

PLEASE DO NOT COPY ORIGINAL

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

Adopted: November 4, 2003

Released: November 4, 2003

Comment Date: January 14, 2004

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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.² 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.³ Resolution of these issues in the MVPD context, however, has

² *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment*, 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*”).

³ *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.⁴ 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”),⁵ as well as on what regulations were needed on the transmission or reception side to give effect to such mechanism.⁶

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.⁷ A number of commenters agree in principle that consumers' ability to record digital broadcast television should not be restricted.⁸ We concur

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

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

⁶ *Digital Broadcast Copy Protection*, 17 FCC Rcd at 16028-29.

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

⁸ 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.⁹

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.¹⁰ 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.¹¹ 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.¹² For example, if first run DTV broadcast content were freely available over the Internet, then secondary, international and webcast markets could be threatened.¹³ 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.¹⁴

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.¹⁵ 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 ("HRRC") 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, Thomson Inc ("Thomson") Comments at 6-9, 11, TiVo Inc ("TiVo") Comments at 2-4

⁹ *Digital Cable Compatibility Order and FNPRM* at Section V.D

¹⁰ Motorola Comments at 3, Viacom Comments at 12-15, NFL, *et al* ("NFL") Reply Comments at 2-7 ("NFL")

¹¹ 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

¹² Viacom Comments at 4-6

¹³ NFL Comments at 6-12

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

¹⁵ 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, HRRC

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hour HDTV broadcast program to the Internet at standard consumer broadband speeds.¹⁶ 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.¹⁷ Indeed, several commenters emphasize that programming in analog or standard definition is more susceptible to Internet redistribution than high definition content.¹⁸ 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.¹⁹

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.²⁰ 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.²¹ 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

¹⁶ Raffi Krikorian Reply Comments at 15

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

¹⁸ CCIA Comments at 7-8, Philips Reply Comments at 19-20, PK & CU Reply Comments at 6-11.

¹⁹ EFF Reply Comments at 3

²⁰ 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”)

²¹ 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 Rcd 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.²² 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.

²² *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.²³

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.²⁴ 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."²⁵ 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.²⁶ 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.²⁷ MPAA stresses that an ATSC flag system would only limit redistribution of content and not prevent consumer copying.²⁸ 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.²⁹ Legacy devices

²³ 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)

²⁴ 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

²⁵ ATSC A/65B at 79

²⁶ *BPDG Final Report* at 11-12

²⁷ MPAA Comments at 12

²⁸ *Id.* at 6 n 3

²⁹ 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.³⁰

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.³¹ 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.³²

16 Critics of the ATSC flag point out that the *BPDG Final Report* did not reflect widespread consensus among the group’s participants.³³ 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.³⁴ 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.³⁵

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.³⁶ Other commenters suggest that the ATSC flag could be easily circumvented, potentially through the use of digital to analog converters.³⁷ Several commenters also express concern that the presence of component analog outputs on reception devices would vitiate any protection offered by flag recognition technology.³⁸ 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

³⁰ MPAA Comments at 27

³¹ CEA Comments at 3-4

³² DIRECTV Comments at 2-3, NCTA Comments at 2-3, 8, 10-11, 13-14, NCTA Reply Comments at 1-2, 4-7

³³ See Philips Comments at 25-26, AFB Comments at 2, PK & CU Comments at 13-18.

³⁴ *BPDG Final Report* at 18-21

³⁵ Veridian Corporation (“Veridian”) Comments at 12-13, Veridian Reply Comments at 3-4

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

³⁷ See e.g., IT Coalition Comments at 17 n 44, PK & CU Comments at 15-17

³⁸ 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.³⁹ 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.⁴⁰ 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.⁴¹

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.⁴² 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.⁴³ 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.⁴⁴ 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

³⁹ 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.

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

⁴¹ 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.

⁴² Library Group Comments at 6-18.

⁴³ 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.

⁴⁴ 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.⁴⁵

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.⁴⁶ 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.⁴⁷ Current consumer uses of these products

⁴⁵ 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.

⁴⁶ 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).

⁴⁷ 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 demodulation⁴⁸ Under an encryption regime, a specific encryption technology would need to be adopted by the Commission.⁴⁹ 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.⁵⁰ Estimates on a timeframe for the development and approval of an appropriate encryption algorithm vary from several years to the near term⁵¹ 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 programming⁵² Philips argues that an encryption regime should be considered critically because it could potentially limit the playback functionality of legacy recording equipment⁵³ 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

⁴⁸ 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

⁴⁹ 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

⁵⁰ MPAA Comments at 17

⁵¹ 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")

⁵² MPAA Comments at 17, CEA Reply Comments at 1-4

⁵³ Philips Comments at 21

problem.⁵⁴

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.⁵⁵ Digimarc, Macrovision and Philips each favor the use of watermarking to secure DTV broadcast content.⁵⁶ 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.⁵⁷ In addition to its potential use for redistribution control purposes, supporters suggest that a watermark can also be devised to address the analog hole.⁵⁸ 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.⁵⁹ 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.⁶⁰ 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.⁶¹

⁵⁴ HRRC Reply Comment at 3-4, ITIC Comments at 3, EFF Reply Comments at 27

⁵⁵ 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.

⁵⁶ Digimarc and Macrovision Comments at 3-14, Philips Comments at 2-3, 15, Philips Reply Comments at 33-34

⁵⁷ Digimarc and Macrovision Comments at 4

⁵⁸ *Id.* at 7-8

⁵⁹ NMPA Reply Comments at 13-14, NBC Comments at 3, NFL Comments at 6, 13-14

⁶⁰ Digimarc and Macrovision Comments at 9-10

⁶¹ 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.⁶² 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.⁶³ 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.⁶⁴

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.⁶⁵ 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.⁶⁶ 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 336.⁶⁷ 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.⁶⁸ Critics claim that *reception* equipment, as opposed to *transmission* equipment, falls outside the Commission's

⁶² See www.cptwg.org/Assets/Presentations/ARDG/ARDG%20page.htm

⁶³ See MPAA Comments at 31-34.

⁶⁴ *Id.* at 35-39.

⁶⁵ See, e.g., Philips Reply Comments at 34.

⁶⁶ 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))

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

⁶⁸ See, e.g., Philips Reply Comments at 36-42.

general jurisdictional grant in Title I of the Communications Act.⁶⁹

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 regulation⁷⁰ and the assertion of jurisdiction is "reasonably ancillary to the effective performance of the [its] various responsibilities."⁷¹ 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."⁷² Section 2(a), in turn, confers on the Commission regulatory authority over all interstate communication by wire or radio.⁷³ 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.⁷⁴ Based on this language, we find that television receivers are

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

⁷⁰ *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*")

⁷¹ *Southwestern Cable*, 392 U.S. at 178

⁷² 47 U.S.C. § 151

⁷³ *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")

⁷⁴ 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.⁷⁵

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.⁷⁶ 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.⁷⁷ In addition, the Commission is charged with the responsibility of shepherding the country's broadcasting system into the digital age⁷⁸ – 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

(continued from previous page)

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)

⁷⁵ 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.

⁷⁶ 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.

⁷⁷ 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 on the welfare of the public.’”)

⁷⁸ 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”⁷⁹ To further this goal, Congress has woven into the Communications Act an intricate and detailed set of provisions for the DTV transition.⁸⁰ The legislative history of various statutory provisions reflects a clear Congressional expectation that the transition take place.⁸¹ 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.⁸² 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

⁷⁹ 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”).

⁸⁰ 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)

⁸¹ 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, 105th Cong., 1st 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, 107th Cong., 1st 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”).

⁸² 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 manner⁸³ 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")).⁸⁴ 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 authorizations⁸⁵ 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

⁸³ 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)

⁸⁴ 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)

⁸⁵ 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.⁸⁶ 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’”⁸⁷ 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*.⁸⁸ In response, MPAA submitted with its comments a revised version of its BPDG joint proposal with the 5C companies (“Joint Proposal”).⁸⁹ 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.⁹⁰ 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

⁸⁶ See *Southwestern Cable*, 392 U.S. at 162-167.

⁸⁷ *Id.* at 173-174 (citations omitted).

⁸⁸ *NPRM*, 17 FCC Rcd at 16027-29.

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

⁹⁰ *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.⁹¹ 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.⁹² The Corporation for Public Broadcasting, MPAA and NAB oppose a prohibition of this sort by suggesting that: (1) it would implicate FCC oversight of content, and (2) news and public interest programming merits the same level of protection afforded to entertainment programming.⁹³ 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.⁹⁴ 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

⁹¹ HRRC Comments at 6, PK & CU Comments at 19, Thomson Comments at 14, MPAA Comments at 13, NFL Comments at 14-15

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

⁹³ 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)

⁹⁴ 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.⁹⁵ 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.⁹⁶ 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.⁹⁷ 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.⁹⁸ 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.⁹⁹ MPAA also seeks regulation over consumer modulators that could be used to create a "false flag" that would undermine other forms of content protection.¹⁰⁰ 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.¹⁰¹ 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.¹⁰² EFF advocates excluding software demodulators from the scope of the flag compliance and robustness rules to encourage innovation in open source software for DTV

⁹⁵ 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).

⁹⁶ 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.

⁹⁷ See *Digital Cable Compatibility Order and FNPRM* at Section VI C.

⁹⁸ CBS Affiliates Comments at 3, CEA Comments at 5-6, DTLA Comments at 8, DIRECTV Comments at 3, DIRECTV Reply Comments at 4-5, HRRC 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, NB 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.

⁹⁹ MPAA Comments at 14-18, DTLA Comments at 8.

¹⁰⁰ MPAA Reply Comments at 39-41, *but see* IT Coalition Comments at 29-30, EFF Reply Comments at 26-27.

¹⁰¹ MPAA Reply Comments at 39-41.

¹⁰² CEA Comments at 5-6, CCIA Comments at 18-19, *see* 17 U.S.C. § 1201(c)(3).

applications.¹⁰³

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.¹⁰⁴ 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)*¹⁰⁵

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.¹⁰⁶ 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 technology¹⁰⁷ 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

¹⁰³ EFF Comments at 19-21, EFF Reply Comments at 26-27, 29

¹⁰⁴ MPAA Reply Comments at 39-42

¹⁰⁵ 17 U.S.C. § 1201(c)(3) (emphasis added)

¹⁰⁶ See MPAA 10/8/03 Letter at 5

¹⁰⁷ 17 U.S.C. § 1201(k)

broadcast signal to determine the presence or absence of the ATSC flag¹⁰⁸ 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")¹⁰⁹ 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 signals¹¹⁰ 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.¹¹¹

43 Although some parties acknowledge the need for compliance rules, few specific comments were received on this issue¹¹² 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

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

¹⁰⁹ MPAA Comments at Attachment B

¹¹⁰ *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

¹¹¹ MPAA Comments at Attachment C

¹¹² 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 insecure¹¹³ 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.¹¹⁴ 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.¹¹⁵ As an alternative, the IT Coalition suggests that the appropriate level of robustness is one that assumes ordinary users as attackers rather than experts¹¹⁶ NMPA also advocates the adoption of substantive robustness standards without detailed technical requirements¹¹⁷

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 devices¹¹⁸

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

¹¹³ MPAA Comments at Attachment B

¹¹⁴ 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

¹¹⁵ EFF Comments at 15-17, American Antitrust Institute Comments at 15-16, PK & CU Reply Comments at 16-20

¹¹⁶ IT Coalition Comments at 26-29

¹¹⁷ NMPA Reply Comments at 9-11

¹¹⁸ 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.¹¹⁹ This requirement is based upon a similar construct set forth in the Joint Proposal; no comments were received on this issue.¹²⁰ 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.¹²¹ 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.¹²² No

¹¹⁹ 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.

¹²⁰ MPAA Comments at Attachment B.

¹²¹ *Id.* at Attachment B, MPAA Reply Comments at 23-24.

¹²² 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.¹²³ 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.¹²⁴ 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.¹²⁵ MPAA asserts that these criteria are appropriate as they rely on marketplace approval of technologies.¹²⁶

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.¹²⁷ NCTA concurs with the concept of a neutral decision maker and favors the use of market-based and

¹²³ 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.

¹²⁴ MPAA Comments at Attachment C.

¹²⁵ *Id.* at Attachment C.

¹²⁶ MPAA Reply Comments at 18-20.

¹²⁷ 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 decisions¹²⁸ Consumer electronics, IT and PC manufacturers advance the adoption of objective technical criteria that would allow manufacturers to self-certify their compliance thereto¹²⁹ DTLA also suggests the use of *prima facie* compliance notifications by technology proponents to the Commission, with dispute resolution procedures where objections arise¹³⁰

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.¹³¹ 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

¹²⁸ NCTA Comments at 8-9, 12, NCTA Reply Comments at 7-9

¹²⁹ 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

¹³⁰ 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)

¹³¹ *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.¹³² 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.

¹³² 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.¹³³ 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.¹³⁴ The Joint Proposal allows for both mechanisms.¹³⁵ 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.¹³⁶ 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.¹³⁷ 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.¹³⁸ The Commission has actively promoted the development of software defined radio and other software demodulators as important innovations in the digital age.¹³⁹ We

¹³³ DIRECTV Comments at 3-4, DIRECTV Reply Comments at 4-5

¹³⁴ NCTA Comments at 10-11, NCTA Reply Comments at 4-7

¹³⁵ MPAA Comments at Attachment B

¹³⁶ 47 C.F.R. § 76.630

¹³⁷ NCTA Reply Comments at 4-7

¹³⁸ EFF Comments at 19-21

¹³⁹ 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.¹⁴⁰ 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.¹⁴¹ 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,¹⁴² 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.¹⁴³ 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

¹⁴⁰ See *Digital Cable Compatibility Order and FNPRM* at Section VII

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

¹⁴² 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)

¹⁴³ 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.

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, 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, Vistronix, 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 12th Street, SW, Washington, DC 20554, or via the Internet to Leslie.Smith@fcc.gov, and to Kim A. Johnson, OMB Desk Officer, Room 10236 NEOB, 725 17th Street, NW, Washington, DC 20503, or via the Internet to Kim_A._Johnson@omb.eop.gov.

73. *Regulatory Flexibility Act* As required by the Regulatory Flexibility Act,¹⁴⁴ 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*.¹⁴⁵ 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,

¹⁴⁴ See 5 U.S.C. § 604

¹⁴⁵ *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