

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

In the Matter of

Digital Broadcast Copy Protection

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MB Docket No. 02-230

JOINT REPLY COMMENTS OF THE MOTION PICTURE ASSOCIATION OF AMERICA, INC., ABC, ABC TELEVISION AFFILIATES ASSOCIATION, AFMA, AMERICAN ASSOCIATION OF ADVERTISING AGENCIES, AMERICAN FEDERATION OF TELEVISION AND RADIO ARTISTS, ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC., ASSOCIATION OF NATIONAL ADVERTISERS, INC., BELO CORP., CBS, DIRECTORS GUILD OF AMERICA, DREAMWORKS SKG, FOX BROADCASTING COMPANY, INTERNATIONAL ALLIANCE OF THEATRICAL AND STAGE EMPLOYEES, MOTION PICTURE TECHNICIANS, ARTISTS AND ALLIED CRAFTS OF THE UNITED STATES, ITS TERRITORIES AND CANADA, AFL-CIO, CLC, NATIONAL ASSOCIATION OF BROADCASTERS, SCREEN ACTORS GUILD, INC., WRITERS GUILD OF AMERICA, EAST, INC., AND WRITERS GUILD OF AMERICA, WEST, INC.

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SUMMARY

In their initial comments, the parties submitting these Joint Reply Comments described the nature of the threat posed by unauthorized redistribution, the limited nature and scope of the Broadcast Flag regulation, the application of that regulation to consumer products, and the Commission's jurisdiction to adopt such a regulation. We refer the Commission to those initial comments for a detailed explication of those issues. In these Joint Reply Comments, we make the following points:

1. The current availability of the highest quality programming for free over-the-air broadcast is not sustainable if adequate protections are not adopted in parallel with the rapid expansion in broadband connections and DTV equipment.
2. Without the Broadcast Flag, the market will respond to the increasing threat of unauthorized redistribution by migrating high-quality programming away from broadcast television to other, protected distribution channels.
3. Illegal file trafficking in audiovisual works is currently like illegal trafficking in music was six years ago; but as technology improves, television programming will be as susceptible to piracy as music is now, unless a solution is *already* in place.
4. The threat of unauthorized redistribution over wide area networks is qualitatively different from that of any other previous technology, such as the VCR; networks such as the Internet allow the instantaneous, effortless, and costless worldwide distribution of copies with none of the restrictions or effort that applied to VCRs or other, physical recording technologies.
5. Those who are interested in negotiating a solution on this particular topic have already done so, and further delay is unnecessary; indeed, delay will allow device manufacturers to create a huge legacy of non-compliant products that may stymie the Broadcast Flag.
6. The Broadcast Flag is the only solution that preserves high-quality programming on broadcast television.
7. Existing equipment in consumer's homes will not be affected by the implementation of the Broadcast Flag.

8. Adopting the Broadcast Flag would not inaugurate a new regime of content protection, but rather would bring digital broadcast content into the same realm of protection as is being successfully used to protect other distribution channels.
9. The criteria for Table A in the Joint Proposal are *more* objective than those proposed by any other party.
10. The Broadcast Flag does not at all restrict the number of copies a consumer may make of broadcast television.
11. The claims that the Broadcast Flag would prevent such uses as the transfer of content within the home, or the incorporation of broadcast content into a school project, or would require content owner approval for any such actions, are simply mistaken.
12. The Broadcast Flag does not apply to every device, and does not apply to the equipment of Internet Service Providers; it applies only to DTV receivers, DTV modulators, and a very limited number of related DTV consumer products.
13. The Broadcast Flag achieves the minimum level of restrictions necessary to prevent worldwide unauthorized redistribution of broadcast content.
14. The Broadcast Flag regulation would not pose any challenge to open source developers not already posed by the very concept of secure applications generally.

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The Motion Picture Association of America, Inc. (“MPAA”), ABC, ABC Television Affiliates Association, AFMA, American Association of Advertising Agencies (“AAAA”), American Federation of Television and Radio Artists (“AFTRA”), Association for Maximum Service Television, Inc. (“MSTV”), Association of National Advertisers, Inc. (“ANA”), Belo Corp., CBS, Directors Guild of America (“DGA”), Dreamworks SKG, Fox Broadcasting Company (“FBC”), International Alliance of Theatrical and Stage Employes, Motion Picture Technicians, Artists and Allied Crafts of the United States, its Territories and Canada, AFL-CIO, CLC (“IATSE”), National Association of Broadcasters (“NAB”), Screen Actors Guild, Inc. (“SAG”), Writers Guild of America, East, Inc. (“WGA-East”), and Writers Guild of America,

West, Inc. (“WGA-West”) hereby submit these Joint Reply Comments in response to the Commission’s Notice of Proposed Rulemaking in the above-captioned proceeding.¹

Appended to these Joint Reply Comments at Attachment A is a walk-through of several permutations of the Broadcast Flag regulation, explaining in concrete terms how the regulation would apply to actual consumer equipment. Also appended, at Attachment B, is a revision of our proposal for criteria for Table A technologies, appended as Attachment C to the initial comments filed by the signatories hereto (“Initial Joint Comments”). The prior version of the proposed criteria was essentially an unedited version of the Joint Proposal offered to the Broadcast Protection Discussion Group, and left much drafting work up to the Commission, as well as several procedural gaps that needed to be filled. The revision appended at Attachment B is not intended to be a substantive departure from the prior version; the criteria themselves have not been changed. Rather, the revised criteria document supplies missing procedures and adds organization in order to complete the draft proposed in the BPDG and attached to our Initial Joint Comments.

INTRODUCTION

This proceeding is about the preservation of broadcast television as a distribution channel for high-quality, high-production-value programming. The loss of compelling programming free of charge via broadcast television would also heavily affect consumers. Broadcast television is a unique resource that has been a feature of American public life for decades. The production of

¹ See Notice of Proposed Rulemaking, FCC 02-231, M.B. Docket No. 02-230 (rel. Aug. 9, 2002).

broadcast television programming is a multi-billion dollar industry, employing thousands of individuals, that is important both to the American economy and to our prestige in the world.

High-value broadcast programming exists only because the producers of such programming are able to recoup their costs from the revenue streams generated by advertising revenue and by resale rights. Content owners, directors, writers, actors, distributors, and others all depend on the existence of those revenue streams for their compensation and their ability to produce and distribute new works. Broadcasters depend on the ability to sell advertisements targeted to particular markets in order to meet their costs. The value of such advertisements is directly proportional to the likelihood that persons in the right market will see them. Advertisers would not be willing to pay to have their advertisements inserted into programs and broadcast to a local or regional audiences that were likely to download the same programs with different advertisements, or (more likely) with no advertisements at all. This would result in the greatest harm to local broadcast stations, whose advertisements are sold to the most narrow markets. Similarly, no one would pay for syndication or resale rights for programs that were available for free download, at any time, over the Internet. Widespread unauthorized redistribution will thus seriously undermine the viability of the economic model upon which the broadcast television industry is built, a model that has served the public well for many decades.

As described below and in the Initial Joint Comments, the threat of widespread unauthorized redistribution of broadcast programming is real, and its effect on broadcast television will be pronounced. As a matter of public policy, such a result must be avoided. The loss of compelling programming broadcast free of charge would heavily affect consumers and would slow the DTV transition. The Broadcast Flag regulation represents the best and least intrusive solution to this growing threat.

I. THE NEED FOR THE BROADCAST FLAG

A. Without the Broadcast Flag, High-Quality Programming Will Migrate Away From Broadcast Television.

As the comments of Viacom, the Walt Disney Company, and NBC Inc. observe, much progress has been made in securing the availability of content for terrestrial broadcast in digital high-definition format. Indeed, several of MPAA's member companies have been among the leaders in this area, and have expended enormous effort and millions of dollars to create and distribute high-definition television programming in a variety of venues. Significant commitments have thus already been made by the major content providers and broadcasting networks to achieve the digital transition. The question is not whether content will be made available in digital high-definition formats. It will – just not necessarily over unprotected digital broadcast television. Rather, the question is about the future of over-the-air broadcast television, and whether, as a matter of public policy, the Commission should promote the adoption and implementation of a technology that will help to foster an environment in which broadcasters, cable systems and satellite providers can compete on a level playing field for high-quality digital content.

A number of comments appear to assume that the choice for consumers is between a world in which they receive exactly the same content as now over digital broadcast television, completely unprotected and unrestricted, and one in which they receive such content with some protections. Viewed with this incorrect assumption in mind, it may seem reasonable to assume that “if the risk is serious enough, the market . . . will respond.” Comment of Prof. R. Polk Wagner & William H. Burgess (“Prof. Wagner”) at 3. However, such comments entirely

misread the challenge posed by the threat of widespread unauthorized redistribution. The challenge is not whether market forces should be allowed to act, but what result those market forces will produce, and whether such results serve or disserve the public interest.

In the absence of Commission action to implement the Broadcast Flag regulation, the market *will* act to protect content providers' investments, but in a way will ultimately harm the public interest. As noted above, copyright owners rely on revenues from domestic and international syndication of programs to recoup the significant investment required to produce most high-valued programming. Broadcasters depend on commercial advertising revenues that are based on the expectation that a certain local or regional market audience will see the advertisements they broadcast. Unauthorized redistribution of broadcast content undermines the ability to predict whether a given audience will see particular advertisements, as well as the incentive to pay for resale rights. In short, the distribution of content has value on which content creators and owners depend, value that unauthorized redistribution destroys. If over-the-air digital broadcasts cannot be protected against unauthorized redistribution – which is the result advocated by many of the comments received by the Commission – then there will be significant disincentive to license high-value digital programming for distribution on free over-the-air television by terrestrial broadcasters, particularly when cable and satellite networks offer secure distribution channels for that same programming with substantial audience penetration. Market forces will thus compel high-quality digital programming to migrate away from digital broadcast television to venues offering greater protection.² Broadcast television will be left with only such

² See, e.g., Canadian Radio-television and Telecommunications Commission, *Internet Retransmission*, Broadcasting Public Notice CRTC 2003-2, at ¶¶ 68-71, available at <http://www.crtc.gc.ca/archive/ENG/Notices/2003/pb2003-2.htm> (Jan. 17, 2003) (finding that “Internet retransmission . . . could undermine the potential for Canadian broadcasters to obtain

offerings as the market determines are worthy of no protection whatsoever.³ Consumers will be harmed as television programming is divided into two worlds: one accessible only by subscription, where the highest-quality programming is made available, and the other free to all, with no such programming. The choice facing the Commission, and the public, is not so much whether the DTV transition will occur, but what it will be like when we get there. Adoption of the Broadcast Flag Solution is necessary in order to ensure that consumers will be able to enjoy the full benefits promised by the DTV transition.

B. The Threat of Unauthorized Redistribution of Broadcast Works Is Real and Growing.

As noted in the Initial Joint Comments, as well as in the Comments of Banks Broadcasting et al., Viacom, Walt Disney, the CBS Affiliates, the NBC Affiliates, the National Football League et al., Thomson, DirecTV, the Directors Guild of America, the National Cable & Telecommunications Association, and TiVo, the unauthorized redistribution of copyrighted works over networks such as the Internet poses a real and rapidly growing threat to the rights of content creators and owners. Nevertheless, a number of the comments challenged this threat as

additional revenues by licensing programs they have created to foreign markets” and “could undermine the potential for Canadian broadcasters and other rights holders to license separately the rights for broadcast over the Internet”).

³ The suggestion by the Home Recording Rights Coalition that such a migration would require an agreement among competitors – presumably in violation of antitrust law – is thus entirely groundless. *See* Comments of Home Recording Rights Coalition (“HRRC”) at 5. The same market forces operate on every provider of high-quality digital programming, and barring an irrational decision by one or more such providers, each will likely conclude, independently, that protection of its content is necessary. Indeed, HRRC offers no real reason to suspect that any different result will occur.

manufactured, or unlikely to manifest itself in a significant way. Those comments are inaccurate and near-sighted for the reasons set forth below.

A number of comments observed that broadcasters are already offering much of their programming in digital HDTV format, with no apparent ill effects. *See* Comments of the Computer and Communications Industry Association (“CCIA”) at 17; Consumer Electronics Association (“CEA”) at 4; Electronic Frontier Foundation (“EFF”) at 2; Electronic Privacy Information Center (“EPIC”) at 2; HRRC at 4-5; IT Coalition at 11-13; Philips Electronics North America Corp. (“Philips”) at 14; Public Knowledge & Consumers Union (“Public Knowledge”) at 8. But as the comments of Viacom and Walt Disney make clear, these individual experiments in pushing the DTV transition forward are rapidly approaching the point where they are no longer sustainable. *See* Comments of Viacom at 1, 11; Walt Disney Co. & ABC Television Network (“Disney”) at 3. The number of DTV receivers in consumers’ homes is currently less than 300,000, a miniscule proportion of the total viewing audience, and most networks have yet to make their full programming line-up available in DTV format in every major market. In addition, only a fraction of households connected to the Internet have broadband connections allowing fast transmission or reception of audiovisual content. And only a fraction of those households contain individuals prone to traffic in copyrighted works without authorization. There is thus not yet a sufficient combination of receivers, broadband connections, and pirates to create a critical mass for the widespread unauthorized redistribution of broadcast DTV content.

However, all of these factors are in a rapid state of flux. The number of DTV receivers, as well as the number of broadband connections, is expanding dramatically every year, and soon, every major market will have the equipment necessary to broadcast all network programming digitally. Furthermore, file trafficking networks such as KaZaA continue to gain additional

adherents, creating a larger and larger number of potential pirates. It will of course take time before illegal trafficking in DTV programming materially reduces the revenues generated by that programming. Eventually, however, the “tipping point” will be reached, and it will no longer be a sustainable business model to provide unprotected digital content over the air. Indeed, one network, CBS, has already decided that that tipping point will occur during the 2003-04 television season, and has decided to cease broadcasting in HDTV format unless the Broadcast Flag regulation is adopted. *See* Comments of Viacom at 1, 11. This development confirms the reality of the threat of unauthorized redistribution. The growing problem of widespread unauthorized redistribution will likely lead other broadcasters to make similar choices in the seasons to come. Those who advise content providers to simply “trust consumers,” *see* Comments of CCIA at 15, miss the point: content will migrate unless the Flag is soon implemented.

Other comments filed with the Commission suggest that piracy of digital content is no different than piracy of analog content, and that in any event there is not now sufficient bandwidth to easily trade in high-quality copies of television programs or full-length films. *See* Comments of CCIA at 7; EFF at 2; Public Knowledge at 7. The issue is not the format of the content being pirated, but the growing threat to all forms of unprotected audiovisual content. The DTV transition is occurring in the midst of a transformation of the typical consumer household that will facilitate recording and widespread distribution of all kinds of content, including audiovisual works. This digital revolution, including the DTV transition, promises a wealth of new opportunities for consumers to enjoy new forms of content in new ways, but also carries with it concomitant risks to content providers that cannot – despite the wish of many of those submitting comments to the Commission – be ignored. While piracy of analog broadcast

content is certainly a growing problem, it makes little sense to address that issue now given the DTV transition and the elimination of analog broadcasts. However, it is not too late for digital broadcasts. The DTV transition offers the Commission, and the nation, the opportunity to preserve the future of broadcast television by addressing the growing threat of the widespread unauthorized redistribution.

As noted above, the number of broadband households is small but growing rapidly; and while currently even a broadband connection will not allow the rapid transfer of a high-resolution copy of HDTV content, that day is no doubt soon approaching. Broadband availability and compression techniques continue to improve; the speed of the average home's connection to the Internet increases substantially every year, and compression techniques are continually improving to allow smaller file sizes with virtually no loss in quality. There is no doubt that as these technologies advance, illegal redistribution of content will follow. Today, even with the long download times associated with audiovisual content, we are already seeing significant piracy of analog terrestrial broadcast television programming on peer-to-peer networks, with entire seasons of popular programming available for unlawful download with the click of a button.⁴ Today's piracy is merely a harbinger of worse things to come as technology continues to improve.

The supposition that connection speeds and compression techniques will always remain inadequate for trafficking in high-quality copies is an oddly myopic notion for anyone who has been observing the pace of technological development over the past two decades. Just ten years ago, trafficking in music files would have been unimaginable for most people; not only had

⁴ Based on search results for six analog terrestrial broadcast television programs from the MPAA's Internet anti-piracy search firm, Ranger Online, the growth of illegal file trafficking in

“MP3” software not been popularized, but at connection speeds of 14,400 baud or worse, even distributing MP3s would have been inordinately time-consuming. Now, of course, trafficking in pirated music is rampant. In ten years, it will without a doubt be much easier to distribute high-resolution copies of digital television content than it is today. Given the example of the music industry’s experience, there can be no doubt that as soon as the technology allows trafficking in high-resolution copies of digital television content, it will occur; and that if redistribution control is not already in place at that time, it will be much more difficult to stop such trafficking. The comments suggesting that trafficking in high-resolution copies of DTV content is impossible ignore these facts. Given that those making such comments are all well aware of the pace of technological development, and indeed in other contexts trumpet that development,⁵ their

terrestrial broadcast television programs has increased over 600% from 2001 to 2002.

⁵ See EFF, *About EFF*, at <http://www.eff.org/abouteff.html> (“[F]uture developments in technology will enable us to access information and communicate with others in even more powerful ways.”); DigitalConsumer.org, *Help Stop the CBDTPA*, at <http://www.digitalconsumer.org/cbdtpa/> (“No one can predict the future of technology.”); Letter from Chris Murray, Legislative Counsel, Consumers Union, & Gigi Sohn, President, Public Knowledge to Sens. Barbara Boxer & George Allen, Jan. 23, 2002, *available at* <http://www.publicknowledge.org/reading-room/documents/letters/jumpstart-broadband.html> (supporting Jumpstart Broadband Act because it will bring “connection speeds . . . more than 10 times faster than the fastest consumer broadband connections available today from cable and telephone companies” to consumers, even in rural areas); Letter from Robert Holleyman, President & CEO, BSA, *available at* <http://www.bsa.org/usa/about/letter/> (“By 2005, the number of people online is expected to double from the current 500 million, indicating we have barely begun to see the impact that the Internet and information technologies will have on every aspect of our businesses, governments and society.”); Computer Systems Policy Project, *Living in the Networked World*, at <http://www.cspp.org/networkedworld/flash/summary.htm> (predicting “[f]aster, less expensive, and smaller computers, appliances, and intelligent devices -- combined with expanding broadband capacity”); CEA, *Digital America*, at http://www.ce.org/publications/books_references/digital_america/home_networking/default.asp (“A growing population of multi-PC households, wireless connectivity solutions and broadband services has pushed the home networking industry fast forward.”); Remarks delivered by Gottfried Dutiné, CEO Philips Consumer Electronics, *Pre-CeBIT Press Briefing*, Jan. 23, 2003, *available at* <http://www.philips-de.de/domino/html/media/CEBIT.NSF/pages/speechdutine> (noting that “broadband is about to take off,” allowing consumers to connect many home devices

comments can only be read as an attempt to delay implementation of the Broadcast Flag until it is too late.

Several comments argued that earlier opposition to videocassette recorders, which have not resulted in great harm to content providers, suggests that current claims of harm should not be credited. *See* Comments of the American Library Association *et al.* (“ALA”) at 8; Arizona Consumers Council, *et al.*, at 8; EFF at 22-23; Prof. Wagner at 5. As noted above, the harms of widespread digital unauthorized redistribution are tangible and manifest. In addition to such evidence, there is a conceptual difference between digital unauthorized redistribution, such as over the Internet, and the copying allowed by previous technologies such as the VCR. Although the VCR greatly advanced the ability of individuals to copy audiovisual content, for good or for ill, it ultimately did not surmount the transaction costs involved in purchasing blank media and making and distributing physical copies, nor did it completely overwhelm content providers’ enforcement efforts, as videocassette piracy requires physical manufacture of the copies and a physical location for the actual sale to occur. Any large videocassette piracy operation is necessarily difficult to establish and leaves tracks that can be followed.

Technologies such as the Internet, on the other hand, allow millions of individual trades or sales to occur with no centralized physical operation, no single “point-of-sale” that accounts for substantial amounts of illegal copies, no delay between the creation of a copy and its worldwide distribution, and no significant transaction costs for either the sender or recipient of a pirated work – neither party need even leave his or her living room. File traffickers can, with the press of a button, record and redistribute copyrighted digital works to the entire planet instantaneously. All of this activity can be automatically catalogued and indexed, allowing the

effortless creation of vast warehouses of pirated works available to anyone with a network connection. In other words, the Internet and other digital redistribution technologies are clearly qualitatively different from previous technologies in the ease in which they allow individual communications (both good and bad), a fact that organizations such as the EFF readily admit to when it is in their interest to do so.

A number of comments also suggested that the continued existence of other means of piracy, such as legacy products, analog reversion (also known as the “analog hole”), or theft through other means of distribution, makes the Broadcast Flag unnecessary. *See* Comments of Arizona Consumers Council at 9; CCIA at 15-16; Digimarc Corp. & Macrovision Corp. (“Digimarc”) at 1; EFF at 11; EPIC at 2; Information Technology Industry Council (“ITIC”) at 3; Philips at 2-3, 12; Public Knowledge at 15-16; Veridian Corp. at 3; Verizon at 3. These comments amount to a suggestion that because the first step on a journey does not reach the destination, the first step should not be taken. The Broadcast Flag is only one part of the solution to the problem of widespread unauthorized redistribution of copyrighted content. Other steps include addressing analog reversion and unauthorized peer-to-peer file trafficking. However, implementation of the Broadcast Flag is the first and most important step in facilitating the DTV transition, the subject of the Commission’s inquiries here. Stemming the flow of unauthorized digital content over networks such as the Internet will pave the way for the digital transition. Protecting broadcast content will place the broadcast distribution channel on the same footing as other distribution methods, ensuring that broadcast content suffers no greater harm from unauthorized peer-to-peer file trafficking than other content. While other steps must therefore be taken, adoption of the Broadcast Flag Solution will therefore achieve the goal of protecting

content sufficiently to ensure that a meaningful DTV transition occurs promptly and successfully.

C. Those Opposed to Copyright Protection Have Already Delayed the Flag for Too Long

The Commission should reject calls for further delays to study extraneous issues or resolve details that have already been negotiated in great depth by all parties actually interested in finding a solution. *See, e.g.*, Comments of Media Access Group at WGBH at 2-3; EPIC at 3; Information Technology Association of America (“ITAA”) at 8-9; National Music Publishers Association (“NMPA”) at 7; Public Knowledge at 2. The debate over the protection of digital broadcast television has been marked by delay ever since it started. The BPDG was formed in November 2001 in the wake of many years of negotiation over the protection of digital broadcast television. The purpose was to attempt a final effort, despite the failure of previous attempts, to reach an inter-industry consensus on the protection of digital broadcast television. Content providers agreed to this further delay only after receiving assurances from those in the consumer electronics and computer industries that they genuinely wished to work toward a solution. The effort was originally scheduled to last only four months, but repeated delays resulted in the final report not being issued for almost seven months.

During the BPDG, those that were serious about negotiating a solution to the problem of unauthorized redistribution of digital broadcast television did so. A tremendous amount of effort has been invested in the Broadcast Flag, representing not only the best efforts of content providers, but also of the consumer electronics and computer industries as well. The BPDG Co-Chairs’ Report thus represents the cross-industry consensus of those who seek a negotiated

solution. Further negotiations with those whose only interest is to prevent a solution from being reached would serve no purpose. *See* Comments of Directors Guild of America (“DGA”) at 4; Disney at 6; National Football League, *et al.*, (“NFL”) at 12. Many of those calling for delay in Commission action now are not seriously interested in further study or hearings; rather, they hope that by doing so, other matters will capture the Commission’s attention, and the push for content protection will lose momentum.

It should be noted, in addition, that a purely private licensing solution will be impossible unless there is universal agreement to it, which seems virtually impossible in a democratic society. Unlike the case with other distribution methods, the creators and owners of broadcast content have no licensing predicate with which to enforce their rights. In the absence of a regulation or statute, therefore, content providers have no means by which to reward compliance with a privately negotiated solution, or to punish noncompliance. Commission action therefore cannot ultimately be avoided.

Furthermore, every month of added delay compounds the number of noncompliant legacy devices that will come into existence before the regulation can take effect. At some point, a threshold will be crossed, and the impact of the Broadcast Flag will be dwarfed by the effect of a large number of legacy devices. While this point has not yet been reached, every added delay threatens the DTV transition. In addition, further delay creates the opportunity for mischief that would interfere with or even prevent adoption of the Flag. The Broadcast Flag was designed so as not to make a single consumer device obsolete, but that purpose could be undermined by manufacturing and selling such products now. That is, device manufacturers could use further delays to subvert the regulatory process by flooding the market with non-compliant devices;

while manufacturers have thus far restrained themselves, there is no guarantee they will continue to do so. Prompt adoption of the Broadcast Flag regulation is therefore imperative.

D. There Are No Alternatives as Effective and as Unobtrusive as the Broadcast Flag.

The Broadcast Flag is the most effective and unobtrusive solution to the problem of unauthorized redistribution. The virtue of the Flag is that it is transparent to noncompliant devices; the Flag relies on the devices responding to the Flag, rather than features embedded in the content itself, to achieve protection of the content. Thus, legacy products will still be able to receive, record, and output protected broadcast content even after the Broadcast Flag is implemented. Furthermore, even in compliant devices, the impact on consumer uses will be minimal. The Broadcast Flag Solution places no numeric limits on the physical copies that may be made directly from broadcast content, nor on the copies of such copies. The copies made by a compliant product may be played back on any other compliant product. The viewer's experience will be totally unaffected by the presence of the Flag. The only restriction placed on the content is that it cannot flow in unprotected digital form to any output, or to any recording media, from which it could then be transferred to the Internet or other wide area network.

Some of the comments submitted suggest that this virtue of the Broadcast Flag is in fact a reason not to adopt it. *See* Comments of IT Coalition at 16-17; ITIC at 3; Public Knowledge at 14. For example, the CCIA claims that because the Broadcast Flag relies on implementation in consumer products rather than in the content itself, the entire system will break down "once [device keys are] compromised by a single person," or once a piece of content is accessed in the clear on just one device. Comments of CCIA at 11-12; *see also* Motorola at 4; Veridian at 10. The CCIA suggested that manufacturers would bear an enormous cost from "constantly

reengineering” products several times per year as content protection technologies are hacked. *Id.* at 16. There are two responses to this criticism. First, and most importantly, it is important to keep in mind that the Broadcast Flag proposal merely brings digital broadcast television into the realm of protected content, and that the same devices and technologies used for broadcast DTV will also likely be used for conditional access systems, pay television, video-on-demand, Digital Rights Management systems, and other protected distribution methods. The Broadcast Flag will thus “piggy-back” on existing content protection mechanisms and will not add any new costs to devices.

Second, it is incorrect that the hack of a single device will compromise the entire system. Most if not all Table A technologies will include some means of revoking device authorizations, such that if a device for any reason should become untrustworthy, content will no longer flow over the Table A technology to the device. 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 still result in some theft of content, it is wrong to presume that every consumer is a thief, and it is equally mistaken to assert that because some burglars know how to pick locks, it is not worthwhile to lock the door. The Broadcast Flag will keep widespread unauthorized distribution under control because most consumers will not hack their devices. (The signatories to these Joint Reply Comments continue to study the question of whether specific prohibitions of circumvention are necessary.)

In any event, those finding purported “flaws” in the Broadcast Flag do not propose any better solutions. And, given the mandate to transition to DTV, a solution to the problem of widespread unauthorized redistribution is absolutely imperative. As demonstrated above and in our Initial Joint Comments, a failure to find such a solution will lead to the slow demise of free,

over-the-air broadcast television as a distribution method for high-quality programming, with consequent harm to consumers. Some comments propose encrypting broadcast content at the source as a possible solution. *See* Comments of ITIC at 3; IT Coalition at 15; Motorola at 4-11; Public Knowledge at 15, 18-19; Veridian at 3-9. As noted by the HRRC in its comments, however, this suggestion has several serious problems associated with it: it would strand legacy DTV devices, it would delay the DTV transition, and it would require licensed technology to receive over-the-air broadcasts. *See* Comments of HRRC at 6; *see also* Comments of CEA at 3. Furthermore, it would be far more expensive than the Broadcast Flag, as every single product that could handle broadcast content would have to have special technology to decrypt it. It would also require the prior resolution of several difficult policy issues, such as the Open Cable proposal and the status of free over-the-air television, with consequent delays for the DTV transition.

Nor is encryption of the Broadcast Flag itself, while leaving the rest of the signal unencrypted, a viable substitute for the Broadcast Flag regulation. It would not add to the security of the Flag, because the primary attack on the Flag will be simply to remove it, or to build a noncompliant device that ignores it, not to change it. Encryption will thus not prevent removal or circumvention of the Flag; the Compliance and Robustness Requirements of the proposed regulation will.

II. THE BROADCAST FLAG SOLUTION

A. The MPAA Proposal Contains Criteria That Are Just as “Objective” and “Technical” as Any That Have Been Proposed.

Several comments object to the criteria for Table A technologies put forward by the MPAA and others as dependent wholly on content owner approval of protection technologies, and propose instead the adoption of “objective, technical criteria.” *See* Comments of HRRC at 7-8; ITIC at 4; ITAA at 10; Internet Commerce Coalition and U.S. Internet Service Provider Association (“ICC”) at 6; IT Coalition at 22, 23, 25; National Cable & Telecommunications Association (“NCTA”) at 12; Philips at 22, 23; Thomson Inc. at 2-3; TiVo Inc. at 7. First, such comments are based on a misunderstanding of the Joint Proposal for Table A Criteria, as described below; it is simply not the case that the Joint Proposal requires content owner approval of Table A technologies. *See* Initial Joint Comments, Attachment C. Under the third criterion in the Joint Proposal, technologies may be authorized by the Commission for Table A if they are found to be “at least as effective” as any technology already on Table A. *See id.*; *see also* Attachment B § X.21(c)(1)(C). The “at least as effective” criterion provides a neutral, objective test for Table A authorization. Second, the alternatives put forth by those who have called for “objective, technical criteria” are less objective than those contained in the Joint Proposal. The Commission should not delay implementation of the Broadcast Flag Solution based on this ultimately empty objection.

The Joint Proposal relies on an objective market approval test for three of its four criteria for a very good reason: it is pure folly to attempt to provide detailed specifications today for content protection technologies that will not even be invented until ten or twenty years from now. No one, for example, could have anticipated and specified the requirements for RSA

encryption before it was invented. Rather than attempt to specify the parameters of future technologies, the Joint Proposal relies on a market-based test: technologies that have met with market acceptance for the protection of high-quality digital audiovisual programming can be authorized for Table A. The market sellers of high-quality digital audiovisual programming in the United States are represented by the major film studios and the major broadcast networks. The Joint Proposal sets forth an objective test for determining when the market has accepted a new technology – when a specified number of sellers of high-quality digital audiovisual programming have “used or approved” the technology, with a clear, straightforward definition of “used or approved” provided in the Joint Proposal. This objective test eases the burden on the Commission of selecting and policing content protection technologies by leaving that burden to the marketplace instead.

For the third criterion, the “at least as effective” determination, the Joint Proposal purposefully allowed for flexibility in determining what precise specifications a technology needs to meet to gain Table A authorization, again for the same reason: it would be impossible to specify with any detail what an effective technology ten years from now would look like. Thus, in the event of some sort of market failure, the determination is left to a neutral decisionmaker – the Commission – to find that a proposed technology is at least as effective as one already on Table A, and therefore belongs on the list of authorized technologies.

Several of the initial comments call for objective, technical criteria, but very few actually propose any. Of those that do, the difficulties in specifying the capabilities of future technologies in the abstract becomes immediately obvious. The IT Coalition’s proposed criteria, for example, require the use of “appropriate cryptographic techniques” and that “circumvention of the encryption algorithm should be difficult.” *See* Comments of IT Coalition at App. B.

“Appropriate” and “difficult” are undefined terms that are presumably left to the decisionmaker to give meaning to, just like “at least as effective” in the Joint Proposal criteria. Philips’ proposed criteria include requirements that compromise of the technology necessitate “use of a device that is beyond the ordinary capability of an ordinary user to construct;” that the technology not restrict use of content “in ways beyond those reasonably necessary to prevent unauthorized redistribution to the public over the Internet;” that the specifications of the technology be “clearly defined;” and that the technology include only “fair, reasonable, and nondiscriminatory terms and conditions.” Comments of Philips at 23. All of these terms are subject to fairly flexible definitions that invest substantial discretion in the hands of the decisionmaker. Unlike these tests, however, the “at least as effective” test provides the decisionmaker with a benchmark against which to measure a proposed technology: the other technologies that have thus far been authorized. If anything, the “at least as effective” test from the Joint Proposal is *more* objective than those that have been proposed by others.

Given that those objecting to the Joint Proposal criteria can do no better when it comes to producing “objective” or “technical” criteria, the call for such criteria should be seen for what it is: an attempt to create an issue with the Broadcast Flag where none actually exists.

B. Many of the Criticisms of the Broadcast Flag Are Based on Misunderstandings of How It Will Work.

A number of comments displayed a misunderstanding of how the Broadcast Flag Solution will operate, and base their objections on those misunderstandings. For example, many comments grossly exaggerated the types of uses that would be inhibited by the Flag. The EFF, for example, stated that the Flag would prevent recording of broadcast content to removable

media, transferring content to a laptop, sending content over a TCP/IP network, or incorporating broadcast content into a school project or a documentary. Comments of EFF at 15. The American Library Association, et al., in their comment, stated incorrectly that the Flag would prevent a woman from incorporating portions of a broadcast in a teaching lesson, or a boy from using the library to find media coverage of the 2000 election. The ALA stated further that the Flag would prevent access to the non-copyrighted portions of a broadcast, such as an equation or the script of a Shakespeare play. Comments of ALA at 13-14.

The Arizona Consumers Council, et al., claimed that the Flag would prevent making a copy of a broadcast to take to one's weekend home, that if content contained the "wrong flag" it would not play on certain compliant products, and that "Uncle Joe's content would not play on Aunt Mary's DVD player, unless Aunt Mary got explicit permission." Comments of Arizona Consumers Council at 6. The CCIA claims that the Broadcast Flag will prevent a doctoral candidate from using a copyrighted broadcast in his or her dissertation, a father from e-mailing digital video of his daughter's soccer game, or a corporate executive from watching a broadcast recorded on her office computer while travelling. Comments of CCIA at 6. Two comments claim that the Broadcast Flag would prevent watching recorded programs on removable media on any machine outside of the home. *See id.* at 21; Comments of Public Knowledge at 17. Several comments stated that the Broadcast Flag would prevent all copying not authorized by content providers. *See* Comments of CCIA at 5; Arizona Consumers Council at 6; CEA at 2.

While these claims may make for effective rhetoric, they are all false. First, and most importantly, it must be stressed that the Broadcast Flag regulation does not constrain the consumer's ability to make copies. It controls only unauthorized redistribution of copies; it does not in any way prevent them from being made. The Broadcast Flag regulation is narrowly

targeted to the problem of widespread unauthorized redistribution using the Internet and other, similar networks, and places no numerical limits on the number of copies that may be made of broadcast content. It is therefore simply incorrect and irresponsible to assert that the Broadcast Flag “would effectively ban all copying not approved by the major motion picture studios.”

Comments of CCIA at 5.

The Broadcast Flag Solution allows digital recordings to be made on removable media by any Authorized Recording Method; such recordings are playable on any compliant device anywhere in the world. Thus, as long as Aunt Mary’s machine is a compliant device, “Uncle Joe’s content” will play on it, with no one’s permission required. There is no question of whether the Flag is the “right flag” or not; there is only one Flag, and it is either present or not present, and nothing else. Similarly, the Broadcast Flag will allow digital content to be transferred to a laptop over any Authorized Digital Output Protection Technology. It is true that, at the present time, there have not been technologies proposed for Table A that would allow a transfer of protected content over a TCP/IP home network, but nothing in the Broadcast Flag regulation forbids such technologies. As soon as one is added to Table A, however, ethernet or Wi-Fi transfers within the home will be possible as well. As for the corporate executive watching content on her office computer remotely, nothing in the Broadcast Flag regulation prevents the authorization of a secure virtual private networking technology for Table A that might incidentally include the office of a home user.

Furthermore, nothing in the Broadcast Flag regulation prevents the use of broadcast material in the home, personal, or school contexts described. Nothing would prevent the student from using a compliant recorder to make a removable disc containing his or her project, including the broadcast material. The same applies to the teacher preparing the lesson or the

graduate student writing his or her dissertation. Once recorded, the project, lesson, or dissertation would be playable on any compliant product under the regulation. Similarly, nothing prevents the student from using the library to look up materials concerning the 2000 election. Such materials (assuming they were marked with the Broadcast Flag) would be available for the student's use in the library and playable on any compliant product. As for non-copyrightable elements of a broadcast, such as an equation, such elements may be transcribed and distributed freely over the Internet or anywhere else. The scene containing such an equation may not be freely distributed, but that would be because it contains other, copyrightable elements. But it is not a fair objection to the Broadcast Flag that it may not allow in every instance the most convenient means of copying material from a protected broadcast. Finally, the father who wishes to send a video of his daughter's soccer game over the Internet or post it on a website may do so. The Broadcast Flag regulation is simply inapplicable to, and has no impact on, private, non-broadcast content made with camcorders and similar devices.

Other comments expressed confusion over the number of devices that would be covered by the Broadcast Flag regulation. For example, several comments asserted that every device through which broadcast content could pass would need to be regulated. *See* Comments of the Free Software Foundation ("FSF") at 1-2; ICC at 2, 5-6; NMPA at 3, 11; Public Knowledge at 13. This is not true. As detailed in the Initial Joint Comments, only receivers containing demodulators, a very limited number of other products, called "Downstream Products," and products containing modulators would be directly subject to the regulation. Compliance with the regulation by other devices would be voluntary on the part of their manufacturers; if the manufacturer wished its product to receive protected DTV content, it would have to make its product comply.

Another comment suggested that the Broadcast Flag regulation would require that content be encrypted between a demodulation function and a demultiplexer or microprocessor. *See* Comments of Thomson at 15-17. However, the regulation requires only that such a transfer between products use “a method designed to ensure that such content, in any usable form, . . . be *reasonably secure* from being intercepted, redistributed or copied when being so passed to such other product.” Initial Joint Comments, Attachment B § X.10 (emphasis added); *see also id.* § X.6(a). For example, for component products within a single receiver, one means of achieving such security may be by means of secure traces. The regulation does not require the use of encryption for this purpose.

Nor would the Broadcast Flag prohibit component manufacturers from manufacturing noncompliant demodulation devices for resale to another manufacturer. The regulation provides that as long as the second manufacturer has filed a “written commitment” with the Commission that it is a “Bona Fide Reseller,” the sale of noncompliant devices to the reseller is not a violation. *See* Initial Joint Comments, Attachment B §§ X.2(a)(1)(B), X.2(c)(3)(A). This allows component manufacturers to design demodulation chips that will only be compliant after they are incorporated into a receiver or other product by another manufacturer.

Several comments expressed concern that the Broadcast Flag regulation would apply to the networks of internet service providers carrying broadcast content. There is no chance of this occurring, however. Internet service providers do not engage in digital television modulation or demodulation; nor would their equipment be considered a Downstream Product, defined as a particular type of product whose manufacturer has filed a commitment in writing with the FCC to abide by the regulation. While the network of an ISP may someday be a conduit to the transmission of protected content, if a means of secure Internet transmission were ever

developed, this would place the ISP's network in the same situation as a IEEE 1394 wire is when being used by DTCP, and would not place any obligations on the ISP to alter its network.

One comment in particular misread some of the descriptions of the content to be protected in the proposed regulation as requirements. Verizon expressed concern that the Broadcast Flag regulation would require it to use 8-VSB, 16-VSB, 64-QAM, or 256-QAM modulation, and to transmit audiovisual content in MPEG-2 format. *See* Comments of Verizon at 4, 6, 7. However, the regulation does not require certain modulation schemes or MPEG-2. It merely states that broadcast content modulated in n-VSB or m-QAM format is to be protected, and refers in passing to an MPEG-2 stream as what is extracted from such a signal.

Other comments speculated that compliant devices or Table A technologies *could* be used in all sorts of nefarious ways. For example, one comment suggested that the Flag could be used to control whether content may be manipulated, or select what outputs are used, or to control viewing resolutions. *See* Comments of ALA at 8. Naturally, the comment did not identify a specific section of the proposed regulation that permits this, because there is none. Another comment suggested that the Broadcast Flag regulation would require the Commission to control access to generally available technical information. *See* Comments of FSF at 3. Again, nothing in the regulation addresses this issue.

The Electronic Privacy Information Center submitted a lengthy comment arguing that the Broadcast Flag regulation may be used to invade consumers' privacy. For example, EPIC suggests that compliant products might "enable content providers to log the exact viewing habits of the consumer, invading the privacy of the viewing public and establishing an unwarranted level of control on the part of the broadcaster." Comments of EPIC at 4; *see also* Comments of ALA at 8. EPIC also suggests that upgrades of Table A technology software might "possibly

reveal[] [consumers'] personal identity.” Comments of EPIC at 4. There are three responses to this. First, the Broadcast Flag itself is a one-way communication that cannot possibly invade a consumer's privacy, because it cannot return any information. Second, the collection of any information by products with Table A technologies would be governed by a number of other laws and regulations that will prevent privacy harms to consumers, such as the privacy provisions of the Cable Act, the Electronic Communications Privacy Act, the FCC's Customer Proprietary Network Information rules, and FTC regulation of unfair or deceptive trade practices. Finally, any product that invaded consumers' privacy without their consent would be subject to a market backlash as soon as such practices were discovered.

A provision in the regulation banning compliant devices from transmitting any personally identifiable information would go too far, however. While such information is unnecessary for Broadcast Flag purposes, manufacturers may justifiably wish to propose “dual-use” technologies for Table A – technologies that not only protect broadcast material, but also can be used for other content protection purposes, such as video-on-demand. A technology that allows VOD may require transmission of a user's credit card information, for example. Barring such “dual-use” technologies from Table A would unduly restrict the competition for protection technologies.

In addition to the comments noted above, other comments claimed that the Broadcast Flag regulation would lead to a confusing array of incompatible products, harming interoperability, adding to consumer frustration, and slowing the DTV transition. *See* Comments of EFF at 16; Philips at 28; Public Knowledge at 4, 21. But there is no more reason to suspect that the Broadcast Flag will lead to a more confusing profusion of technologies than any other technological transition. For example, even now there are two major DVD recording formats, numerous home networking technologies (including several varieties of wireless), multiple

incompatible computer operating systems, and a half-dozen or more common analog outputs on CE devices. Such confusion is merely the necessary by-product of competitive activity, and indicates a healthy marketplace, not a dysfunctional one. Indeed, many of the same comments also claim that the Broadcast Flag regulation will harm innovation. *See* Comments of EFF at 17-19; Philips at 27; Public Knowledge at 18. These comments cannot have it both ways: nothing would harm innovation more than to have the government impose a single interoperability standard on manufacturers. The Broadcast Flag regulation therefore leaves the process of determining the proper balance between interoperability and innovation primarily to the marketplace, rather than to the Commission. Eventually, the market will settle and *de facto* standards will emerge, but to expect this immediately of any technological transition is unrealistic.

Other comments suggested that the Broadcast Flag might interfere with libraries' efforts at Distance Learning or archiving, *see* Comments of the ALA at 7, 16, 17; or with access by the disabled to audiovisual works, *see* Comments of the American Foundation for the Blind; Comments of the Media Access Group. There is no indication that any of these claims is true. The Broadcast Flag does not interfere in any way with the archiving of broadcast materials. Broadcast materials recorded on noncompliant devices will continue to play on any player; future broadcast content recorded on compliant devices will be playable on all other compliant devices. And Congress has repeatedly rejected the claim that copyright protection measures would substantially interfere with Distance Learning. Congress refused to create a special exemption for Distance Learning in enacting the Digital Millennium Copyright Act in 1998, and just last year refused to include an exemption from technological copyright protection measures in the Technology, Education, and Copyright Harmonization Act (TEACH Act). Indeed, the

TEACH Act provides that institutions engaging in Distance Learning must “not engage in conduct that could reasonably be expected to interfere with technological measures used by copyright owners to prevent . . . retention or unauthorized further dissemination” of their content.⁶ Congress having repeatedly rejected assertions such as those made by the ALA, *et al.*, the Commission should reject calls to make unnecessary exceptions for Distance Learning efforts here. In any event, it is difficult to believe that the Broadcast Flag would interfere in any significant way with Distance Learning efforts. While it may for the time being prevent the transmission of a high-quality clip of broadcast television content over the Internet during a Distance Learning lesson, unless Distance Learning contains a substantial amount of commercial television content, the impact on such programs is likely to be minimal. Even if such content is used, it will usually be provided to the educational institution by the broadcaster or content owner under a license, and not recorded off the air.

Nor is there any reason to suspect interference with technologies that assist the disabled. The Media Access Group cites the historical example of alleged interference with closed captioning caused by an early version of Macrovision. *See* Comments of the Media Access Group at 3. But unlike Macrovision, the Broadcast Flag has absolutely no effect on playback, other than the effect triggered in a compliant device. There is thus no chance that the Broadcast Flag itself would interfere with closed captioning or any other extended information. And as for compliant devices, all Broadcast Flag-compliant devices must also comply with U.S. law concerning closed captioning and other technologies; the addition of the Broadcast Flag will not alter that obligation. Furthermore, as explained above, the Broadcast Flag regulation imposes no numeric controls on copying, and does not prevent alteration of broadcast content.

⁶ Pub. Law No. 107-273 § 13301(b)(1). 28

“Repurposing” of content to adapt it to the needs of the disabled, *see* Comments of the American Foundation for the Blind, is thus fully protected.

C. Those Who Insist That the Technology Not Impede Any Legal Use Are Actually Opposed to Redistribution Control in Any Form.

Several comments objected to the Broadcast Flag Solution on the basis that it would prevent some uses of content that, were they challenged in a court of law, might be deemed “fair uses.” As these comments observe, “fair use” of copyrighted material is a contextual and fact-specific determination that the technological controls contemplated by the Broadcast Flag Solution will not be able to make. One typical comment objects to the Broadcast Flag because “technology cannot be sufficiently flexible to ensure that fair use is protected.” Comments of the CEA at 3. Another comment carries that idea even further, suggesting that the Broadcast Flag regulation would be in violation of the First Amendment: “To the extent that a broadcast-flag proposal might curtail fair use, it undercuts First Amendment values.” Comments of Public Knowledge at 17.

The suggestion that it would be illegal or unconstitutional for the Commission to adopt a regulation that impedes some legal consumer uses is plainly incorrect. “Fair use” is a defense to a charge of infringement; it is not a right that applies to consumers and content outside of the context of determining what is an infringing use. Most importantly, “fair use” does not convey a right to access material by the most convenient means or using any device. It is not a violation of the First Amendment for libraries to place locks on their doors, which keep out thieves but also keep out people who simply want to read late at night. The lock, like the Broadcast Flag, is

incapable of determining the intent of people entering the library; nevertheless, by and large, such locks prevent more crime than they deter legal uses. So it is with the Broadcast Flag.⁷

Any restrictions on use are truly no greater than necessary to prevent the most widespread and damaging form of infringement of digital broadcast television. Indeed, the “fair use” objections described above are not particular to the Broadcast Flag; rather, they are objections to any form of redistribution control whatsoever. The simple fact is that those making such objections assign very little value to copyright or the rights of content creators and owners; thus, any impediment to legal uses is portrayed as vastly outweighing the perceived harm to content providers resulting from the failure to protect content at all. What the “fair use” objections overlook is that while the Broadcast Flag Solution may impede some legal uses, it also allows uses that are unquestionably infringing. For example, nothing in the Broadcast Flag regulation *per se* prevents the creation of multiple copies of broadcast content for sale to the public without authorization of the content owner. Such activity is clearly not fair use, but nevertheless is possible using compliant devices. While content providers will be taking the risk of not preventing unprecedented levels of digital home copying in order to continue providing high-quality programming via DTV, consumers will sacrifice only a modicum of convenience.

Furthermore, the impediments on consumer uses of broadcast content are truly minimal. For example, under the regulation, consumers may not soon be able to e-mail small clips of news programs to their elected representatives. However, consumers will still be able to quote the newscast, describe it, or copy it to removable media and mail it. In any event, most content e-

⁷ See *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 452-53 (2d Cir. 2001) (noting that protection on DVDs is “[i]n its basic function, . . . like a lock on a homeowner’s door, a combination of a safe, or a security device attached to a store’s products”). The Second Circuit in *Corley* rejected the argument that a law protecting such digital locks violated either the First

mailed by private individuals is content that they themselves create, such as family snapshots; and nothing in the Broadcast Flag regulation prevents the e-mailing of non-broadcast content. And if a secure technology is developed that allows an authorized, secure transmission of over-the-air broadcast digital television content within the personal digital network environment over networks such as the Internet, the Broadcast Flag would prevent almost nothing a consumer wants to do. *See* Initial Joint Comments at 26 (defining “personal digital network environment”). While the ideal solution would determine with perfect accuracy which uses were legal and which were not, such a solution will not be available any time soon (or may never be available), and for all the reasons stated above, delay is not an option.

The Broadcast Flag Solution strikes a balance between the interests of consumers and content providers. While allowing unlimited copying, including copying that is clearly illegal under copyright law, the Flag would have minimal impact – and then only until a method of securing content transmitted across the networks such as the Internet is developed. This balance makes it clear that the goal of the Broadcast Flag is not, as the more cynical comments have stated, to prevent whatever activity content providers do not approve of, but only to stem the unauthorized redistribution of content sufficiently to preserve the terrestrial broadcast distribution channel.

D. Section 336 Confers Direct Authority on the Commission to Prescribe Rules to Prevent the Unauthorized Redistribution of Digital Terrestrial Broadcast Television Programming.

None of the commenting parties disputes that Section 336(a) authorizes the FCC to issue licenses for the broadcast of over-the-air digital television signals. *See* 47 U.S.C. § 336(a). Nor

does any commenter dispute that, if the FCC elects to issue such licenses (as it has), then Section 336(b) *requires* the FCC to “prescribe such other regulations as may be necessary for the protection of the public interest, convenience and necessity.” 47 U.S.C. § 336(b)(5). Rules designed to prevent the unauthorized redistribution of broadcast digital programming are such “other” regulations, and the FCC clearly has the authority to prescribe them.⁸

The scope of the FCC’s authority to prevent the unauthorized redistribution of broadcast digital programming is evident from the context in which Section 336 was enacted. The digital transition represents a fundamental change in the broadcast paradigm. When the Telecommunications Act of 1996 was passed, Congress did not know – and could not have known – what regulations would be needed to implement a nationwide system of free, over-the-air digital television. Clearly, Congress could have formulated specific statutory directives to facilitate the implementation of digital broadcasting. It could have cabined the FCC’s authority to adopt regulations to govern the digital transition. It did neither. Instead, Congress explicitly entrusted to the expert agency the task of effectuating the digital transition by enacting expansive legislation that gave the FCC authority to “prescribe such other regulations,” as needed, in order to do so. *See* 47 U.S.C. § 336.

⁸ Section 336(b)(4) requires the FCC to adopt “such technical or *other* requirements that are necessary to assure signal quality.” 47 U.S.C. § 336(b)(4) (emphasis added). This provision, like Section 336(b)(5), confers broad authority on the FCC – although certainly not so broad as to result in the parade of horrors trotted out by opponents of the broadcast flag. The IT Coalition, for example, contends that reliance on Section 336(b)(4) would confer on the FCC “the authority to regulate the nature of the content carried by the signal, and . . . intellectual property rights associated with that content.” Comments of the IT Coalition at 6 n.11. But this proceeding most assuredly is not about regulating broadcast digital program content. It is about preserving the integrity of such content by protecting it from unauthorized redistribution that, in turn, would impede the development and availability of free, over-the-air digital television.

Since 1996 the FCC has relied on a similarly broad grant of authority – the public interest rubric of Section 336(d) - in adopting a variety of regulations applicable to digital broadcasting. Thus, acting to ensure that the transition to digital broadcasting would be carried out in a manner consistent with the public interest, the FCC adopted rules requiring digital television station licensees to, among other things, provide “reasonable access” to candidates for elective office and afford candidates “equal opportunity” to use licensee facilities; broadcast at least three hours of qualified children’s programming per week; and adhere to restrictions regarding the broadcast of indecent programming.⁹ As in the present case, such regulations were deemed essential to ensure the integrity of free, over-the-air television service during and after the digital transition.

Disputing the FCC’s discretion to prevent unauthorized redistribution of digital broadcast transmissions under Section 336(b)(5), certain commenters contend that the authority granted in that section can be exercised in furtherance of only two activities explicitly authorized by Section 336(a) – digital television licensing and the provision of ancillary or supplemental services.¹⁰ But this focus on “prefatory language”¹¹ ignores the plain meaning of Section 336(b)(5) and the context in which it was enacted. The FCC’s authority under Section 336(b)(5) to prescribe “such

⁹ See *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, 12 FCC Rcd 12809, 12828 (¶ 45) (1997).

¹⁰ See Comments of Public Knowledge at 27-28; IT Coalition at 5-7; Free Software Foundation (“FSF”) at 2. Contrary to the claims made by Public Knowledge/Consumers Union and the IT Coalition, the FCC has never “confirmed” their reading of Section 336. See Comments of Public Knowledge at 27-28; IT Coalition at 7 (citing *Fees for Ancillary or Supplementary Use of Digital Television Spectrum Pursuant to Section 336(e)(1) of the Telecommunications Act of 1996*, 14 FCC Rcd 3259, 3260-61 (¶ 2) (1998) (establishing a program for assessing and collecting fees in connection with the provision of ancillary or supplementary services by digital television station licensees)). But these commenters provide no support – and there is none – for their contention that Section 336’s grant of authority to assess and collect fees in connection with the delivery of ancillary or supplementary services, as to which there is no dispute, operates as a limitation on the Commission’s authority.

other regulations” as it deems necessary embodies the power to regulate aspects of the digital transition that are beyond the confines of the two items specifically enumerated in Section 336(a) – including, necessarily, developments that could not have been contemplated when the 1996 Act was enacted. In similar circumstances, courts have consistently held that the FCC’s authority under the Communications Act must be construed broadly precisely because the industries the FCC regulates are continually evolving at a rapid pace.¹² Where, as here, an activity may harm one of those industries, and there is no countervailing statutory provision precluding the FCC from adopting regulations reasonably intended to mitigate that harm, the FCC can act.

¹¹ See Comments of IT Coalition at 6; see also Comments of Public Knowledge at 27-28.

¹² See, e.g., *FCC v. Midwest Video Corp.*, 440 U.S. 689, 696 (1979) (“Congress meant to confer ‘broad authority’ on the Commission . . . so as ‘to maintain, through appropriate administrative control, a grip on the dynamic aspects of radio transmission.’”) (quoting *FCC v. Pottsville Broad. Co.*, 309 U.S. 134, 138 (1940)); *United States v. Southwestern Cable Co.*, 392 U.S. 157, 173 (1968) (Congress gave the Commission a “comprehensive mandate” to regulate in a “new and dynamic” field); *National Broadcasting Co., Inc. v. United States*, 319 U.S. 190, 219-20 (1943) (Congress conferred broad powers on Commission to regulate in a field characterized by the “rapid pace of its unfolding”); *Computer & Communications Indus. Ass’n v. FCC*, 693 F.2d 198, 213 (D.C. Cir. 1982) (“In designing the Communications Act, Congress sought ‘to endow the Commission with sufficiently elastic powers such that it could readily accommodate dynamic new developments in the field of communications.’”) (citing *National Ass’n of Theatre Owners v. FCC*, 420 F.2d 194, 199 (D.C. Cir. 1969)), cert. denied, *National Ass’n of Regulatory Util. Comm’rs v. FCC*, 461 U.S. 938 (1983), and *Louisiana Pub. Serv. Comm’n v. FCC*, 461 U.S. 938 (1983). See also *Smith v. Pan Air Corp.*, 684 F.2d 1102, 1113 (5th Cir. 1982) (“statutes are not confined in application to contemporary instances and their principles are to be extended to embrace new factual situations and new technological developments”).

E. The Commission Is Authorized to Prescribe Rules to Prevent the Unauthorized Redistribution of Digital Programming Pursuant to Its “Ancillary Jurisdiction” Over Matters Relating to Broadcasting Generally and the Digital Transition in Particular.

Not even opponents of the broadcast flag can dispute that the FCC has “ancillary jurisdiction” to enact regulations that advance the Congressional objectives embodied in Section 336, and, more broadly, Title III of the Communications Act. Significantly, Public Knowledge/Consumers Union acknowledge that the FCC “likely has the authority to require [that] some sort of broadcast flag be embedded in the DTV signal.”¹³ But that authority clearly is meaningless if the FCC cannot also mandate the implementation of corresponding technology capable of reading the flag embedded in that signal.¹⁴ In an analogous context, the Commission recently dismissed as “absurd” manufacturers’ contentions that, under the All Channel Receiver Act, the FCC could require that television receivers be capable of receiving a digital signal, but not that they be able to display it in a viewable format.¹⁵

In any event, commenters readily accept that the FCC may promulgate regulations on the basis of its ancillary jurisdiction when presented with a valid public interest rationale for doing

¹³ Comments of Public Knowledge at 24.

¹⁴ As explained in our opening comments, FCC regulation of television reception equipment is not a novel concept. *See* Initial Joint Comments at 31. Moreover, although the FCC on occasion has relied on specific provisions of the Communications Act in order to impose requirements on manufacturers of television reception equipment, express statutory authority has not been a prerequisite for doing so. *See id.* at 31 n.15 (citing *Amendment of the Commission’s Rules Governing Color Television Transmissions*, 41 FCC 658 (1953)). Commenters’ statements to the contrary are incorrect. *See, e.g.,* Comments of Public Knowledge at 26.

¹⁵ *See Review of the Commission’s Rules and Policies Affecting the Conversion to Digital Television*, Second Report and Order and Second Memorandum Opinion and Order, 17 FCC Rcd 15978, ¶ 29 (2002) (requiring equipment manufacturers to include digital tuner sections in certain new television receivers on a phased-in schedule, beginning in 2004).

so.¹⁶ Significantly, the comments of opponents of the rules at issue here serve to underscore that precisely such a public interest imperative exists today with respect to the implementation of a broadcast flag.

Certain commenters, for example, claim that, because some digital programming currently is being made available to broadcasters, limitations on the unauthorized redistribution of such content are not necessary in order for the digital transition to succeed.¹⁷ Yet, although it is true that some digital content currently is being broadcast during prime time, absent steps to prevent unauthorized redistribution this programming will likely cease to be made available once digital receivers and recording technologies become ubiquitous. Indeed, the very letters from broadcast industry executives selectively quoted by the IT Coalition as evidence of the current availability of high quality broadcast digital content demonstrate that the continued availability of such programming is contingent on an appropriate resolution of the unauthorized redistribution issue.¹⁸ In any case, the IT Coalition's claims are directly refuted by the comments filed in this proceeding by major content providers, to wit:

- Viacom wishes to make clear for the record in this proceeding that the absence of a broadcast flag regime in the near future will have a materially adverse effect on the levels of digital broadcast television programming it makes available. Specifically, if the broadcast flag is not implemented and enforced by next summer, CBS will cease providing any programming in high definition for the 2003-2004 television season. *See* Comments of Viacom at 12.

¹⁶ *See, e.g.*, Comments of Public Knowledge at 8-9; IT Coalition at 7-8.

¹⁷ *See* Comments of IT Coalition at 11-14.

¹⁸ *See* Letter from Mel Karmazin, President and Chief Operating Officer, Viacom, Inc., to Michael K. Powell, Chairman, FCC, May 22, 2002 (stating that “resolution of the copy protection issue is critical to the [digital] transition’s continued progress” and that the “failure to establish adequate copy protection measures may cause [Viacom] to reevaluate the continued availability of high value digital programming”); Letter from Robert C. Wright, Chairman and Chief Executive Officer, NBC, to Michael K. Powell, Chairman, FCC, May 31, 2002.

- Continuing in Disney/ABC’s current course of action (*i.e.*, making high quality digital content available for over-the-air broadcast distribution) will become commercially untenable and - absent broadcast content redistribution protection - Disney/ABC will be forced to reassess the wisdom of making high quality digital programming and especially high definition programming available on broadcast television. *See* Comments of Disney at 4.¹⁹

Implicitly recognizing the direct correlation between digital receiver ubiquity and unauthorized redistribution of broadcast digital content, Public Knowledge/Consumers Union nonetheless suggest that the FCC should take a “wait and see” approach – deferring action until the unauthorized redistribution of broadcast digital programming becomes widespread (and, by then, uncontrollable).²⁰ But this is precisely backwards, both from a policy standpoint and under the public interest standard embodied in Section 336(b)(5) of the Act. It is ludicrous to suggest that an agency must wait until an anticipated harm is manifest – that is, until it is too late – before acting to prevent or avert that harm. Such a view has been soundly rejected in similar contexts by reviewing courts, which have concluded – logically – that the FCC, as the expert agency, may assess and, if indicated, act to prevent potential harms *before* they occur.²¹

¹⁹ *See also* Comments of CBS Television Affiliates Association at 2 (economic risks associated with broadcast exhibition of unprotected digital programming will incent migration to conditional access distribution modalities by network and syndicated program suppliers); NBC Television Affiliates Association at 2-3 (same); NFL at 7-9 (same).

²⁰ *See* Comments of Public Knowledge at 8-9.

²¹ *See, e.g., GTE Service Corp. v. Fed. Communications Comm’n*, 474 F.2d 724, 731-32 (2d Cir. 1973); *See North Am. Telecomms. Ass’n v. FCC*, 772 F.2d 1282, 1292-93 (7th Cir. 1985) (upholding Commission order requiring regional companies to submit capitalization plans to prevent cross-subsidizations); *GTE Serv. Corp. v. FCC*, 474 F.2d 724, 730-31 (2d Cir. 1973) (regulation of data processing activities of common carriers justified under FCC’s broad authority because they “pose a threat to efficient public communications services at reasonable prices”). *Cf. FCC v. RCA Communications, Inc.*, 346 U.S. 86, 96-97 (1953) (Commission must warrant only that there “is ground for reasonable expectation that competition may have some beneficial effect”); *United States v. Detroit & Cleveland Navigation Co.*, 326 U.S. 236, 241 (1945) (“Forecasts as to the future are necessary” to the ICC’s decisions); *Telocator Network of Am. v. FCC*, 691 F.2d 525, 538, 542-45 (D.C. Cir. 1982) (sustaining spectrum allocation plan as

Certain commenters' claims that FCC action here would somehow turn the agency into a copyright tribunal are equally specious and also should be dismissed.²² Enacting rules to prevent the unauthorized redistribution of broadcast digital content would enable the FCC to preserve the integrity of over-the-air television broadcasting, an area over which it has exclusive jurisdiction. The FCC acted in an analogous capacity when it invoked its ancillary jurisdiction over broadcasting to regulate the importation of distant signals into local markets by cable systems prior to the enactment of the 1984 Cable Act.²³ Contrary to certain commenters' claims, the adoption of rules to prevent the unauthorized redistribution of broadcast digital content would not require the FCC to take action "on a daily basis" to enforce the copyright laws.²⁴ Rather, the instant proceeding provides an efficient and effective means for the Commission to act – once – in order to minimize the potential for copyright violations resulting from the unauthorized redistribution of broadcast digital content.

Finally, Public Knowledge/Consumers Union and the IT Coalition take the position that the D.C. Circuit's *Video Description* opinion, *Motion Picture Association of America, Inc. v. FCC*, 309 F.3d 796 (D.C. Cir. 2002), prohibits the FCC from acting to prevent the unauthorized

to which FCC rationally concluded competition "predictably would further the public interest in larger, more economical, and more effective service"), *cert. denied, National Ass'n of Radiotelephone Sys. v. FCC*, 425 U.S. 992 (1976); *Washington Utils. & Transp. Comm'n*, 513 F.2d 1142, 1160 (9th Cir. 1975) (FCC planning to satisfy "future public needs" must "necessarily rest . . . upon the acceptance of uncertain forecasts of future events."), *overruled on other grounds, State of Nevada v. Burford*, 918 F.2d 854, 858 (9th Cir. 1990).

²² See Comments of IT Coalition at 10; ALA at 17-18.

²³ See *U.S. v. Southwestern Cable Co.*, 392 U.S. 157, 175 (1968) (regulation of cable systems appropriate where their "importation of distant signals into the service areas of local stations may . . . 'destroy or seriously degrade the service offered by a television broadcaster'").

²⁴ See Comments of IT Coalition at 10.

redistribution of digital broadcast content pursuant to its Title I authority.²⁵ But they ignore that (as explained in the Initial Joint Comments at 39) the case does not disturb the FCC’s authority to adopt such regulations pursuant to other authority, such as Section 336 or through the FCC’s ancillary jurisdiction over broadcasting. In the *Video Description* case, the FCC sought to impose rules that “significantly implicate[d]” broadcast content and despite provisions in the Communications Act that expressly prevented such action. In contrast, the rules at issue here are intended to protect the integrity of broadcast digital transmissions without affecting the content embodied within them, and the only pertinent directive from Congress is contained in Section 336, which explicitly grants the FCC broad authority to enact regulations it deems necessary to effectuate the digital transition. *See, e.g.*, 47 U.S.C. § 336(b)(5).

F. Modulators Must Be Regulated to Prevent the Broadcast Flag Solution From Undermining Other Forms of Content Protection.

One important piece of the proposed Broadcast Flag regulation is the proposed regulation of consumer modulators – devices that would convert digital broadcast content into 8-VSB, 16-VSB, 64-QAM, or 256-QAM signals for use in a home network. Although such consumer modulators may not ever become prevalent, they should not be excluded by the Broadcast Flag regulation as a permitted output. However, neither should the inclusion of such consumer modulators allow other content protection schemes to be undermined by disguising it as copyable broadcast content. The regulation of consumer modulators is necessary to eliminate the unintentional creation of a “laundering channel” in the future when a cross-industry consensus

²⁵ *See* Comments of Public Knowledge at 24-25; IT Coalition at 8 n.19.

means for rights signaling (for example, a watermark) is selected for conveying copy control information in unencrypted content.

The following provides an illustrative example of what might occur if consumer modulators are not regulated. A DVD movie that has been marked with an industry-consensus watermark as “Copy Never” could have its digital copy protection circumvented using a software utility, like DeCSS. This circumvention step would create an unencrypted digital file of the DVD movie on a personal computer’s hard drive. Using a legal MPEG transcoding software utility, this unencrypted DVD movie file could be transcoded from MPEG DVD format to an ATSC digital TV transport stream format, while at the same time, having its Program Map Table (PMT) marked to signal redistribution control (i.e., setting the Broadcast Flag). This new digital TV transport stream file could then be output from the personal computer’s IEEE 1394 port to an 8-VSB consumer modulator with an IEEE 1394 input in order to create an 8-VSB modulated ATSC digital TV signal with the Broadcast Flag. If this signal was received by a Broadcast-Flag-compliant ATSC tuner, it would demodulate the 8-VSB signal of the DVD movie, detect the Broadcast Flag, then trigger downstream protection of the content with the Copy Control signaling being set as “Copy Control Not Asserted, No Redistribution.” The content would then be encrypted and introduced into a “protected domain,” and the sink device would trust the Copy Control signaling protected by the encryption, rather than look for rights signaling such as a watermark. Thus, future playback and recording devices would never detect the rights signaling (e.g., watermark) and uncover the fact that this was actually an illegal copy of “Copy Never” content. The result is that innumerable copies of “Copy Never” content could be made.

It is important to understand that the regulation of consumer modulators should not have any impact on television product manufacturers and consumers wishing to use VSB or QAM

modulation technology for distributing digital video from trusted sources throughout the home. The only impact will be where the device accepts digital content from untrusted sources. In such a case, under the regulation, the device must check for the Flag, and if the content is Marked, refuse to output it in modulated form. Furthermore, it is important to note that these modulator requirements are only a temporary state of affairs for as long as there are no Table A technologies for modulated outputs. As stated in the Initial Joint Comments, it would be asking too high a price from content providers to protect digital broadcast television, only to see other content protection regimes, guarding equally valuable content, be undermined by such protections.

G. The Challenge for Open Source Developers Is Security, Not the Broadcast Flag.

Two comments claimed that the Broadcast Flag regulation would interfere with the development of open source DTV applications, prohibit reverse engineering, destroy interoperability, and generally stifle competition. *See* Comments of EFF at 18; FSF at 3. It should be noted that there is much positive to be said about open source software applications. Movie studios, for example, have been among the enthusiastic adopters of the open source Linux operating system for use in computer imaging and digital post-production processes. There is nothing in the Broadcast Flag regulation that would preclude open-source DTV applications. The requirement is simply that any software-based application that receives protected DTV content, whether open source or otherwise, secure that content from the point of demodulation forward. To advocate otherwise would be to advocate against any effective protection of unencrypted over-the-air DTV programming.

The challenge for open source developers is to design secure open source applications. Meeting this challenge is not only possible, it has already been accomplished for other open source applications in other secure environments, such as applications for use in financial services, e-commerce, and information sharing of sensitive data (like medical records). Broadcast Flag implementation is but one area that will help to spur such innovation.

With respect to the effect of the Broadcast Flag on competition, interoperability and reverse engineering, we question each of the assertions made in the comments. The Broadcast Flag implementation proposal, as outlined in Initial Joint Comments, is designed to promote, not hinder, competition in the market for DTV devices and applications. There is no limit, for example, on the number or diversity of secure output and recording technologies. Technology manufacturers would have the incentive to continually improve and advance their technologies – something the signatories to these Joint Reply Comments strongly support. Similarly, there is nothing inherent in the Broadcast Flag that would limit interoperability or reverse engineering, other than the very basic proposition that output and recording technologies should be secure and tamper resistant. That does not mean that interoperable output and recording technologies cannot be developed. They most certainly will be, and the parties submitting these Joint Reply Comments support the development of secure interoperable DTV applications. Nor does it mean that reverse engineering will not continue as it does today.

The position taken by the EFF and FSF, however, appears to be that there should be no effective protection for unencrypted over-the-air digital broadcast content if such protection requires tamper-resistant implementation. Such an argument would counsel against copy-protection technologies built into cable and satellite set-top boxes, the CSS encryption scheme for DVD, software-based digital media players and just about every digital rights management

technology, all of which have considerable consumer benefits (CSS encryption, for example, has spurred the rollout of the DVD – now the fastest growing consumer electronics platform in history – with new titles being released at a rate of roughly 100 every week). To the extent the broadcast flag has any adverse impact in the areas suggested by EFF, that adverse impact must be weighed against the harm to consumers that will result if unencrypted over-the-air DTV cannot be protected, namely the migration of high-quality programming away from broadcast television to other, protected distribution channels.

The signatories of these Joint Reply Comments support the development of software-based DTV applications that can be developed using well-known software tamper resistance techniques that enable the computer to play a role in the DTV transition. We also welcome secure open source applications. Such applications could provide cost savings, while also providing much-needed protection for digital broadcast content. What we do not support is the proliferation of DTV applications that fail to provide any protection for digital broadcast content. In the end, the role of the PC in the digital transition is sure to be diminished if a lack of protection in PC-based applications leads to a shift in sought-after content from unencrypted digital broadcasting platforms to more secure distribution channels like cable and satellite. We thus see the implementation of the Broadcast Flag as entirely consistent with the Commission's aim of facilitating the DTV transition.

* * * * *

The Commission's Notice of Proposed Rulemaking drew comments from many who oppose any form of redistribution control. Nevertheless, despite such reflexive opposition, none of the comments have demonstrated that the Commission should refrain from adopting the

proposed Broadcast Flag regulation. For the reasons stated herein and in our Initial Joint Comments, adoption of the regulation is a necessary step that will facilitate the highly anticipated DTV transition and usher in a new era of possibilities for consumers, content providers, and device manufacturers alike.

Respectfully submitted,

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