decisions.<sup>128</sup> Consumer electronics, IT and PC manufacturers advance the adoption of objective technical criteria that would allow manufacturers to self-certify their compliance thereto.<sup>129</sup> DTLA also suggests the use of *prima facie* compliance notifications by technology proponents to the Commission, with dispute resolution procedures where objections arise.<sup>130</sup>

52. As in our recent *Second Report and Order and Second Further Notice of Proposed Rulemaking* relating to digital cable compatibility, we are concerned with one industry segment exercising a significant degree of control over decisions regarding the approval and use of content protection and recording technologies in DTV-related equipment.<sup>131</sup> Nor are our concerns alleviated by the “at least as effective” alternative, because such a test is limited by what has already been approved under other alternatives and thus amounts to an indirect form of control. Below we initiate a *Further Notice of Proposed Rulemaking* to seek additional comment on this issue. In the short term, we recognize that some technologies must be approved in order for manufacturers to be able to produce flag-compliant devices. To that end, we are establishing an interim procedure whereby proponents of a particular content protection or recording technology can certify to the Commission that such technology is appropriate for use in Demodulator Products to give effect to the ATSC flag, subject to public notice and objection.

53. Under this interim process, proponents must submit to the Commission the following information: (1) a general description of the how the technology works, including its scope of redistribution and information regarding relevant patents; (2) a detailed analysis of the level of protection the technology affords content, (3) information regarding whether content owners, broadcasters, or equipment manufacturers have approved or licensed the technology for use; and (4) if the technology is to be offered publicly, a copy of its licensing terms and fees, as well as evidence demonstrating that the technology will be licensed on a reasonable, non-discriminatory basis. Should any of this information be proprietary in nature, proponents may seek confidential treatment of the proprietary portion of their submissions.

54. Following the effective date of the rules we are adopting herein, the Commission will issue a public notice initiating an initial certification window allowing the proponents of content protection technologies and recording methods to file certifications pursuant to this interim process. Following close of the initial certification window, the Commission will issue a public notice identifying the certifications received and commencing a 20 day opposition window. If no objection is received on the merits of the proponent’s submission within the 20 day opposition window, the Commission will expeditiously issue a determination indicating whether the technology is approved for use in Demodulator Products. If substantive objections are received with respect to a particular technology, proponents will have a 10 day window to reply before we will undertake a review of its merits. Should an objection be raised that the proponent’s submission contains insufficient information to evaluate its appropriateness, proponents will again have a 10 day window to reply before we review such objections and

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<sup>128</sup> NCTA Comments at 8-9, 12; NCTA Reply Comments at 7-9.

<sup>129</sup> ITAA Comments at 10; ITIC Comments at 4; ICC Comments at 6; IT Coalition Comments at 20-23; Philips Comments at 22-23; Thomson Comments at 10-13; TiVo Comments at 7-9.

<sup>130</sup> DTLA Comments at 10-11; DTLA Reply Comments at 2-3. *But see* Letter from Michael B. Ayers, DTLA, to Marlene Dortch, Secretary, FCC (Oct. 3, 2003) (supporting Table A Proposal approach).

<sup>131</sup> *Digital Cable Compatibility Order and FNPRM* at Sections VI.B and VII.

determine whether to dismiss the submission without prejudice or undertake a full review of its merits. The Commission will consider the merits of each submission and issue a determination as expeditiously as possible. We expect that such decision will be made no later than 90 days following close of the reply period. Certifications filed subsequent to this initial certification window will follow similar time frames and procedures.

55. In reaching determinations made under this interim process, whether during or subsequent to the initial certification window, the Commission will consider, where applicable, a number of factors relevant to content protection technologies and recording methods. When evaluating its technological features, we will look at specific evidence relating to how the content protection technology or recording method meets several broad categories of so-called “functional criteria.” Functional criteria are key evaluative factors that are relevant to whether a particular technology is appropriate for use in Covered Demodulator Products. These criteria include: level of security, scope of redistribution, means of authentication, upgradability, renewability, interoperability, and ability to revoke compromised devices. In addition to these functional criteria, we will consider a technology’s licensing terms, including its compliance and robustness rules, change provisions, approval procedures for downstream transmission and recording methods, and any relevant license fees. Where a content protection technology or recording method is to be publicly offered, we expect that it will be licensed on a reasonable and non-discriminatory basis. We also expect that publicly offered licenses will not be unreasonably withheld from parties. In order to fully evaluate the potential impact of approving specific content protection technologies or recording methods, we also believe it is appropriate to consider whether the technology accommodates consumers’ use and enjoyment of DTV broadcast content. As discussed above, we anticipate that technologies can protect content while facilitating consumer uses and practices. We also believe that technologies can promote consumer access to content, particularly in formats accessible to the blind and visually impaired. To this end, it is our hope that proponents will certify many different technologies for approval, including but not limited to digital rights management, software-based, and non-encryption alternatives.

56. Finally, in the event that the security of an approved content protection or recording technology should be compromised while this interim policy is in effect, we will consider petitions for revocation. Parties seeking revocation should articulate in detail the extent to which the content protection or recording 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.

57. Due to the fact that some content protection and recording technologies must be approved before device manufacturers can build flag-compliant devices, and the corresponding need to allow adequate time for device manufacturers to design products once a number of technologies are approved, we will require manufacturers to meet our Demodulator Product compliance and robustness rules commencing with the July 1, 2005 product cycle. We recognize, however, that some consumer electronics manufacturers may be able to voluntarily include flag recognition technology into devices on a more accelerated schedule, notably in new digital cable ready televisions set for the July 1, 2004 product cycle.<sup>132</sup> We strongly encourage these efforts. To the extent that a manufacturer voluntarily includes flag recognition technology in any device prior to the effective date of our rules adopted herein, we clarify that these devices would fall outside the scope of such rules and any associated obligations.

<sup>132</sup> See Thomson 10/8/03 Letter; Zenith 10/30/03 Letter.

### C. MVPD Retransmission

58. MVPD perpetuation of a flag content protection system for DTV broadcast retransmissions could occur in one of two ways: (1) by MVPD pass-through of the ATSC flag where the retransmission is unencrypted, or (2) where the retransmission is encrypted, by conveying the presence of the flag through the MVPD's system by some means that requires the consumer's reception equipment to protect the content as if the flag were present. DIRECTV asserts that it can pass-through the flag, but asks that MVPDs be given the discretion to decide how to carry and implement the ATSC flag.<sup>133</sup> To ensure that the flag does not interfere with cable operators' home networking capabilities, NCTA seeks flexibility to provide DTV broadcast content with redistribution control protection through alternative means.<sup>134</sup> The Joint Proposal allows for both mechanisms.<sup>135</sup> We agree that MVPDs should have the latitude to implement the flag as appropriate for their distribution platforms, whether it be through direct pass-through or by effectuating the flag's intent through their own conditional access system. In our *Further Notice of Proposed Rulemaking* below, we seek comment on whether cable operators should be allowed to encrypt the digital basic tier in order to convey the presence of the ATSC flag through their conditional access system. We clarify, however, that MVPDs may not assert greater redistribution control protection for digital broadcast content than that which the broadcaster has selected. In the case of content which a broadcaster has not marked with the flag, MVPDs must deliver that content to subscribers in a manner that reflects and gives effect to its unflagged status.

## VI. FURTHER NOTICE OF PROPOSED RULEMAKING

59. Although we believe that our adoption of a flag-based redistribution control system for digital broadcast television will further the digital transition and ensure the continued flow of high value content to broadcast outlets, further comment is needed on several issues. As an initial matter, we seek comment on whether cable operators that retransmit DTV broadcasts may encrypt the digital basic tier in order to convey the presence of the ATSC flag through their conditional access system. Section 76.630 of the Commission's rules generally prohibits cable operators from "scrambl[ing] or encrypt[ing] signals carried on the basic service tier" without distinguishing between analog and digital service.<sup>136</sup> NCTA has suggested that allowing cable operators to encrypt the digital basic tier and "virtually" convey the presence of the flag will facilitate the offering of future home networking services.<sup>137</sup> We seek comment on whether cable operators should be allowed to encrypt in this manner.

60. In response to our *Notice of Proposed Rulemaking*, EFF questioned the impact of a flag based regime on innovations in software demodulators and other DTV open source software applications.<sup>138</sup> The Commission has actively promoted the development of software defined radio and other software demodulators as important innovations in the digital age.<sup>139</sup> We

<sup>133</sup> DIRECTV Comments at 3-4; DIRECTV Reply Comments at 4-5.

<sup>134</sup> NCTA Comments at 10-11; NCTA Reply Comments at 4-7.

<sup>135</sup> MPAA Comments at Attachment B.

<sup>136</sup> 47 C.F.R. § 76.630.

<sup>137</sup> NCTA Reply Comments at 4-7.

<sup>138</sup> EFF Comments at 19-21.

<sup>139</sup> See *Authorization and Use of Software Defined Radios*, 16 FCC Rcd 17373 (2001).

seek further comment on the interplay between a flag redistribution control system and the development of open source software applications, including software demodulators, for digital broadcast television.

61. This *Further Notice of Proposed Rulemaking* also seeks comment on whether standards and procedures should be adopted for the approval of new content protection and recording technologies to be used with device outputs on Demodulator Products. If so, we 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. We recognize that similar issues have been raised with respect to digital cable ready DTV receivers in the *Second Further Notice of Proposed Rulemaking* in the Commission's ongoing "Plug and Play" proceeding.<sup>140</sup> We seek comment on whether a unified regime should be employed in both instances.

62. With respect to the particular standards and procedures to be employed, we seek comment on whether objective criteria should be used to evaluate new content protection and recording technologies and, if so, what specific criteria should be used. For example, in our recent *Second Report and Order and Second Further Notice of Proposed Rulemaking* relating to digital cable compatibility, Microsoft Corporation and Hewlett Packard Corporation submitted a detailed proposal suggesting functional requirements that could be used to evaluate digital rights management technologies for use with digital cable ready products.<sup>141</sup> We seek comment on this proposal in the ATSC flag context, as well as on other proposals submitted in this proceeding relying on objective criteria,<sup>142</sup> and any new proposals that commenters may submit to the Commission.

63. We also seek comment on the appropriate scope of redistribution that should be prevented. In general, we believe that a flag based system should prevent indiscriminate redistribution of digital broadcast content, however, we do not wish to foreclose use of the Internet to send digital broadcast content where robust security can adequately protect the content and the redistribution is tailored in nature. We see comment on the usefulness of defining a personal digital network environment ("PDNE") within which consumers could freely redistribute digital broadcast television content. If so, we seek comment on the various permutations of a PDNE that were proposed in the *BDPD Final Report* and whether any modifications are needed to maintain consumer's home viewing expectations.<sup>143</sup> We also seek comment on possible new formulations of a PDNE.

64. We also seek comment on whether content owners are the appropriate entities 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

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<sup>140</sup> See *Digital Cable Compatibility Order and FNPRM* at Section VII.

<sup>141</sup> Letter from Paula H. Boyd, Microsoft Corporation, and David Isaacs, Hewlett-Packard Corp., to Marlene Dortch, Secretary, FCC (Aug. 8, 2003).

<sup>142</sup> See e.g., Phillips Comments at 22-23; IT Coalition Comments at 20-23; Letter from James Burger, Dow, Lohnes & Albertson, to Marlene Dortch, Secretary, FCC (Oct. 2, 2003); Letter from Richard A. Beutel, Dell, to Marlene Dortch, Secretary, FCC (Oct. 22, 2003).

<sup>143</sup> See e.g., *BPDG Final Report* at 14.

and revocation determinations.

65. As to the issue of how approved content protection and recording 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 where a content protection or recording technology is perceived to be insecure, or whether the appropriate standard is where security has been compromised in a significant, widespread manner. Once a content protection or recording technology has been revoked, we seek comment on the appropriate mechanism by which revocation should be effectuated. For example, should revoked content protection or recording 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 content protection or recording technologies while preserving the functionality of consumer electronics devices.

## VII. PROCEDURAL MATTERS

66. *Authority.* This *Further Notice of Proposed Rulemaking* is issued pursuant to authority contained in §§ Sections 1, 2, 4(i) and (j), 303, 307, 309(j), 336, 337, 396(k), 403, 601, 614(b) and 624a of the Communications Act of 1934, as amended.

67. *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).

68. *Accessibility Information.* Accessible formats of this *Order and 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).

69. *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**. All filings should refer to MB Docket No. 02-230. 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).

70. 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.

71. *Paperwork Reduction Act of 1995 Analysis.* The *Report and Order* portion of this *Report and Order and 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.

72. Written comments by the public on the proposed information collection(s) are due 60 days from date of publication of this *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 *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 12<sup>th</sup> 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 17<sup>th</sup> Street, NW, Washington, DC 20503, or via the Internet to Kim\_A.\_Johnson@omb.eop.gov.

73. *Regulatory Flexibility Act.* As required by the Regulatory Flexibility Act,<sup>144</sup> the Commission has prepared a Final Regulatory Flexibility Analysis ("FRFA") relating to the *Report and Order* portion of this *Report and Order and 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 *Further Notice* portion of this *Report and Order and Further Notice of Proposed Rulemaking*.<sup>145</sup> 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 *Further Notice*, and they should have a separate and distinct heading designating them as responses to the IRFA.

## VIII. ORDERING CLAUSES

74. **IT IS ORDERED** that pursuant to the authority contained in Sections 1, 2, 4(i) and (j), 303, 307, 309(j), 336, 337, 396(k), 403, 601, 614(b) and 624a of the Communications Act of 1934, 47 U.S.C §§ 151, 152, 154(i) and (j), 303, 307, 309(j), 336, 337, 396(k), 403, 521,

<sup>144</sup> See 5 U.S.C. § 604.

<sup>145</sup> *Id.* § 603.

534(b) and 544a 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 73.9002 and 73.9008 that contain information collection requirements under the PRA are not effective until approved by OMB. The FCC will publish a document in the Federal Register announcing the effective date for those sections.

75. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this *Report and Order and Further Notice of Proposed Rulemaking* including the Final 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 Leading Commenters**

American Conservative Union  
American Foundation for the Blind  
Arizona Consumer Council *et al.*  
Banks, LIN, Midwest Television *et al.*  
CBS Television Affiliates Assoc.  
Center for Democracy and Technology  
Computer & Communications Industry Assoc.  
Consumer Electronics Assoc.  
Digimarc Corp. & Macrovision Corp.  
Digital Transmission Licensing Administrator, LLC  
Directors Guild of America  
DirecTV, Inc.  
Electronic Frontier Foundation  
Electronic Privacy Information Center  
Free Software Foundation  
Home Recording Rights Coalition  
Information Technology Assoc. of America  
Information Technology Industry Council  
Internet Commerce Coalition & United States Internet Service Provider Assoc.  
IT Coalition (Business Software Alliance & Computer Systems Policy Project)  
Law Office of Adam Hill  
Library Associations  
Motion Picture Association of America *et al.*  
Motorola  
National Broadcasting Company  
National Cable & Telecommunications Assoc.  
National Football League  
National Music Publishers' Association, *et al.*  
NBC Television Affiliates Assoc.  
New Yorkers for Fair Use  
North American Broadcasters Assoc.  
Philips Electronics North America  
Public Knowledge and Consumers Union  
Thomson Inc.  
TiVo Inc.  
Veridian Corporation  
Verizon  
Viacom  
Walt Disney Company & ABC Television Network

**List of Leading Reply Commenters**

American Antitrust Institute  
American Society of Composers, Authors & Publishers & Broadcast Music, Inc.  
Center for Public Broadcasting *et al.*

Consumer Electronics Assoc.  
Corporation for National Research Initiatives  
Digital Transmission Licensing Administrator, LLC  
DirecTV, Inc.  
Electronic Frontier Foundation  
Home Recording Rights Coalition  
IBM  
Information Technology Association of America  
International Association of Broadcast Monitors  
IT Coalition (Business Software Alliance & Computer Systems Policy Project)  
Motion Picture Association of America *et al.*  
National Cable & Telecommunications Assoc.  
National Football League *et al.*  
National Music Publishers' Association, *et al.*  
New Yorkers for Fair Use  
Philips Electronics North America Corporation  
Public Knowledge and Consumers Union  
Recording Industry Association of America  
Thomson, Inc.  
Veridian Corporation  
Worldcom, Inc.

**APPENDIX B**

Part 73 of the Code of Federal Regulations is amended as follows:

**PART 73 – RADIO BROADCAST SERVICES**

1. The authority for Part 73 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 334 and 336.

2. Add subpart L to read as follows:

Subpart L – Digital Broadcast Television Redistribution Control

Sec.

73.8000 Incorporations by Reference.

§73.8000 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>.

(1) ATSC A/52: “ATSC Standard Digital Television Audio Compression (AC-3),” 1995, IBR approved for § 73.682.

(2) ATSC A/53: “ATSC Digital Television Standard,” 1995, IBR approved for § 73.682, except for section 5.1.2 of Annex A, and the phrase “see Table 3” in section 5.1.1. Table 2 and section 5.1.2 Table 4.

(3) ATSC A/65B: “ATSC Program and System Information Protocol for Terrestrial Broadcast and Cable,” 2003, IBR approved for §§ 73.9000-73.9001.

(4) International Standard ISO/IEC 13818-1:2000(E); “Information Technology – Generic Coding of Moving Pictures and Associated Audio Information: Systems,” 2000, IBR approved for § 73.9000.

\* \* \* \* \*

3. Add subpart M to read as follows:

Subpart M – Digital Broadcast Television Redistribution Control

Sec.

73.9000 Definitions.

73.9001 Redistribution Control of Digital Television Broadcasts.

73.9002 Sale or Distribution of Demodulators, Covered Demodulator Products, and Peripheral TSP Products.

73.9003 Compliance Requirements for Covered Demodulator Products: Unscreened Content.

73.9004 Compliance Requirements for Covered Demodulator Products: Marked Content.

73.9005 Compliance Requirements for Covered Demodulator Products: Audio.

73.9006 Add-in Covered Demodulator Products.

73.9007 Robustness Requirements for Covered Demodulator Products.

73.9008 Interim Approval of Authorized Digital Output Protection Technologies and Authorized Recording Methods.

73.9009 Manufacture for Exportation.

§73.9000 Definitions.

(a) "Authorized Digital Output Protection Technology" means a technology approved pursuant to the procedures in § 73.9008.

(b) "Authorized Recording Method" means a recording method approved pursuant to the procedures in § 73.9008.

(c) "Bona Fide Reseller" means a party regularly engaged, or about to become regularly engaged, in the lawful commercial enterprise of selling, reselling, manufacturing, or assembling Demodulators, or products incorporating Demodulators, in compliance with this subpart.

(d) "Broadcast Flag" means the Redistribution Control descriptor (rc\_descriptor()) described in ATSC Standard A/65B: "Program and System Information Protocol for Terrestrial Broadcast and Cable," (incorporated by reference, see § 73.8000).

(e) "Computer Product" means a product that is designed for or permits the end user to install a wide variety of commercially available software applications thereon, such as a personal computer, handheld "Personal Digital Assistant" and the like, and further includes a subsystem of such a product, such as a graphics card.

(f) "Covered Demodulator Product" means a product that is required under §§ 73.9002(a)(1) or 73.9002(b)(1) to comply with the Demodulator Compliance Requirements, and to be manufactured in accordance with the Demodulator Robustness Requirements.

(g) "Demodulator" means a component, or set of components, that is designed to perform the function of 8-VSB, 16-VSB, 64-QAM or 256-QAM demodulation and thereby produce a data stream for the purpose of digital television reception.

(h) “Demodulator Compliance Requirements” means the requirements set out in §§ 73.9003 through 73.9006.

(i) “Demodulator Robustness Requirements” means the requirements set out in § 73.9007.

(j) “Peripheral TSP Product” means a product that is capable of accessing in usable form Unscreened Content or Marked Content passed to such product via a Robust Method where the manufacturer of such product has committed in writing in accordance with § 73.9002(c) that such product will comply with the Demodulator Compliance Requirements and be manufactured in accordance with the Demodulator Robustness Requirements.

(k) “EIT” means Event Information Table as defined in ATSC Standard A/65B: “Program and System Information Protocol for Terrestrial Broadcast and Cable” (incorporated by reference, see § 73.8000).

(l) “Marked Content” means, with respect to a Covered Demodulator Product, Unencrypted Digital Terrestrial Broadcast Content that such product has (1) received and demodulated and for which such product has inspected either the EIT or PMT and determined the Broadcast Flag to be present, or (2) where such product is a Peripheral TSP Product, received via a Robust Method and accessed in usable form, and for which such product either inspected the EIT or PMT and determined the Broadcast Flag to be present or determined through information robustly conveyed with such content that another Covered Demodulator Product had previously so screened such content and determined the Broadcast Flag to be present; provided, however, that, with respect to a Covered Demodulator Product, “Marked Content” shall not include content that has been passed from such product pursuant to §§ 73.9004(a)(1), 73.9004(a)(2), 73.9004(a)(3), 73.9004(a)(5), 73.9004(a)(6), or 73.9006(b).

(m) “PMT” means Program Map Table as defined in International Standard ISO/IEC 13818-1:2000(E): “Information Technology – Generic Coding of Moving Pictures and Associated Audio Information: Systems” (incorporated by reference, see § 73.8000).

(n) “Robust Method” means, with respect to the passing of Unscreened Content or Marked Content from one product to another, a content protection method that complies with § 73.9007.

(o) “Transitory Image” means data that has been stored temporarily for the sole purpose of enabling a function not prohibited by this subpart but that (1) does not persist materially after such function has been performed and (2) is not stored in a way that permits copying or storing of such data for other purposes.

(p) “Unencrypted Digital Terrestrial Broadcast Content” means audiovisual content contained in the signal broadcast by a digital television station without encrypting or otherwise making the content available through a technical means of conditional access, and includes such content when retransmitted in unencrypted digital form.

(q) “Unscreened Content” means, with respect to a Covered Demodulator Product, Unencrypted Digital Terrestrial Broadcast Content that such product either (1) received and demodulated and for which such product has inspected neither the EIT nor the PMT for the Broadcast Flag or (2) where such product is a Peripheral TSP Product, received via a Robust Method and accessed in usable form, and for which such product has inspected neither the EIT nor the PMT for the Broadcast Flag and has not determined through information robustly conveyed with such content another Covered Demodulator Product had previously so screened such content and determined the Broadcast Flag to be present; provided, however, that, with respect to a Covered Demodulator Product, “Unscreened Content” shall not include content that has been passed from such product pursuant to §§ 73.9003(a)(1), 73.9003(a)(2), 73.9003(a)(3), 73.9003(a)(4), 73.9003(a)(6), 73.9003(a)(7), or 73.9006(b).

(r) “User Accessible Bus” means a data bus that is designed for end user upgrades or access, such as an implementation of a smartcard interface, PCMCIA, Cardbus, or PCI that has standard sockets or otherwise readily facilitates end user access. A “User Accessible Bus” does not include memory buses, CPU buses, or similar portions of a device's internal architecture that do not permit access to content in a form usable by end users.

#### 73.9001 Redistribution Control of Digital Television Broadcasts.

Licenses of TV broadcast stations may utilize the Redistribution Control descriptor described in ATSC Standard A/65B: “Program and System Information Protocol for Terrestrial Broadcast and Cable,” (incorporated by reference, see § 73.8000) provided they do not transmit the optional additional redistribution control information.

#### §73.9002 Sale or Distribution of Demodulators, Covered Demodulator Products, and Peripheral TSP Products.

(a) Demodulators. No party that manufactures or imports a Demodulator shall sell or distribute in interstate commerce such Demodulator unless:

(1) at the time of such sale or distribution such Demodulator is itself, or is incorporated into, a product that complies with the Demodulator Compliance Requirements and was manufactured in accordance with the Demodulator Robustness Requirements; or

(2) such sale or distribution is to a party that has committed in writing pursuant to paragraph (d) of this section not to sell or distribute Demodulators other than in accordance with paragraphs (a)(1) or (a)(2) of this section.

(b) Covered Demodulator Products. No party shall sell or distribute in interstate commerce a Covered Demodulator Product that does not comply with the Demodulator Compliance Requirements and Demodulator Robustness Requirements. The requirements of this paragraph shall not apply to the sale or resale of a product that was manufactured prior to the effective date of this subpart or that initially was sold or distributed in compliance with this subpart.

(c) Peripheral TSP Products. No party that manufactures or imports a Peripheral

TSP Product shall sell or distribute such Peripheral TSP Product in interstate commerce unless, at the time of such sale or distribution, such Peripheral TSP Product complies with the Demodulator Compliance Requirements and was manufactured in accordance with the Demodulator Robustness Requirements. The requirements of this paragraph shall not apply to the sale or resale of a product that was manufactured prior to the effective date of this subpart or that was initially sold or distributed in compliance with this subpart.

(d) Written Commitments.

(1) A written commitment to allow sale or distribution of Demodulators under paragraph (a)(2) of this section, or for a Peripheral TSP Product, shall be submitted to the Federal Communications Commission, Chief, Media Bureau, Attn: Broadcast Flag Written Commitment, 445 12<sup>th</sup> Street, SW, Washington, DC, 20554.

(2) The information to be provided by a party filing a written commitment to allow sale or distribution of Demodulators under paragraph (a)(2) of this section shall include a statement that one of the following conditions is true:

(i) the party is a Bona Fide Reseller;

(ii) the party is a licensed digital television broadcaster; or

(iii) the party is a multichannel video programming distributor, or other party engaged, or about to become engaged, in the lawful retransmission of Unencrypted Digital Terrestrial Broadcast Content pursuant to § 76.1909 of this chapter.

(3) The information to be provided by a party filing a written commitment for a Peripheral TSP Product shall include statements that that the party is engaged, or about to become engaged, in the lawful commercial enterprise of manufacturing such Peripheral TSP Product, and that such product will comply with the Demodulator Compliance Requirements and be manufactured in accordance with the Demodulator Robustness Requirements.

(4) It shall be a violation of this subpart, enforceable by the Commission, for any person that has filed a written commitment pursuant to paragraph (d) of this section to:

(i) in the case such commitment to allow sale or distribution of Demodulators under paragraph (a)(2) of this section, sell or distribute the Demodulator other than in accordance with paragraphs (a)(1) or (a)(2) of this section; or

(ii) in the case of such commitment for a Peripheral TSP Product, sell or distribute the Peripheral TSP Product other than in compliance with paragraph (c) of this section.

(5) Written commitments filed pursuant to paragraph (d) of this section will be publicly available in accordance with §§ 0.441 through 0.470 of this chapter.

(e) The requirements of this section shall become applicable on July 1, 2005.

§ 73.9003 Compliance Requirements for Covered Demodulator Products: Unscreened Content.

(a) A Covered Demodulator Product shall not pass, or direct to be passed, Unscreened Content to any output except:

(1) to an analog output;

(2) to an 8-VSB, 16-VSB, 64-QAM or 256-QAM modulated output, provided that the Broadcast Flag is retained in the both the EIT and PMT;

(3) to a digital output protected by an Authorized Digital Output Protection Technology authorized for use with Unscreened Content, in accordance with any applicable obligations established as a part of its approval pursuant to § 73.9008;

(4) where the stream containing such content has not been altered following demodulation and such Covered Demodulator Product outputs, or directs to be output, such content to a Peripheral TSP Product solely within the home or other, similar local environment, using a Robust Method;

(5) where such Covered Demodulator Product outputs, or directs to be output, such content to another product and such Covered Demodulator Product exercises sole control (such as by using a cryptographic protocol), in compliance with the Demodulator Robustness Requirements, over the access to such content in usable form in such other product;

(6) where such Covered Demodulator Product outputs, or directs to be output, such content for the purpose of making a recording of such content pursuant to paragraph (b)(2) of this section, where such content is protected by the corresponding recording method; or

(7) where such Covered Demodulator Product is incorporated into a Computer Product and passes, or directs to be passed, such content to an unprotected output operating in a mode compatible with the Digital Visual Interface (DVI) Rev. 1.0 Specification as an image having the visual equivalent of no more than 350,000 pixels per frame (e.g. an image with resolution of 720 x 480 pixels for a 4:3 (nonsquare pixel) aspect ratio), and 30 frames per second. Such an image may be attained by reducing resolution, such as by discarding, dithering or averaging pixels to obtain the specified value, and can be displayed using video processing techniques such as line doubling or sharpening to improve the perceived quality of the image.

(b) A Covered Demodulator Product shall not record or cause the recording of Unscreened Content in digital form unless such recording is made using one of the following methods:

(1) a method that effectively and uniquely associates such recording with a single Covered Demodulator Product (using a cryptographic protocol or other effective means) so that such recording cannot be accessed in usable form by another product except where the content of such recording is passed to another product as permitted under this subpart; or



(2) an Authorized Recording Method authorized for use with Unscreened Content in accordance with any applicable obligations established as a part of its approval pursuant to § 73.9008 (provided that for recordings made on removable media, only Authorized Recording Methods expressly approved pursuant to § 73.9008 for use in connection with removable media may be used).

(c) Paragraph (b) of this section does not impose restrictions regarding the storage of Unscreened Content as a Transitory Image.

(d) The requirements of this section shall become applicable on July 1, 2005.

§ 73.9004 Compliance Requirements for Covered Demodulator Products: Marked Content.

(a) A Covered Demodulator Product shall not pass, or direct to be passed, Marked Content to any output except

(1) to an analog output;

(2) to an 8-VSB, 16-VSB, 64-QAM or 256-QAM modulated output, provided that the Broadcast Flag is retained in the both the EIT and PMT;

(3) to a digital output protected by an Authorized Digital Output Protection Technology, in accordance with any applicable obligations established as a part of its approval pursuant to § 73.9008;

(4) where such Covered Demodulator Product outputs, or directs to be output, such content to another product and such Covered Demodulator Product exercises sole control (such as by using a cryptographic protocol), in compliance with the Demodulator Robustness Requirements, over the access to such content in usable form in such other product;

(5) where such Covered Demodulator Product outputs, or directs to be output, such content for the purpose of making a recording of such content pursuant to paragraph (b)(2) of this section, where such content is protected by the corresponding recording method; or

(6) where such Covered Demodulator Product is incorporated into a Computer Product and passes, or directs to be passed, such content to an unprotected output operating in a mode compatible with the Digital Visual Interface (DVI) Rev. 1.0 Specification as an image having the visual equivalent of no more than 350,000 pixels per frame (e.g., an image with resolution of 720 x 480 pixels for a 4:3 (nonsquare pixel) aspect ratio), and 30 frames per second. Such an image may be attained by reducing resolution, such as by discarding, dithering or averaging pixels to obtain the specified value, and can be displayed using video processing techniques such as line doubling or sharpening to improve the perceived quality of the image.

(b) A Covered Demodulator Product shall not record or cause the recording of Marked Content in digital form unless such recording is made using one of the following methods:

(1) a method that effectively and uniquely associates such recording with a single Covered Demodulator Product (using a cryptographic protocol or other effective means) so that such recording cannot be accessed in usable form by another product except where the content of such recording is passed to another product as permitted under this subpart or

(2) an Authorized Recording Method in accordance with any applicable obligations established as a part of its approval pursuant to § 73.9008 (provided that for recordings made on removable media, only Authorized Recording Methods expressly approved pursuant to § 73.9008 for use in connection with removable media may be used).

(c) Paragraph (b) of this section does not impose restrictions regarding the storage of Marked Content as a Transitory Image.

(d) The requirements of this section shall become applicable on July 1, 2005.

§ 73.9005 Compliance Requirements for Covered Demodulator Products: Audio.

Except as otherwise provided in §§ 73.9003(a) or 73.9004(a), Covered Demodulator Products shall not output the audio portions of Unscreened Content or of Marked Content in digital form except in compressed audio format (such as AC3) or in Linear PCM format in which the transmitted information is sampled at no more than 48 kHz and no more than 16 bits/sample. The requirements of this section shall become applicable on July 1, 2005.

§ 73.9006 Add-in Covered Demodulator Products.

Where a Covered Demodulator Product passes Unscreened Content or Marked Content to another product, other than where such Covered Demodulator Product passes, or directs such content to be passed to an output (e.g., where a demodulator add-in card in a personal computer passes such content to an associated software application installed in the same computer), it shall pass such content:

(a) using a Robust Method; or

(b) protected by an Authorized Digital Output Protection Technology authorized for such content in accordance with any applicable obligations established as a part of its approval pursuant to § 73.9008. Neither Unscreened Content nor Marked Content may be so passed in unencrypted, compressed form via a User Accessible Bus.

The requirements of this section shall become applicable on July 1, 2005.

§ 73.9007 Robustness Requirements for Covered Demodulator Products.

The content protection requirements set forth in the Demodulator Compliance Requirements shall be implemented in a reasonable method so that they cannot be defeated or circumvented merely by an ordinary user using generally-available tools or equipment. The requirements of this section shall become applicable on July 1, 2005.

Note to §73.9007. Generally-available tools or equipment means tools or equipment that are widely available at a reasonable price, including but not limited to, screwdrivers, jumpers, clips and soldering irons. Generally-available tools or equipment also means specialized electronic tools or software tools that are widely available at a reasonable price, other than devices or technologies that are designed and made available for the specific purpose of bypassing or circumventing the protection technologies used to meet the requirements set forth in this subpart. Such specialized electronic tools or software tools includes, but is not limited to, EEPROM readers and writers, debuggers or decompilers.

§ 73.9008 Interim Approval of Authorized Digital Output Protection Technologies and Authorized Recording Methods.

(a) Certifications for Digital Output Protection Technologies and Authorized Recording Methods. The proponent of a specific digital output protection technology or recording method seeking approval for use in Covered Demodulator Products shall certify to the Commission that such digital output protection technology or recording method is appropriate for use in Covered Demodulator Products to give effect to the Broadcast Flag. Such certification shall include the following information:

(1) a general description of how the digital output protection technology or recording method works, including its scope of redistribution;

(2) a detailed analysis of the level of protection the digital output protection technology or recording method affords content;

(3) information regarding whether content owners, broadcasters or equipment manufacturers have approved or licensed the digital output protection technology or recording method for use; and

(4) if the technology is to be offered publicly, a copy of its licensing terms, and fees, as well as evidence demonstrating that the technology will be licensed on a reasonable, non-discriminatory basis.

If any of the information is proprietary in nature, the proponent may seek confidential treatment of the proprietary portion of their certification pursuant to § 0.459 of this chapter.

(b) Initial certification window. Following the effective date of this subpart, the Commission shall issue a public notice commencing an initial certification window for digital output protection technologies or recording methods. Within thirty (30) days after the date of this public notice, proponents of digital output protection technologies or recording methods may file certifications pursuant to paragraph (a) of this section.

Following close of the initial certification window, the Commission shall issue a public notice identifying the certifications received and commencing an opposition window. Within twenty (20) days after the date of this public notice, oppositions may be filed with respect to a certification.

(1) If no objections are received in response to a proponent's certification within the twenty (20) day opposition window, the Commission shall expeditiously issue a determination indicating whether the underlying digital output protection technology or recording method is approved for use with Covered Demodulator Products.

(2) If an objection is raised within the twenty (20) day opposition window alleging that a proponent's certification contains insufficient information to evaluate the appropriateness of the underlying digital output protection technology or recording method for use with Covered Demodulator Products, the proponent may file a reply within 10 days after the close of the twenty (20) day opposition window. The Commission shall determine whether to dismiss the certification without prejudice or to undertake a full review of the certification's merits pursuant to paragraph (d) of this section.

(3) If an objection is raised within the twenty (20) day opposition window alleging that a proponent's digital output protection technology or recording method is inappropriate for use with Covered Demodulator Products, the Commission shall undertake a full review of the associated certification's merits pursuant to paragraph (d) of this section. The proponent may file a reply within 10 days after the close of the twenty (20) day opposition window. In such cases, the Commission shall issue a determination indicating whether the underlying digital output protection technology or recording method is approved for use with Covered Demodulator Products.

(c) Effect of subsequent certifications. Where a proponent of a digital output protection technology or recording method files a certification pursuant to paragraph (a) of this section subsequent to the initial certification window described in paragraph (b) of this section:

(1) If no objections are received in response to a proponent's certification within twenty (20) days after the date of public notice of the filing of such certification, the Commission shall expeditiously issue a determination indicating whether the underlying digital output protection technology or recording method is approved for use with Covered Demodulator Products.

(2) If an objection is raised within twenty (20) days after the date of public notice of the filing of a proponent's certification alleging that such certification contains insufficient information to evaluate the appropriateness of the underlying digital output protection technology or recording method for use with Covered Demodulator Products, the proponent may file a reply within 10 days after the close of the twenty (20) day opposition window. The Commission shall determine whether to dismiss the certification without prejudice or to undertake a full review of the certification's merits pursuant to paragraph (d) of this section.

(3) If an objection is raised within twenty (20) days after the date of public notice of the filing of a proponent's certification alleging that the underlying digital output

protection technology or recording method is inappropriate for use with Covered Demodulator Products, the proponent may file a reply within 10 days after the close of the twenty (20) day opposition window. The Commission shall undertake a full review of the certification's merits pursuant to paragraph (d) of this section. In such cases, the Commission shall issue a determination indicating whether the underlying digital output protection technology or recording method is approved for use with Covered Demodulator Products.

(d) Commission determinations. Where the Commission undertakes a full review of the merits of a certification for a digital output protection technology or recording method, the Commission may consider, where applicable, the following factors:

(1) Technological factors including but not limited to the level of security, scope of redistribution, authentication, upgradability, renewability, interoperability, and the ability of the digital output protection technology to revoke compromised devices;

(2) The applicable licensing terms, including compliance and robustness rules, change provisions, approval procedures for downstream transmission and recording methods, and the relevant license fees;

(3) The extent to which the digital output protection technology or recording method accommodates consumers' use and enjoyment of Unencrypted Digital Terrestrial Broadcast Content; and

(4) Any other relevant factors the Commission determines warrant consideration.

(e) Revocation of Approval.

(1) If the security of a content protection technology or recording method approved for use in Covered Demodulator Products has been compromised, a person may seek revocation of such approval pursuant to §76.7 of this chapter.

(2) Petitioners seeking revocation of a content protection technology or recording method's approval for use in Covered Demodulator Products shall articulate in detail the extent to which the content protection or recording technology has been compromised and demonstrate why alternative measures are insufficient to address the breach in security.

#### § 73.9009 Manufacture for Exportation.

The requirements of this subpart do not apply to Demodulators, Covered Demodulator Products or Peripheral TSP Products manufactured in the United States solely for export.

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

PART 76 – MULTICHANNEL VIDEO AND CABLE TELEVISION SERVICE

4. 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.

5. Add new §76.1909 to read as follows:

§ 76.1909 Redistribution Control of Unencrypted Digital Terrestrial Broadcast Content.

(a) For the purposes of this section, the terms Unencrypted Digital Terrestrial Broadcast Content, EIT, PMT, Broadcast Flag, Covered Demodulator Product, and Marked Content shall have the same meaning as set forth in § 73.9000 of this chapter.

(b) Encrypted Retransmission. Where a multichannel video programming distributor retransmits Unencrypted Digital Terrestrial Broadcast Content in encrypted form, such distributor shall, upon demodulation of the 8-VSB, 16-VSB, 64-QAM or 256-QAM signal, inspect either the EIT or PMT for the Broadcast Flag, and if the Broadcast Flag is present:

(1) securely and robustly convey that information to the consumer product used to decrypt the distributor's signal information, and

(2) require that such consumer product, following such decryption, protect the content of such signal as if it were a Covered Demodulator Product receiving Marked Content.

(c) Unencrypted Retransmission. Where a multichannel video programming distributor retransmits Unencrypted Digital Terrestrial Broadcast Content in unencrypted form, such distributor shall, upon demodulation:

(1) preserve the Broadcast Flag, if present, in both the EIT and PMT; and

(2) use 8-VSB, 16-VSB, 64-QAM, or 256-QAM signal modulation for the retransmission.

(d) Unmarked Content. Where a multichannel video programming distributor retransmits Unencrypted Digital Terrestrial Broadcast Content that is not marked with the Broadcast Flag, the multichannel video programming distributor shall not Encode such content to restrict its redistribution.

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## APPENDIX C FINAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980, as amended ("RFA")<sup>1</sup> an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in the *Further Notice of Proposed Rulemaking* ("FNPRM")<sup>2</sup> The Commission sought written public comment on the proposals in the FNPRM, including comment on the IRFA. No comments were received on the IRFA. This present Final Regulatory Flexibility Analysis ("FRFA") conforms to the RFA.<sup>3</sup>

**A. Need for, and Objectives of, the Report and Order.** The need for FCC regulation in this area derives from a forthcoming threat to over-the-air broadcast television in so far as high quality digital programming may be withheld from broadcast outlets by content owners fearful of the content's indiscriminate redistribution. The objective of the final rules, as set forth in the *Report and Order* portion of the *Report and Order and Further Notice of Proposed Rulemaking*, is to facilitate the DTV transition by creating a flag-based content protection system which will limit the indiscriminate redistribution of digital broadcast content and thereby protect the continued flow of high value content to consumers via over-the-air broadcasting.

**B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA.** No comments were received in response to the IRFA.

**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>4</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."<sup>5</sup> In addition, the term "small Business" has the same meaning as the term "small business concern" under the Small Business Act.<sup>6</sup> A small business concern is one which: (1) is independently owned and

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<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> *Digital Broadcast Copy Protection*, 17 FCC Rcd 16027 (2002) ("FNPRM").

<sup>3</sup> See 5 U.S.C. § 604.

<sup>4</sup> 5 U.S.C. § 603(b)(3).

<sup>5</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.

<sup>6</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."

operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration ("SBA").<sup>7</sup>

**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.<sup>8</sup> Business concerns included in this industry are those "primarily engaged in broadcasting images together with sound."<sup>9</sup> 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<sup>10</sup> 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).<sup>11</sup> 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

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<sup>7</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>8</sup> 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)

<sup>9</sup> 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.

<sup>10</sup> "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).

<sup>11</sup> FCC News Release, "Broadcast Station Totals as of September 30, 2002."



generating \$12.5 million or less in revenue annually.<sup>12</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>13</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.<sup>14</sup> We last estimated that there were 1,439 cable operators that qualified as small cable companies.<sup>15</sup> 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 annual revenues in the aggregate exceed \$250,000,000."<sup>16</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.<sup>17</sup> Based on available data, we find that the number of cable operators serving 685,000 subscribers or less totals approximately 1,450.<sup>18</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

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<sup>12</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220). This NAICS code applies to all services listed in this paragraph.

<sup>13</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>14</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>15</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

<sup>16</sup> 47 U.S.C. § 543(m)(2).

<sup>17</sup> 47 C.F.R. § 76.1403(b).

<sup>18</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

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>19</sup> This definition provides that a small entity is one with \$12.5 million or less in annual receipts.<sup>20</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>21</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>22</sup> This definition provides that a small entity is one with \$12.5 million or less in annual receipts.<sup>23</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>24</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>25</sup>

**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

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<sup>19</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> 13 C.F.F. § 121.201, NAICS code 517510 (formerly 513220).

<sup>23</sup> *Id.*

<sup>24</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>25</sup> *Id.* at 4385.

and ITFS.<sup>26</sup> LMDS is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.<sup>27</sup>

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.<sup>28</sup> This definition of a small entity in the context of MDS auctions has been approved by the SBA.<sup>29</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>30</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>31</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.<sup>32</sup> 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>33</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

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<sup>26</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>27</sup> *See Local Multipoint Distribution Service*, 12 FCC Rcd 12545 (1997) (“*LMDS Order*”).

<sup>28</sup> 47 C.F.R. § 21.961(b)(1).

<sup>29</sup> *See ITFS Order*, 10 FCC Rcd at 9589.

<sup>30</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

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

<sup>32</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>33</sup> *See LMDS Order*, 12 FCC Rcd at 12545.

for the preceding calendar years.<sup>34</sup> These regulations defining “small entity” in the context of LMDS auctions have been approved by the SBA.<sup>35</sup> 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>36</sup> Industry sources estimate that approximately 5,200 SMATV operators were providing service as of December 1995.<sup>37</sup> Other estimates indicate that SMATV operators serve approximately 1.5 million residential subscribers as of July 2001.<sup>38</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>39</sup> OVS falls within the SBA-recognized definition of Cable and Other Program Distribution Services.<sup>40</sup> This definition provides that a small entity is one with \$ 12.5 million or less in annual receipts.<sup>41</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

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<sup>34</sup> *Id.*

<sup>35</sup> See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

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

<sup>37</sup> See *Third Annual Report*, 12 FCC Rcd at 4403-4.

<sup>38</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>39</sup> See 47 U.S.C. § 573.

<sup>40</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>41</sup> *Id.*

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>42</sup> as well as radio and television broadcasting and wireless communications equipment.<sup>43</sup> 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.<sup>44</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.<sup>45</sup> 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>46</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>47</sup> The remaining 65 establishments have 500 or more employees; however, we are unable to

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<sup>42</sup> 13 CFR § 121.201, NAICS code 334310.

<sup>43</sup> 13 CFR § 121.201, NAICS code 334220.

<sup>44</sup> 13 CFR § 121.201, NAICS code 334310.

<sup>45</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>46</sup> 13 C.F.R. § 121.201, NAICS code 334220.

<sup>47</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.

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>48</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>49</sup> The remaining 19 firms have 1,000 or more employees. We conclude that there are approximately 544 small computer manufacturers.

**Description of Projected Reporting, Recordkeeping and other Compliance Requirements.** On the transmission side, the final rules do not require the use of the ATSC flag by broadcasters, but instead permit the use of the flag at the broadcaster's discretion for redistribution control purposes.

With respect to the reception side of the equation, the final rules require that demodulators integrated within, or produced for use in, DTV reception devices, including PC and IT products, (*i.e.*, "Covered Demodulator Products"), must recognize and give effect to the ATSC flag pursuant to certain compliance and robustness rules. The compliance rules detail the appropriate manner in which Demodulator Products may output flag-marked content. As to robustness, the generalized "ordinary user" standard contained in the final rules should afford consumer electronics, and IT and PC manufacturers, flexibility in determining how to protect flag-marked content.

Administratively, the final rules adopt a written commitment regime whereby manufacturers or importers of demodulators obtain from buyers a written commitment that they will incorporate such demodulators into compliant and robust devices, or sell or distribute to third parties that have also made such written commitment. The *Report and Order* also adopts a written commitment regime to ensure that manufacturers or importers of "Peripheral TSP Products" that can be used in connection with demodulators will abide by the Demodulator Product compliance and robustness rules.

The *Report and Order* also establishes interim procedures by which proponents of a particular content protection or recording technology can certify to the Commission that such technology is appropriate for use in Demodulator Products. Upon review of a proponent's submission, the Commission will issue a public notice. If no objection is received within 20 days, the Commission will expeditiously determine whether the technology is approved for use in Demodulator Products. If substantive objections are received with respect to a particular technology, the Commission will undertake an expedited review of its merits. The interim procedures also provide for the revocation of insecure or compromised content protection and

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<sup>48</sup> 13 C.F.R. § 121.201, NAICS code 334111.

<sup>49</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).

recording technologies.

Finally, the *Report and Order* permits MVPDs to perpetuate the flag in two ways on their systems: (1) by MVPD pass-through of the ATSC flag where the retransmission is unencrypted; or (2) where the retransmission is encrypted, by conveying the presence of the flag by some means that requires the consumer's reception equipment to protect the content as if the flag were present.

**D. Steps Taken to Minimize Significant Economic 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>50</sup>

Because use of the ATSC flag is voluntary on the part of broadcasters, we do not believe that small broadcast stations will be significantly economically affected by the final rules. On the reception side, while all consumer electronics, information technology, and personal computer manufacturers will be required to integrate flag recognition capability into devices designed for television reception, we do not believe that small manufacturers will be adversely affected since the cost of integrating the necessary technology is de minimis.<sup>51</sup> The written commitment regime should likewise have no significant effect on small manufacturers or importers as there is little cost involved in preparing and filing a written commitment. As to the interim procedures for approval of new content protection and recording technologies, we do not believe that small entities seeking approval will be significantly economically affected by the applicable procedures. Finally, we believe that the flexibility afforded MVPDs in how to effectuate the flag will mitigate any potential significant economic impact on smaller MVPDs.

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

**Report to Congress:** The Commission will send a copy of the *Report and Order and Further Notice of Proposed Rulemaking*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.<sup>52</sup> In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the

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<sup>50</sup> 5 U.S.C. § 603(b).

<sup>51</sup> MPAA Reply Comments at 16.

<sup>52</sup> See 5 U.S.C. § 801(a)(1)(A).

*Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.<sup>53</sup>

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<sup>53</sup> 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")<sup>1</sup> 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 *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 *Further Notice of Proposed Rulemaking* portion of this item provided in paragraph 69. The Commission will send a copy of this entire *Report and Order and Further Notice of Proposed Rulemaking* ("Report and Order and Further Notice"), including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration ("SBA").<sup>2</sup> In addition, the *Further Notice of Proposed Rulemaking* portion of this item and the IRFA (or summaries thereof) will be published in the Federal Register.<sup>3</sup>

**A. Need for, and Objectives of, the Proposed Rules.** Content providers have suggested that they should have the ability to make determinations about which new content protection and recording technologies may be used in connection with demodulator products under an ATSC flag-based redistribution control system. Commenters have indicated that content providers should not be the sole arbiters of such decisions. However, the record currently before the Commission is insufficient on this matter. In order to ensure the connectivity and interoperability of Demodulator Products and peripheral devices, we are initiating the *Further Notice* to seek comment on the process and criteria by which new content protection and recording technologies can be evaluated and approved for use in this context. The *Further Notice* also seeks comment on whether cable operators should be allowed to encrypt the digital basic tier in order to be able to give effect to the ATSC flag through cable operators' conditional access system. The *Further Notice* also seeks comment on the interplay between an ATSC flag system and open source software for DTV applications, such as software defined radio.

**B. Legal Basis.** The authority for this proposed rulemaking is contained in Sections 1, 2, 4(i) and (j), 303, 307, 309(j), 336, 337, 396(k), 403, 601, 614(b) and 624a of the Communications Act of 1934, 47 U.S.C §§ 151, 152, 154(i) and (j), 303, 307, 309(j), 336, 337, 396(k), 403, 521, 534(b) and 544a.

**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>4</sup> The RFA generally defines the term "small entity" as encompassing the terms "small business," "small organization," and "small governmental entity."<sup>5</sup> In addition, the term "small Business" has the same meaning as the term "small business concern" under the Small Business Act.<sup>6</sup> A small business concern is one which: (1) is

<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 5 U.S.C. § 603(a).

<sup>4</sup> 5 U.S.C. § 603(b)(3).

<sup>5</sup> 5 U.S.C. § 601(6).

<sup>6</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

(continued....)

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>7</sup>

**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.<sup>8</sup> Business concerns included in this industry are those “primarily engaged in broadcasting images together with sound.”<sup>9</sup> 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<sup>10</sup> 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).<sup>11</sup> 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.<sup>12</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

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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>7</sup> 15 U.S.C. § 632.

<sup>8</sup> 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)

<sup>9</sup> 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.

<sup>10</sup> “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).

<sup>11</sup> FCC News Release, “Broadcast Station Totals as of September 30, 2002.”

<sup>12</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220). This NAICS code applies to all services listed in this paragraph.

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>13</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.<sup>14</sup> We last estimated that there were 1,439 cable operators that qualified as small cable companies.<sup>15</sup> 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 annual revenues in the aggregate exceed \$250,000,000."<sup>16</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.<sup>17</sup> Based on available data, we find that the number of cable operators serving 685,000 subscribers or less totals approximately 1,450.<sup>18</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>19</sup> This definition provides that a small entity is one with \$12.5 million or less in annual receipts.<sup>20</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

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<sup>13</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>14</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>15</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

<sup>16</sup> 47 U.S.C. § 543(m)(2).

<sup>17</sup> 47 C.F.R. § 76.1403(b).

<sup>18</sup> Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

<sup>19</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>20</sup> *Id.*

excess of the threshold for a small business.<sup>21</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>22</sup> This definition provides that a small entity is one with \$12.5 million or less in annual receipts.<sup>23</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>24</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>25</sup>

**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>26</sup> LMDS is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.<sup>27</sup>

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.<sup>28</sup> This definition of a small entity in the context of MDS auctions has been approved by the SBA.<sup>29</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

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<sup>21</sup> *Id.*

<sup>22</sup> 13 C.F.F. § 121.201, NAICS code 517510 (formerly 513220).

<sup>23</sup> *Id.*

<sup>24</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>25</sup> *Id.* at 4385.

<sup>26</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>27</sup> *See Local Multipoint Distribution Service*, 12 FCC Rcd 12545 (1997) (“*LMDS Order*”).

<sup>28</sup> 47 C.F.R. § 21.961(b)(1).

<sup>29</sup> *See ITFS Order*, 10 FCC Rcd at 9589.

\$12.5 million or less in annual receipts.<sup>30</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>31</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.<sup>32</sup> 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>33</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.<sup>34</sup> These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.<sup>35</sup> 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>36</sup> Industry sources estimate that approximately 5,200 SMATV operators were providing service as of December 1995.<sup>37</sup> Other estimates indicate that SMATV operators serve approximately 1.5 million residential

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<sup>30</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

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

<sup>32</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>33</sup> See *LMDS Order*, 12 FCC Rcd at 12545.

<sup>34</sup> *Id.*

<sup>35</sup> See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

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

<sup>37</sup> See *Third Annual Report*, 12 FCC Rcd at 4403-4.

subscribers as of July 2001.<sup>38</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>39</sup> OVS falls within the SBA-recognized definition of Cable and Other Program Distribution Services.<sup>40</sup> This definition provides that a small entity is one with \$ 12.5 million or less in annual receipts.<sup>41</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>42</sup> as well as radio and television broadcasting and wireless communications equipment.<sup>43</sup> 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.<sup>44</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.<sup>45</sup> The remaining 12 establishments have 500 or more employees; however, we are

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<sup>38</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>39</sup> See 47 U.S.C. § 573.

<sup>40</sup> 13 C.F.R. § 121.201, NAICS code 517510 (formerly 513220).

<sup>41</sup> *Id.*

<sup>42</sup> 13 CFR § 121.201, NAICS code 334310.

<sup>43</sup> 13 CFR § 121.201, NAICS code 334220.

<sup>44</sup> 13 CFR § 121.201, NAICS code 334310.

<sup>45</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.

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>46</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>47</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>48</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>49</sup> 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 content protection technologies and recording methods to be used in conjunction with demodulator products.<sup>50</sup> These requirements will 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. The proposed rules would also allow cable operators to encrypt the digital basic tier, however, we do not believe that this voluntary provision would have an impact on small entities.

**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

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<sup>46</sup> 13 C.F.R. § 121.201, NAICS code 334220.

<sup>47</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>48</sup> 13 C.F.R. § 121.201, NAICS code 334111.

<sup>49</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).

<sup>50</sup> See *Further Notice* at ¶¶ 61-65.

small entities.<sup>51</sup>

As indicated above, the *Further Notice* seeks comment on whether the Commission should adopt rules establishing an approval mechanism for new content protection and recording technologies to be used with demodulator products. Consumer electronics manufacturers may be required to seek such approval prior to implementing content protection and recording technologies in demodulator 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 *Further Notice* also seeks comment on whether cable operators should be allowed to encrypt the digital basic tier in order to be able to give effect to the ATSC flag through cable operators' conditional access system. While we do not believe that this rule change would have a potential impact on small entities because it would be voluntary in nature, we seek comment on whether a special approach toward any possible compliance burdens on small entities might be appropriate.

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

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<sup>51</sup> 5 U.S.C. § 603(b).



**SEPARATE STATEMENT OF  
COMMISSIONER KATHLEEN Q. ABERNATHY**

*Re: Digital Broadcast Content Protection, Report and Order and Further Notice of Proposed Rulemaking, MB Docket 02-230 (adopted November 4, 2003)*

Today's decision is illustrative of the complex policy debates that arise as we move forward with the digital transition. In this instance, the debate centers on potential piracy problems that arise when digital content is delivered by free over-the-air broadcast signals. Not surprisingly, content providers do not want their digital TV programs pirated and retransmitted over the Internet. Critics of the broadcast flag proposal, on the other hand, warn against placing too much control over technology choice in the hands of the studios. Mindful of our ongoing obligation to speed the digital transition and to promote the viability of free over-the-air broadcasting in the digital age, we have navigated a solution that embraces protection and deters piracy without sacrificing innovation or frustrating consumer expectations.

I do recognize that there are costs, both actual and in terms of consumer expectations, that must be measured against the benefits associated with a broadcast flag solution. In this case, however, we have ensured that the costs imposed on consumers will be minimal. Unlike encryption at the source, a broadcast flag solution will not render legacy devices obsolete and will not force consumers to purchase new or additional equipment to receive their broadcast programming. Consumers will be able to continue receiving broadcast programs over their existing television receivers. In addition, existing recorders and playback devices will continue to work, and digital recordings made on legacy devices will play on future compliant machines.<sup>52</sup> Thus, we are accommodating to the greatest extent possible current consumer expectations and uses. Furthermore, members of the consumer electronics industry have indicated that the costs associated with implementing the broadcast flag will be minimal. By protecting against digital piracy, we also encourage entertainment companies to deliver via free over-the-air broadcast its most valuable programs.

I am generally cautious when it comes to government prescribing technologies or putting too much control in the hands of one industry in making such determinations. I am able to support today's decision, however, because of the changes we have made to the way transmission and recording technologies are approved. While we are asking for further comment on this issue, we set up on an interim basis a transparent, open and objective approval process that will promote the development of competition in the marketplace and foster innovation. I am hopeful that through this process and the final rules we adopt, new technologies will develop that will allow consumers flexibility in how they distribute content without allowing indiscriminate redistribution of broadcast television content over the Internet.

Finally, I have previously expressed concerns about whether we have jurisdiction to adopt a broadcast flag solution, or whether this is an issue best left for Congress. As a general rule, the Commission should be wary of adopting significant new regulations where Congress has not spoken. On balance, though, I believe that given the broad congressional direction to promote the transition to digital broadcasting, a critical part of that obligation involves protection of content that is transmitted via free over-the-air broadcasting. I am hopeful that any court review of this decision can occur before the effective date of our rules.

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<sup>52</sup> I do recognize, though, that a recording made to a DVD on a new compliant device will not currently be able to be viewed on a legacy DVD player. That recording, however, can be played on the compliant device, and the existing non-compliant DVD recorder will continue to both record content and playback content recorded on that machine. As we note in the Order, moreover, this problem is not unique to the broadcast flag. For instance, other changes to DVD technology, such as a transition to high definition DVD devices, will create format compatibility problems.

**STATEMENT OF  
COMMISSIONER MICHAEL J. COPPS  
APPROVING IN PART, DISSENTING IN PART**

*Re: Digital Broadcast Content Protection*

Striking a balance between consumers' expectations that they will be able to turn new technologies to their advantage and content producers' expectations that they will be able to protect the products of their creative genius is a real and growing challenge as we enter the digital age. There is broad agreement about the need to protect content in this new age if we are going to enjoy the full fruits of artistic creativity. But there is the equally compelling need to guarantee that consumers are able to enjoy the expanded opportunities that accompany the development of liberating new technologies. Our world changes, old boundaries are blurred and then shattered, and new rules have to be developed that preserve traditional rights even as they accommodate new realities.

Even though today's decision does not, cannot and should not settle these huge questions of public policy that must ultimately be decided in venues other than the FCC, the larger backdrop should be kept in mind as a reminder that we are at least approaching matters of great long-term significance to the American people. An important goal of today's Commission action is to expedite the nation's long-delayed transition to digital television, but in a way that preserves a workable balance as we await longer-term guidance from Congress and the Executive Branch. We attempt to achieve this goal today by resolving a long deadlock over technologies designed to provide digital broadcast content protection. Commission action here strikes me as warranted because we are fast approaching a situation wherein new technologies will provide arguably too much power to those who would infringe and pirate the rights of digital creativity. Such digital chaos benefits neither the creators nor the consumers of what is sure to be dramatic new content.

Given digital media's susceptibility to indiscriminate mass online distribution, content producers may have significantly greater incentives to broadcast high-value content if there are in place at least basic protection technologies. If denied such protection in one medium (*e.g.*, free, over-the-air broadcast television), they will migrate their new content to other media (*e.g.*, subscription cable television). Such a result would likely discourage new digital content in the broadcast medium and also retard the statutorily-mandated transition to digital television. Neither outcome is acceptable.

But I am also guided by the need to protect consumers in our quest to encourage digital content and to expedite the digital transition. The reason we are promoting digital television, after all, is to benefit consumers, not companies. Granting a small set of companies the power to control all digital video content through a government-mandated technology in order to promote digital television is neither necessary nor wise. A broadcast flag mandate that lacked adequate protections and limits would be reprehensible public policy.

We have worked to avoid this danger with today's Order. Our decision is not ideal. No one will walk away with everything on their wish list. What we have instead is an honest attempt at a workable compromise that responds to the concerns raised by multiple commenters. We afford at least some level of content protection. We preserve a balance between the rights of consumers and the rights of creative content producers. And we resolve one challenge attending the digital television transition even as we await further guidance on the larger policy framework from Congress and the Executive Branch.

This Order is substantially different from the proposal originally submitted to the Commission. And I appreciate the constructive dialogue among my colleagues that has allowed us to reach this decision. The item we adopt today is better balanced, more sensitive to the concerns raised by consumer groups, and supportive of multiple technologies and open processes for product certification. The

creators of copyrighted works are provided tools and processes with which to protect their intellectual property in the digital age. Consumers should reap the benefits of significantly more digital content on their television receivers. Tens of millions of American households depend upon free-over-the-air broadcast for their television reception and a central purpose of this decision is to ensure that they do not become second-class consumers of second-class content.

This item has been improved so that competition between protection technologies will hopefully preserve, for the most part, consumers' reasonable expectations. Consumers have a right to expect that technological advances will afford them expanded opportunities generally, and that the freedom and vitality of digital technology will open up new options for the ways in which they can receive and utilize new products and services. I discuss below those places wherein I believe we fail to protect consumer interests.

I am pleased that this Order encourages openness and competition in the digital broadcast flag system. If only one protection technology was to be available to consumers in the future, or if one technology was granted a first-mover advantage allowing it to entrench itself so firmly that new and better technologies are given no chance, we would have an intolerable result. Consumers would be forced to use a technology not because it provides consumer options or preserves fair use, but because they have no choice. Corporate interests would have trumped consumer interests. Reasonable uses of content by viewers could -- probably would -- be restricted, costs would rise and technology innovation would be hindered. I believe that today's item, although not perfect, creates an opportunity wherein consumers will have a choice of user-friendly digital content protection systems and wherein the reality of competition will encourage content providers and equipment manufacturers to develop technologies that allow reasonable consumer uses of programming such as copying, recording, and sending digital content securely over the Internet. A technology that blocks reasonable personal use of digital content will not be chosen by consumers. Nor will a technology that hampers innovation be accepted by the manufacturers of consumer electronics products.

So the fact that today's Order now allows multiple firms to have many different technologies that meet our rules was critical to our decision. We reject the notion that one industry segment should have gatekeeper control over digital content protection. Instead, we seek to establish a streamlined, open approval process with a neutral arbiter based on objective criteria. We seek multiple interoperable technologies that will promote competition and consumer choice. We seek to preserve reasonable and flexible consumer expectations and uses. And we seek to avoid stranding legacy equipment that must be replaced to receive protected content.

Words written in a Commission Order will not alone guarantee success. We must remain vigilant during the interim procedures established today and work expeditiously to develop a longer term process that includes clear technical criteria with a transparent road to approval. That is one of the principal purposes of the Further Notice that we approve today. As we move forward, we must also be careful not to chill development of software solutions generally, particularly for beneficial purposes such as software defined radio.

The competition that we build into the system and the changes from the original proposal allow me to support much of this Order. But I must dissent in part because I believe that we fail to protect consumer interests in important parts of the decision.

I dissent in part, first, because the Commission does not preclude the use of the flag for news or for content that is already in the public domain. This means that even broadcasts of government meetings could be locked behind the flag. Broadcasters are given the right to use the public's airwaves in return for serving their communities. The widest possible dissemination of news and information serves the best interests of the community. We should therefore be promoting the widest possible dissemination of news

and information consistent, of course, with the copyright laws. And neither the FCC nor the broadcast flag should interfere with the free flow of non-copyrightable material. As discussed above, this Order attempts to strike a balance between preserving consumers' reasonable and flexible uses and permitting content providers a technological means to protect their copyright. But on the scale of the public interest, we must accord great weight to enabling lawful consumer and educational use of content when we are talking about something that goes to the core of America's public discourse and its civic dialogue. I understand the arguments of those who caution that precluding the flag for news and information could entail some difficult and sensitive decisions about what constitutes news and public information and what does not. Even if we are confronted with some difficult decisions, I would rather attempt the difficult than deny the free flow of news and information the widest possible dissemination.

Second, I dissent in part because the criteria we adopt for accepting digital content protection technologies fail to address some critical issues. For example, we do not expressly consider the impact of a technology on personal privacy. Improper use of the technologies could arguably allow such things as tracking personal information. The broadcast flag should be about protecting digital content, not about tracking Americans' viewing habits. Protecting personal privacy is too important to leave to chance. We should state explicitly that we will consider this issue in the approval process and what action we would take if some approved technologies collect information about users and their viewing habits. I believe the Commission will be forced to address this anon; it would have been far preferable to do so here.

As a final matter, I note that I vote for today's Order with the understanding that it will not affect 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.

Again, my thanks to the Bureau for working through an immensely complex and controversial proceeding and to my colleagues for their spirit of dialogue and cooperation that permitted us to achieve a satisfactory outcome today. We still have much to do in working through the implementation of today's Order and developing answers to the many "going forward" questions raised in the further notice. I urge all interested parties – and they are, as we know, many – to participate fully as we attempt to develop policies and procedures for moving ahead in an area wherein about the only certain thing is change.

**STATEMENT OF  
COMMISSIONER JONATHAN S. ADELSTEIN  
APPROVING IN PART, DISSENTING IN PART**

*Re: Digital Broadcast Content Protection, Report and Order and Further Notice of Proposed Rulemaking, MB Docket 02-230*

Today's action presents a difficult and complex challenge. It is no small matter to require for the first time a content protection system for free broadcast television delivered over the public airwaves. Presented, as we have been, with a perceived threat that stands to undermine the very broadcast system that has benefited our society since its inception in 1927, I am willing to take that bold step. And being a firm believer in technological innovation, I believe this step can be done in a way that benefits all and ushers in a new and innovative era of digital television.

But this step deserves careful consideration and broad public debate. I dissent in part, as I do not believe we have fully achieved our goal of creating an effective and appropriately tailored pro-consumer digital broadcast television protection regime.

Although we have recently endorsed a copy protection system for cable plug-and-play devices, we should not automatically assume that such a model should apply directly in the broadcast context. Instead, we should start by taking a step back and examining the nature of broadcast television and the implications of requiring a content protection regime. Indeed, not all consumers have the desire or ability to afford cable or other pay television services. These are the very consumers who may find it difficult to replace equipment as content protection technologies change over time. Yet, these are also the people who would benefit the most from high value content being available on the public airwaves. It is these stakeholders whose interest is foremost in my mind as I analyze today's Order.

This item confronts us with the current conditions facing the entertainment industry. Without question, the indiscriminate mass redistribution of copyrighted works over the Internet may well violate our nation's copyright laws and strikes at the core economic equation for creators. Such redistribution is happening today with analog and downresolutioned entertainment content. While the entertainment industry acknowledges that the actual economic threat attributable to the widespread indiscriminate sharing of digital television files is not imminent, they ask us to act today as a precaution for the future. They say without protection, high value content will not be made available on the broadcast medium. Given the circumstances and the potential harm to creators, it is appropriate to offer some baseline protection.

At the same time, our action should not give content providers a sense of complacency to avoid actively seeking out new and evolving business models that embrace exciting new technologies and unleash opportunities for eager consumers. There is no telling what effect the prominent offering and marketing of lawful and affordable Internet-based alternatives could have on offsetting piracy, particularly in light of recent efforts to step up consumer education and enforcement.

Taking preemptive action to impose a mandated content protection regime inherently carries some risk. It is well known that the entertainment industry in the past has feared technological advances that have matured to the benefit of their industry. We must be careful not to cut off through preemptive regulation innovation that would lead to products and technologies that benefit consumers, manufacturers, and the creative community alike.

I have confidence that if we do this right, a digital broadcast content protection system can carry out this vision and become a winning solution for all. I appreciate the willingness of my colleagues and

the Bureau to engage in a constructive dialogue on the implications of various proposals. I believe today's result is better because of that dialogue. I continue to have concerns with certain aspects of this decision, which I outline below.

Today we put in place a regime to afford basic protection against the mass indiscriminate online redistribution of digital television content. Our action makes several important improvements over some proposals that were initially offered. Most notably, we have taken steps to assure that no single technology or set of companies is given a government endorsement to control all digital television reception and downstream distribution and recording. Our procedures ensure that no industry segment has veto power over the approval of technologies for use with the flag. As we seek further comment on a long-term technology approval process, we have sought to establish interim procedures that are open and transparent. We have specified that the initial approval of technologies will be pursuant to functional requirements and a non-exhaustive list of objective criteria, without providing any entity a potentially dangerous first-mover advantage. Recognizing the steady convergence of computing and consumer electronics equipment in the home, our procedures are not intended to provide a regulatory advantage to anyone.

As technologies come forward for approval, I will pay particular attention to the competitive impact and the manner in which the content protection technology binds other downstream networking or recording technologies, and the impact of the particular authentication method on consumers and their privacy protections. Given the potential use of licensing terms to stifle competition, I expect licenses will be made available on fair, reasonable and nondiscriminatory terms, and will contain adequate dispute resolution procedures where objections arise. Should any one technology become the *de facto* standard for all digital television equipment, a closer examination by the Commission may be required.

It is my fervent hope that a variety of strategies and technologies will be deployed to help reach our ultimate goal of preserving high value content on broadcast television while providing maximum interoperability, portability, and ease of use for consumers. Consumers will benefit from broad choice among competing interoperable content delivery and protection technologies, as manufacturers can be expected to build the products most likely to be embraced by consumers. I would be concerned if technologies came before us that presumed that every consumer engaged in unlawful redistribution or that restricted or required a payment for legitimate activities that consumers do today.

Nor should the current analog world necessarily be the model for what consumers can reasonably expect to do in a digital world. We are undertaking the digital television transition to benefit consumers and usher in opportunities for new and innovative ways consumers can watch, record and enjoy television. A digital world is likely to accommodate more consumer uses of content that do not run afoul of the copyright laws, and as-yet-undetermined innovative features for time and space shifting, excerpting, and transferring content lawfully. We have no way of knowing who or what will be the next TiVo-like innovation to come forward and be enthusiastically embraced by consumers.

My fear with today's action is that one technology could become the gatekeeper across various communications platforms and could curtail technological innovation. That one technology, for example, could bind consumers to watch content at particular times, on particular devices, or subject to other terms and conditions that are more than a "speed bump" in a consumer's viewing and enjoying of digital television. Should that occur, consumer frustration and backlash is likely, and would serve neither product manufacturers nor the entertainment industry. Another fear of mine is that consumers, reporters, libraries, educators, the disabilities community, or other entities who today use copyrighted material in numerous lawful ways without the prior permission of the copyright owner, will be subjected to a system of preapproval or payment for the continued exercise of those legally protected uses. Worse yet, that the resulting technologies could intrude upon the personal privacy of consumers by collecting information about users or their viewing habits.

Thousands of people contacted us and urged us not to take this preemptive action. Many consumers are concerned about the effect on their use and enjoyment of television, as well as their personal privacy. Given the possibility that the Digital Millennium Copyright Act might apply, content protection technologies have the potential to override lawful uses of digital content. With the case-specific and evolutionary nature of fair use, it is a hard concept to define technologically and not impact it legally. Yet the Commission has no authority to do the latter.

Under the regime adopted today, the Commission has not yet examined the full impact of any particular content protection technology. Provided alternatives exist, a technology that unduly restricts reasonable personal use of television content is not likely to be embraced by consumers. On the other hand, we can expect consumers to gravitate toward technologies that preserve flexible consumer uses of digital content. By locking down content too tightly or imposing too great a cost on consumers, consumer adoption suffers, resulting in manufacturers losing incentives to innovate and the entertainment industry failing to benefit from new channels for content delivery. For this reason, I expect technologies will come forward that will preserve consumers' reasonable expectations, including the secure distribution of broadcast television excerpts or files over the Internet in a manner consistent with copyright law. In the end, I hope our adoption of a broadcast flag protection regime does not end up costing consumers greatly, through direct expense, reduced functionality of legacy devices, or the loss of innovative ways of watching, recording, or using digital television.

Everyone benefits if consumers embrace and invest in digital television equipment. I would not want to see our adoption of the flag slow consumer acceptance of the digital transition or discourage computer developers from enabling the reception and downstream use of digital television through computing hardware and software solutions. To the extent that today's action adds to the complexities of buying digital television equipment or home networking solutions, I encourage all parties to work with retailers to increase consumer awareness.

I would have preferred to step gradually into this delicate space. I am concerned, for instance, that our action today will adversely affect accountability of the broadcast media. Despite technological advances, the public airwaves are still limited in the number of interference-free channels that can broadcast in each community. Adding a content protection regime that restricts the flow of digital television content could very well lead to less public accountability of what is broadcast over the air. For example, absent a mandated content protection regime, consumers might have been in a position to e-mail the Commission an excerpt of a show they believe is in violation of our indecency rules. It remains unclear whether consumers can do so after today's action.

I dissent in part because I believe we fail to protect the public interest in some key ways. First, I must dissent from the unlimited scope of today's protection regime. The Order does not rule out the use of the flag for content that is in the public domain. The flag was presented as a means of preventing the illegal mass redistribution of digital broadcast content over the Internet. By not limiting use of the flag only to copyrighted works, I believe our scope not only exceeds the purposes for which we take preemptive action but also fails to reflect the record before us of the perceived threat and potentially supersedes the balance of copyright law. While the item professes not to affect copyright law, by mandating a technological protection regime that can be used to restrict the flow of content that is in the public domain, or is not subject to copyright protection for other reasons, I am not convinced that we have adhered to our well-meaning pronouncements. Presumably, there is some greater public good in the wide dissemination of non-copyrightable works or works for which the copyright protection has expired. If the barrier to the unleashing of high value content on digital broadcast television is Internet piracy, then I fail to see how a regime that could end up locking up public domain or non-copyrightable works is carefully focused to achieve that result.

Nor do I take lightly a government-required protection regime that could restrict the free flow of news or public affairs programming which is at the heart of public discourse in our society. Our country has a long history of promoting widespread public access to broadcast television. In return for the free use of the spectrum, broadcasters are expected to serve their local communities. Consistent with copyright law, the wider the dissemination of news and public affairs programming, the better our communities and our democracy are served. The lawful consumer and educational use of content for scholarship, commentary, criticism, teaching, research, or other socially beneficial purposes should not be hindered. I see little threat to content creators from a parent e-mailing to family members and friends a local television news clip of a son or daughter receiving a community service award, or a teacher choosing to show his or her classroom a rebroadcast of a space shuttle launch using an Internet connection.

Nor do I see a persuasive reason to restrict the free flow of political speech which yields important societal benefits. By subjecting, say, the State of the Union address to mandated redistribution control technologies, have we not undermined a core value of our society? I search in vain for record support or a reason to lock up political speech from widespread distribution. Because I believe the Order's boundless scope insufficiently addresses these values, I dissent.

I also dissent to the failure of our interim criteria for examining digital content protection technologies to address important consumer issues. I would have explicitly indicated that the Commission will consider the impact of a technology on personal privacy and not accept any technology that intrudes too greatly into this space. While we are free to examine privacy implications under our non-exhaustive list of criteria, given the importance of improper use of information about consumers' viewing habits, I would have made our intention to protect consumer privacy explicit and unmistakable.

By going forward with today's adoption of a broadcast flag regime to address a perceived threat, the Commission could have put in place a way to evaluate whether we are achieving the goal that underlies our regulatory action – the availability of high value content on free over-the-air broadcast television. Such efforts would benefit the Commission should the flag be the just the first in a series of requests to mandate even further content protection measures.

Content providers have raised a real concern that the threat of indiscriminate online redistribution of digital television content will hold back high value content from our nation's public airwaves. By providing some basic assurance that the high value content that is broadcast over digital television will not be widely and indiscriminately redistributed online, we give greater incentive for content producers to make that content available on free over-the-air television.

Not many people a decade ago foresaw the Internet's rapid evolution into a tool of consumer empowerment for both legitimate and harmful uses. As we take steps to protect free over-the-air digital broadcast television against the powers of the Internet, we must be cautious, for the sake of consumers and the entertainment industry itself, not to trample its lawful use or inadvertently stifle the next innovative distribution model that could revolutionize the entertainment industry.