

THE BROADCAST FLAG: COMPATIBLE WITH COPYRIGHT LAW & INCOMPATIBLE WITH DIGITAL MEDIA CONSUMERS

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I. INTRODUCTION

Is it illegal to make a high-quality recording of your favorite TV show using your Sony digital video recorder with your Panasonic TV, which you then edit on your Dell computer for use on your Apple iPod? Of course it's legal, but is it possible to use devices from multiple brands together to accomplish your digital media goal? Yes, well, at least for now. What if the scenario involved high-definition television ("HDTV") devices? Would the answers be as clear? Not as long as digital-content protection schemes like the Broadcast Flag are implemented.

Digital media and Internet connectivity have revolutionized consumer entertainment experiences by offering high-quality portable content.¹ Yet these attractive formats also are fueling a copyright infringement onslaught through a proliferation of unauthorized Internet piracy via peer-to-peer ("P2P") networks.² As a result, lawmakers,³ administrative agencies,⁴ and courts⁵ are confronted

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¹ Andrew Keen, *Web 2.0: The Second Generation of the Internet has Arrived. It's Worse Than You Think*, WEEKLY STANDARD, Feb. 13, 2006, <http://www.weeklystandard.com/Content/Public/Articles/000/000/006/714fjczq.asp> (last visited Jan. 16, 2007).

² Meghan Twohey, *You've Got Lawsuit: Father Sued for Teen's Downloads*, MILWAUKEE J. SENTINEL, May 16, 2005, at A1.

³ Benny Evangelista, *House Passes Piracy Measure; Film Industry Wins Some, Loses Other Battles in Congress*, S.F. CHRON., Apr. 20, 2005, at C1.

with questions concerning consumer rights and copyrights. Content creators, backed by industry organizations like the Recording Industry Association of America (“RIAA”) and the Motion Picture Association of America (“MPAA”), are lobbying political leaders to find creative solutions to battle increasingly imaginative media pirates.⁶

The mandatory transition to digital television (“DTV”) offers consumers the ability to receive free HDTV through broadcast airwaves, with quality that surpasses DVDs.⁷ Unlike the analog National Transmission Standards Committee (“NTSC”)-standard, the digital regime copies of DTV programming are carbon copies of the original.⁸ Thus, unencrypted digital broadcast content can easily be captured as data and transferred over the Internet.⁹ Wary of the digital threat, content providers threaten to withhold high-value content, like blockbuster films, if digital broadcasters do not guarantee assurances against piracy.¹⁰

One defense against piracy is the use of digital rights management (“DRM”) technologies, which utilize software code to secure digital content and control user behavior. After intense lobbying, the MPAA and other copyright holders were successful in 2003 when the Federal Communications Commission (“FCC”) mandated a DRM technology known as the Broadcast Flag. The FCC required Broadcast Flag chips, capable of decoding a content-controlling Broadcast Flag signal, to be placed in all DTV-related devices manufactured after July 1, 2005.¹¹

⁴ Stephen Labaton, *F.C.C. Acts Against Pirating of TV Broadcasts*, N.Y. TIMES, Nov. 5, 2003, at C1.

⁵ Kristi Heim, *Court Ruling Sad Music for File-Sharing Service: Peer-to-Peer Technology Left Standing*, SEATTLE TIMES, Jun. 28, 2005, at C1.

⁶ See, e.g., Richard J. Dalton, *Act Takes Aim at Media Pirates: House Bill Calls for Up to 3 Years in Prison for Illegally Distributing Unreleased Movies, Songs*, NEWSDAY.COM, Apr. 21, 2005, available at <http://www.newsday.com/business/ny-bzfile21q4226837apr21,0,4323207,print.story?coll=ny-business-headlines> (last accessed Jan. 18, 2007).

⁷ Kevin Hunt, *New HDTVs Reach Higher and Higher*, HARTFORD COURANT, Feb. 23, 2006, at D1.

⁸ CENTER FOR DEMOCRACY AND TECHNOLOGY, *IMPLICATIONS OF THE BROADCAST FLAG: A PUBLIC INTEREST PRIMER (VERSION 2.0) 6–7* (Dec. 2003), <http://www.cdt.org/copyright/20031216broadcastflag.pdf>.

⁹ *Id.* at 6.

¹⁰ Jay Lyman, *FCC Anti-Piracy Play Rejected*, TECHNEWSWORLD, May 9, 2005, <http://www.technewsworld.com/story/tech/fcc-anti-piracy-broadcast-flag-1290039FHA1L.xhtml> (last visited Jan. 16, 2007).

¹¹ Digital Broadcast Content Protection, 18 F.C.C.R. 23550, 23576, 23588 (2003) [hereinafter *Broadcast Flag R&O*].

The FCC officially approved 13 Broadcast Flag-compatible formats, the majority of which are not interchangeable.¹² Thus, under the Broadcast Flag regime, the aforementioned DTV-to-iPod scenario would not be possible if the content was protected. Broadcast Flag-compliant technologies restrict consumers' abilities to record DTV content and transfer copyright protected programming over the Internet and to other home media devices.¹³ The same technological guidelines used to prevent piracy, however, also impact codified and case law-interpreted fair-use rights.¹⁴ As a result, the Broadcast Flag was challenged by the American Library Association, and the rule was overturned by a federal appeals court in May 2005 on grounds that the FCC did not hold the jurisdiction to implement a DTV-content protection device.¹⁵

The U.S. Court of Appeals for the D.C. Circuit did not rule on any fair-use issues because the controversy brought before the Court was whether or not the FCC had the authority to regulate a television device not engaged in receiving transmissions.¹⁶ The FCC argued that ancillary powers existed under Title 1 of the 1934 Communications Act that allowed the Commission to mandate the Broadcast Flag.¹⁷ The Court disagreed and held that the FCC did not have the jurisdiction to mandate the Broadcast Flag under the 1934 Communications Act or under any specific authorization from Congress.¹⁸ Thus, the FCC mandate has effectively been brought to a halt until Congress decides to authorize specific powers for the FCC to resurrect the Broadcast Flag. The FCC did not appeal the ruling, but Congress is currently circulating proposed legislation to give the agency legal authority to re-authorize the order.¹⁹

¹² Digital Output Protection Technology and Recording Method Certifications, 19 F.C.C.R. 15876, 15901 (2004) [hereinafter *Technology and Certification R&O*].

¹³ David Oh, *Court Rejects FCC's Anti-Piracy Regulation: Over-The-Air Digital 'Flag' Nixed for Now*, ATLANTA JOURNAL-CONSTITUTION, May 7, 2005, at 3F.

¹⁴ Cuong Lam Nguyen, Comment, *A Post-Mortem of the DTV Broadcast Flag*, 42 HOUS. L. REV. 1129, 1132 (2005).

¹⁵ *Am. Library Ass'n v. Fed. Commc'ns Comm'n*, 406 F.3d 689, 708 (D.C. Cir. 2005).

¹⁶ *Id.* at 705.

¹⁷ *Id.* at 691.

¹⁸ *Id.* at 692.

¹⁹ *See* Communications, Consumer's Choice, and Broadband Deployment Act of 2006, S. 2686, 109th Cong. §§ 452–(342), 453–(343) (2006). Specifically, subsection 342 of § 452 of the bill contains the specific provision authorizing the FCC to have the authority over the Broadcast Flag and calls for implantation of their prior Broadcast Flag R&O. In addition, § 453 of the bill also provides the FCC with the authority to examine the “indiscriminate redistribution of audio content” concerning both digital broadcast and satellite radio. All of these provisions fall under the proposed Digital Content Protection Act of 2006. *Id.* at § 451.

The FCC-approved Broadcast Flag standard enables content providers to use DRM technologies to restrict the resolution of consumer home recordings to 720 x 480 pixels²⁰—hardly more than standard-definition quality of 640 x 480 pixels. Under the regime, broadcasters are capable of transmitting a “flag” or 16-bit code instructing consumer DTV devices, whether or not to restrict broadcast content. The method aims to disable online redistribution of high-quality HDTV media.²¹ As this article will illustrate, however, the Broadcast Flag may also alter and potentially eliminate consumer fair-use rights to use copyright-protected material for non-infringing purposes.

The concept of fair use was first codified in the 1976 Copyright Act and later applied to consumers in the *Sony-Betamax* decision.²² The U.S. Supreme Court found that consumers could record broadcast television programs for the purposes of “time-shifting” media for their own later viewing.²³ The Court also affirmed the notion that not all unauthorized duplication of copyrighted works was illegal due to the “fair use” guidelines outlined in U.S. Copyright law.²⁴ A question remains, however, as to what extent this 20-year-old doctrine applies to technologies like HDTV and personal video recorders (“PVR”) in the digital era.

Existing scholarship that directly addresses the Broadcast Flag usually covers one of three questions: 1) the legal right of the FCC to implement the Broadcast Flag mandate using the powers vested in it to facilitate the DTV transition;²⁵ 2) the question of consumer fair-use rights and the extent to which the Broadcast Flag may infringe upon established judicial doctrine;²⁶ and 3) the

²⁰ 47 C.F.R. § 73.9003 (2007).

²¹ See *Broadcast Flag R&O*, *supra* note 11, at 23554.

²² *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).

²³ *Id.* at 442.

²⁴ *Id.* at 433 (referring to 17 USC § 107).

²⁵ See Robert T. Numbers II, Note, *To Promote Profit in Science and the Useful Arts: The Broadcast Flag, FCC Jurisdiction, and Copyright Implications*, 80 NOTRE DAME L. REV. 439 (2004) (arguing the FCC does not possess authority to mandate the Broadcast Flag); *but see* Penina Michlin, *The Broadcast Flag and the Scope of the FCC's Ancillary Jurisdiction: Protecting the Digital Future*, 20 BERKELEY TECH. L.J. 907, 916–32 (2005) (arguing the FCC does possess authority to mandate the Broadcast Flag).

²⁶ Frank Ing-Jye Chao, *The FCC and Congress Should Consider Consumer Rights When Making the Transition to DTV*, DUKE L. & TECH. REV., Aug. 4, 2003, at ¶ 19 (urging policymakers to consider consumer fair-use rights when implementing the Broadcast Flag); Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L.J. 603, 611–15 (2003) (reviewing the history concerning the FCC's implementation of the Broadcast Flag and its potential role on becoming a gatekeeper concerning DRM and copyright); D. Branch Furtado, *Television: Peer-to-Peer's Next Challenger*, DUKE L. & TECH. REV., Mar. 31, 2005,

suggestion that the Broadcast Flag is vulnerable to loopholes, and thus may not be effective.²⁷

Although some scholars explore the *Sony-Betamax* doctrine and more recent federal court cases to explain possible Broadcast Flag implications,²⁸ previous legal research does not offer a comprehensive analysis of why digital fair-use rights exist for consumers under the Broadcast Flag. Meanwhile, a number of legal scholars have focused on broader issues of DRM technologies that are not specific with regards to the Broadcast Flag and their effect on consumer behavior and content protection.²⁹

This article reviews existing case law to explore how far consumer fair-use rights extend into the digital realm and apply to the Broadcast Flag. The scope of the research is specific to whether or not the Broadcast Flag violates the fair use doctrine and to what extent consumer fair-use rights exist under the regime. The conclusion will then offer further areas of inquiry into the broader subject of DRM. This article distinguishes itself from existing literature by addressing in depth the complex ramifications of the Broadcast Flag policy on consumer fair-use rights, not just resulting from legal boundaries, but also from

at ¶¶ 5, 28–31 (arguing that time-shifting and space-shifting fair-use rights extend to peer-to-peer networks and are not protected under the Broadcast Flag); Garrett Levin, *Buggy Whips and Broadcast Flags: The Need for a New Politics of Expression*, DUKE L. & TECH. REV., Oct. 25, 2005, at ¶ 19–24 (contending case-by-case basis for copyright infringement is better in terms of ensuring fair-use rights than a preemptive restriction like the Broadcast Flag); Nguyen, *supra* note 14 at 1160.

²⁷ Lisa M. Ezra, *The Failure of the Broadcast Flag: Copyright Protection to Make Hollywood Happy*, 27 HASTINGS COMM. & ENT. L.J. 383, 393–94 (2005) (discussing how DTV programming will be made available via the Internet because the Broadcast Flag will not cover DTVs that are sold in foreign markets); Debra Kaplan, *Broadcast Flags and the War Against Digital Television Piracy: A Solution or Dilemma for the Digital Era?*, 57 FED. COMM. L.J. 325, (2005) (discussing the Broadcast Flag’s analog loophole that will allow television programming to be distributed over the Internet).

²⁸ See Chao, *supra* note 26, at ¶ 5; Furtado, *supra* note 26, at ¶ 4.

²⁹ See, e.g., LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 128–30 (Basic Books 1st ed. 1999) (arguing that those who create software code like digital rights management control law in cyberspace); Kevin Michael Lemley, *Protecting Consumers from Themselves: Alleviating the Market Inequalities Created by Online Copyright Infringement in the Entertainment Industry*, 13 ALB. L.J. SCI. & TECH. 613, 614 (2003); Declan McCullagh & Milana Homsí, *Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems*, 2005 MICH. ST. L. REV. 371, 372; John M. Williamson, *Rights Management in Digital Media Content: A Case for FCC Intervention in the Standardization Process*, 3 J. ON TELECOMM. & HIGH TECH. L. 309, 312–13 (2005); Chad Woodford, *Trusted Computing or Big Brother? Putting the Rights Back in Digital Rights Management*, 75 U. COLO. L. REV. 253, 257–58 (2004).

technological restrictions. An issue not fully appreciated in other research is the possibility of rigid market fragmentation under the FCC's vague "robustness rules" pertaining to the Broadcast Flag. The Broadcast Flag is only one policy, but this article will contribute to the larger copy-protection dialogue by offering insight to issues that plague the entire struggle between consumers and intellectual-property owners in the digital age.

Part I of the article provides background information on the DTV transition and describe arguments put forth by Broadcast Flag proponents. This section also employs the Broadcast Flag policy to better explain the extent to which the technology may effectively control consumer behavior. Additionally, the FCC's rationales for approving the Broadcast Flag and associated policy concerns will be discussed.

The purpose of the Broadcast Flag is to prevent copyright infringement of DTV programming—particularly high-value, high-definition content—while attempting to balance the interests of consumers' fair-use rights. Part II analyzes district and appellate court cases relevant to digital fair-use rights and the Broadcast Flag to identify trends that have evolved under the *Sony-Betamax* doctrine, including consumers' ability to time-shift and space-shift media for personal use. This section also details how the anti-circumvention provisions of the Digital Millennium Copyright Act ("DMCA") apply to the Broadcast Flag.

Part III further explicates the Broadcast Flag by applying earlier analyses of case and statutory law as well as proposed FCC rules regarding Broadcast Flag technology. Distinctions among technologies will be compared and contrasted to the specifications of the Broadcast Flag and the DTV medium.

Part III also discusses the need for established digital fair-use rights by explaining shortcomings of current law and suggesting consistent solutions. This final section builds upon concepts articulated by Lessig and others that DRM technologies control behavior and, in effect, act as law through underlying software code embedded in the protection of intellectual property.³⁰ The article concludes that it is imperative that *Sony-Betamax* be revisited or new legislation be drafted to maintain consumer flexibility in the face of rigid DRM copy-protection controls like the Broadcast Flag.

II. THE BROADCAST FLAG POLICY

The Broadcast Flag is a hardware and software technology designed by the Advanced Television Systems Committee ("ATSC") and adopted by the

³⁰ See Lessig, *supra* note 29 at 128–30.

FCC.³¹ The Broadcast Flag requires hardware manufacturers to embed FCC-approved copy protection in all DTV receivers and related products.³² Compatible copy protection schemes must be capable of receiving broadcasted “flags,” or signals instructing receivers on whether or not to restrict the content.³³ In particular, this method aims to disable online redistribution of high-quality HDTV media.

The Broadcast Flag is a form of DRM that prevents the redistribution of copyright-protected media.³⁴ DRM is code designed to protect digital content through encryption and permission-based controls. The code can take the form of stand-alone software or be embedded in hardware. Two primary ways to mandate DRM are “through standard-setting processes or through legislation.”³⁵ Examples of the “standard-setting processes” occur in the private sector, whether by an individual programmer or an industry organization. DRM technologies are usually created by private software consortia or corporations and not through democratic statutory channels,³⁶ however, federal mandates, like the Broadcast Flag, also occur.

As a DRM technology, the Broadcast Flag centralizes control of valued digital content, potentially altering and eliminating consumer fair-use rights to use copyright-protected material for non-infringing purposes. The issue is complex because technical changes and legal challenges affect the abilities of consumers to record, manipulate, and distribute video content with the freedom available under the analog regime. In this section, the Broadcast Flag will be defined as a technology that exists within a broader DRM world. The background, rationales, and specifications of the FCC’s approved Broadcast Flag will be presented. Many of the consumer-related fair-use concerns that exist under the FCC-approved Broadcast Flag will also be reviewed.

³¹ See Numbers, *supra* note 25 at 442.

³² *Broadcast Flag R&O*, *supra* note 11, at 23550–51.

³³ *Technology and Certification R&O*, *supra* note 12 at 15878 .

³⁴ Jeff Howe, *Licensed to Bill*, WIRED, Oct. 2001, at 140, available at <http://www.wired.com/wired/archive/9.10/drm.html> (last accessed Mar. 25, 2007).

³⁵ Pamela Samuelson, *DRM and, or, vs. the Law*, COMM. ACM, April 2003, at 41, 41.

³⁶ *Id.* at 42.

A. Broadcast Flag Background and Policy Rationales

The Broadcast Flag debate illustrates one of many policy concerns related to the DTV transition.³⁷ DTV is an important new medium for high-quality digital content. DTV technology allows for high-definition, better-than-DVD-quality programming to be broadcast directly into living rooms throughout America.³⁸ The DTV transition is mandatory for broadcast stations,³⁹ thus putting consumers and content producers in a unique situation in which neither group can operate under the existing analog distribution model. Broadcasters must fulfill the transition and relinquish their use of the analog spectrum by 2009.⁴⁰ The deadline, which has been pushed back from previous mandates, will require the FCC to auction off the analog spectrum by early 2008.⁴¹

The dynamism of DTV is found in the ability of broadcasters to efficiently utilize airwaves to deliver more high-quality videos and engage in more multicasting. As opposed to the one-format analog NTSC standard, four commonly used DTV formats currently exist,⁴² allowing broadcasters flexibility in the allocation of their 6-MHz channel. Multicasting enables broadcasters to use the same amount of bandwidth currently used by one analog channel to air up to

³⁷ One issue concerning the DTV transition resides with the digital must-carry rules. Under the must-carry rules, the FCC ruled that local broadcast stations may only have either their analog or digital signal carried during the transition and may only have one primary video signal carried after the transition, even if the station is multicasting several programs simultaneously. See *In re Carriage of Digital Television Broad. Signals*, 20 F.C.C.R. 4516, 4537 (2005). Congress passed a law that establishes \$40 vouchers that households may use to help purchase a digital tuner box that may be plugged into their analog sets to receive DTV signals. See *Digital Television Transition and Public Safety Act of 2005*, Pub. L. No. 109-171, § 3005, 120 Stat. 4, 23 (2006). The FCC mandated that all new digital television sets be equipped with over the air tuners by March 2007. See *In re Requirements for Digital Television Receiving Capability*, 20 F.C.C.R. 18,607, 18,615 (2005). The FCC also adopted standards to develop digital cable ready DTV sets. See *In re Implementation of § 304 of the Telecommunications Act of 1996*, 18 F.C.C.R. 20885, 20892–99 (2003).

³⁸ ATSC General Consumer FAQ, http://www.atsc.org/faq/faq_general.html#What%20is%20HDTV (last visited Jan. 31, 2007).

³⁹ Grant Gross, *Digital TV Switch Nears a Date*, PCWORLD, Nov. 7, 2005, <http://www.pcmworld.com/news/article/0,aid,123440,00.asp> (last visited Jan. 31, 2007).

⁴⁰ See *Digital Television Transmission and Public Safety Act of 2005*, Pub. L. No. 109-171, § 3002, 120 Stat. 21 (2006); Grant Gross, *Digital TV Transition Date Approved*, PCWORLD, Feb. 2, 2006, <http://www.pcmworld.com/news/article/0,aid,124598,00.asp> (last visited Jan. 31, 2007).

⁴¹ See Gross, *supra* note 40.

⁴² Fed. Comm'ns Comm'n, *DTV—What Every Consumer Should Know*, at 6, http://www.dtv.gov/DTV_booklet.pdf (last visited Jan. 31, 2007).

four channels.⁴³ Thus, a broadcaster can be a multifaceted content provider with sports, weather, entertainment, and news channels if they so choose.⁴⁴ Many broadcasters see this as a way of recouping revenue to pay for the costly DTV transition.⁴⁵

The flexibility of the digital broadcast spectrum increases broadcasters' needs for quality television content, but content providers have threatened to withhold high-value content like blockbuster films if digital broadcasters do not guarantee assurances against piracy.⁴⁶ The MPAA and others have lobbied Congress and the FCC to require DRM in all DTV receivers.⁴⁷

The primary point of contention surrounding DTV content is the carbon-copy nature of the technology. Digital broadcasts transmit exact copies of source content, unlike the imperfect, reduced reproductions created through long-reining analog methods.⁴⁸ Thus, Hollywood has come to fear the possibility of end-users utilizing digital video recorders ("DVRs") or other digital recording devices to produce carbon copies of over-the-air content that could then be redistributed over the Internet via file-sharing software.⁴⁹ These concerns were specifically focused on the prospect of airing high-definition quality movies and other valuable content over free digital broadcast signals.⁵⁰ The paranoia was well founded, evidenced by the music industry's ongoing battle to curtail piracy via P2P networks.⁵¹

Companies' failures to develop their own secure digital music file format flooded the internet with unencrypted open-source MP3s, thus bypassing the record industry. The music industry now estimates that 85 million songs are

⁴³ *Id.* at 11.

⁴⁴ Paul Davidson, *Local Stations Multicast Multishows*, USA TODAY, Jan. 29, 2004, at 4B, available at 2004 WLNR 6247227.

⁴⁵ *Id.*

⁴⁶ Lyman, *supra* note 10.

⁴⁷ Jonathan Krim, *FCC Targets Copying of Digital TV; Hollywood Backs Rule That May Irritate Viewers*, WASH. POST, Oct. 16, 2003, at E01.

⁴⁸ See Marshall Brain, *How Digital Television Works*, HOWSTUFFWORKS, <http://electronics.howstuffworks.com/dtv2.htm> (last visited Jan 31, 2007).

⁴⁹ Jim Hu, *Hollywood Sets Stage for Piracy Battle with TV Industry*, CNET NEWS.COM, Aug. 7, 2002, http://att.com.com/Lights,+camera,+legislation/2009-1023_3-948672.html (last visited Jan. 31, 2007).

⁵⁰ *Id.*

⁵¹ Frank Aherns, *File-Swap Sites Not Infringing, Judge Says; Firms Held Blameless For Copyright Violations*, WASH. POST, Apr. 26, 2003, at E01.

transferred from computer to computer every day.⁵² The advent of file-sharing software pioneered by Shawn Fanning's Napster led to an explosion in P2P networks.⁵³ Software—such as Morpheus, Kazaa and Grokster—went beyond music sharing and allowed for video and other media to be swapped.⁵⁴ Wary of this problem, DTV content-providers are relentless in their pursuit of a DRM solution for DTV.

Much of the copyright-protected video content exchanged over the Internet today was originally filmed in analog, then digitized for distribution purposes.⁵⁵ Compared to DTV, traditional analog television broadcasts send sub-par quality video into homes, and consumers must purchase DVDs to watch high-value content. In comparison, digital broadcast television enables HDTV to be streamed into homes for free.⁵⁶ The 19.39-Mbps signal received in homes is a virtual copy of the original because of its binary makeup.⁵⁷ HDTV is created in pure digital form and provides twice the amount of resolution as analog television, coming close to the picture quality of 35mm film.⁵⁸ HDTV offers an expanded-picture aspect ratio to 16x9 compared to the 4x3 used for standard-definition. Even though the HDTV content requires more bandwidth than DVD-quality video, broadband speeds are rapidly increasing.⁵⁹ Thus, bandwidth alone cannot prevent copyright infringement over the Internet. Approximately a third of Americans now have broadband connections,⁶⁰ and in some countries,

⁵² Phil Kloer, *Internet Music Case to Apply on Grand Scale*, ATLANTA J.-CONST., Mar. 27, 2005, at 1E.

⁵³ Symposium, *Can Our Current Concept of Copyright Law Survive the Internet Age?*, 46 N.Y.L. SCH. L. REV. 63, 100 (2002).

⁵⁴ Jonathan Krim, *Senator Threatens Crackdown on File-Sharing Industry*, WASH. POST, July 30, 2005 at D01.

⁵⁵ Hollywood currently films movies on celluloid film but will transition to pure digital soon. See David Lieberman, *Digital Film Revolution Poised to Start Rolling*, USA TODAY, May 18, 2005, at 1B.

⁵⁶ See MICHEL DUPANGE & PETER SEEL, *Digital Television*, in COMMUNICATION TECHNOLOGY UPDATE 50 (2006).

⁵⁷ David Sparano, *What Exactly Is 8-VSB Anyway?*, <http://www.8vsb.com/WhatExactlyIs.htm> (last visited Feb. 2, 2007).

⁵⁸ See DUPANGE & SEEL, *supra* note 56, at 50.

⁵⁹ Marguerite Reardon, *Broadband Speed War Emerges*, CNET NEWS.COM, July 1, 2005, http://news.com.com/Broadband+speed+war+emerges/2100-1034_3-5772136.html (last visited Feb. 1, 2007).

⁶⁰ John B. Horrigan, *Broadband Adoption at Home in the United States: Growing but Slowing*, PEW INTERNET & AM. LIFE PROJECT, Sept. 24, 2005, at 18 n.5, http://www.pewinternet.org/pdfs/PIP_Broadband.TPRC_Sept05.pdf (last visited Feb. 1, 2007).

such as South Korea, the rate is much higher.⁶¹ As a result, without some form of DRM, consumers with HD-quality video-recording devices may record unencrypted HDTV video for free and transfer unlimited identical copies over the Internet via P2P networks.

The digital dilemma of carbon copies proliferating online threatens next-generation home movie sales, broadcast network ratings, and television content availability.⁶² Consumers may be less likely to purchase DVDs, cable or direct broadcast satellite (“DBS”)–delivered movies when they are able to download the same quality versions for free. The currently dominant analog television system offers consumers an incentive to purchase better quality versions of content in DVD or other digital forms. Consumers continue to purchase DVDs in large volumes even though many titles are available illegally online for free.⁶³

Broadcasters are not likely to hold an audience when airing material that has already been released online and downloaded by consumers. For the same reasons, content providers currently are reluctant to give high value material to broadcasters that provide video for free. Thus, a non-DRM broadcast DTV world may lead Hollywood to offer content only to pay-services, like cable- or DBS-providers, that use encrypted signals. Such a move could threaten the viability of broadcasters that already compete vigorously with other media outlets.⁶⁴

The possibility of Hollywood withholding content from broadcasters struggling to compete with cable and satellite became the central catalyst for the Broadcast Flag lobbying campaign. The movie industry pressured the already endangered broadcasters by refusing to allow the broadcast of high-value content, such as motion pictures, if digital copyright protection measures were not implemented.⁶⁵ Broadcasters appealed first to Congress,⁶⁶ and eventually to the

⁶¹ Steve Alexander, *Broadband's Terrific, but Take Broader View*, STAR TRIB., Oct. 20, 2005, at 17A.

⁶² Carolyn Lochhead, *Silicon Valley Dream, Hollywood Nightmare: Technology, Copyright Law Clash in Congress, Courts*, S.F. CHRON., Sept. 24, 2002, at A1.

⁶³ Tim Burt et al., *Format Wars: Why Film and Television May Stream Out of the Entertainment Industry's Control*, FIN. TIMES, Mar. 3, 2005, at 17.

⁶⁴ Paul R. La Monica, *CBS: Cheap Broadcasting Stock*, CNNMONEY.COM, May 31, 2006, <http://money.cnn.com/2006/05/31/commentary/mediabiz/index.htm> (citing CBS's many competitive media markets) (last visited Feb. 1, 2007).

⁶⁵ Carolyn Lochhead, *Draft Bill in Congress Paves Way for TV's Digital Era*, S.F. CHRON., Sept. 26, 2002, at A6.

FCC, to require DTV hardware manufactures to embed computer chips capable of decoding so-called Broadcast Flag signals in their products. The November 2003 report and order by the FCC mandated that every DTV receiver manufactured after July 1, 2005, include a Broadcast Flag chip.⁶⁷ The mandate allowed broadcasters to regulate consumer home recording capabilities by potentially restricting home recording quality to close-to-analog resolutions.⁶⁸

The transition to DTV has not fulfilled its original benchmark dates for completion.⁶⁹ The government has complained about the slow transition, and broadcasters have replied that a Broadcast Flag is necessary to encourage consumers to invest in DTVs.⁷⁰ Hollywood is reluctant to offer high-quality content without DRM, and consumers will likely need an incentive like HDTV programming to make the change. Yet countries like Germany have already made the transition without DRM.⁷¹ The eventual reallocation of the analog television spectrum for use by emergency transponders is increasingly urgent—particularly after the now decommissioned 9/11 Commission scolded the U.S. government for failing to expedite the process.⁷² Members of Congress are also eager to free up the analog spectrum because of the billions of dollars at stake in auctioning the radio waves to new tenants.⁷³ In particular, broadband and cellular services are expected to fill the spectrum vacuum left in the wake of the DTV transition.⁷⁴

B. FCC-Approved Broadcast Flag

The FCC was not the first governmental body that lobbied to mandate the ATSC Flag. The MPAA and other groups initially attempted to sway Con-

⁶⁶ Consumer Broadband and Digital Television Promotion Act of 2002, S. 2048, 107th Cong. § 2 (2002); *see also* Jan Ozer, *It's Our Problem; The Moving Picture*, EMEDIA MAGAZINE, July 1, 2002 at 55.

⁶⁷ *Broadcast Flag R&O*, *supra* note 11, at 23576.

⁶⁸ *Id.* at 23558.

⁶⁹ Rob Pegoraro, *Bright and Clear Digitally - Over the Air*, WASH. POST, Jan. 15, 2006, at F07.

⁷⁰ Mike Snider, *A Defining Moment for TV*, USA TODAY, Jan. 7, 2003, at 1D.

⁷¹ Summary on *Telecommunications: German DTV Transition Differs from U.S. Transition in Many Respects, but Certain Key Challenges Are Similar*, July 21, 2004, <http://www.gao.gov/docblite/details.php?rptno=GAO-04-926T> (last visited Feb. 1, 2007).

⁷² Ellen McCarthy, *Turning a New Page at Homeland Security*, WASH. POST, Dec. 8, 2005, at D5.

⁷³ Jonathan Krim, *FCC Targets Copying of Digital TV: Hollywood Backs Rule That May Irk Viewers*, WASH. POST, Oct. 16, 2003, at E01.

⁷⁴ *Id.*

gress to implement a DRM scheme for DTV.⁷⁵ There was no consensus, however, on the necessity or the true advantage of the Broadcast Flag. Senator Ernest “Fritz” Hollings, who unsuccessfully championed the Consumer Broadband and DTV Act⁷⁶ in Congress, called on the FCC to act. The FCC interpreted its Congressionally-delegated powers to facilitate the DTV transition and bypassed the need for a bipartisan vote.

Once the DRM scheme was under consideration by the FCC, Congresswoman Zoe Lofgren (Dem-CA) compared the policy to state control of media under the communist regime of the former Soviet Union.⁷⁷ Groups petitioning the Broadcast Flag mandate, such as the American Library Association, argued that the FCC had no authority to mandate a device that affected consumer fair-use rights.⁷⁸ The FCC and its proponents claimed that its Broadcast Flag regulatory authority was derived from § 336 of the Communications Act as well as Congress’s instructions to the FCC to facilitate the DTV transition.⁷⁹ The FCC Broadcast Flag Report and Order cites 47 U.S.C. §§ 151, 307(b) to note its responsibility to maintain a broadcast system that is “fair, efficient and equitable basis in communities throughout the United States.”⁸⁰

The FCC denies the existence of a possible incompatibility between the Broadcast Flag and current copyright law when it states that the rule conflicts with no current rules or laws.⁸¹ However, in the *Sony-Betamax* case, Justice Stevens cites Article I, § 8, of the Constitution to note Congress’s unique authority over copyright law.⁸² Though the Broadcast Flag scheme limits consumer control of recording, the FCC states that the “decision is not intended to alter the defenses and penalties applicable in cases of copyright infringement, circumvention, or other applicable laws.”⁸³

⁷⁵ See Mike Snider, *A Debate on the Rules of Digital Recording*, USA TODAY, April 16, 2002 at D6.

⁷⁶ See Consumer Broadband and Digital Television Promotion Act, S. 2048, 107th Cong. (2002); see also Jan Ozer, *It’s Our Problem; The Moving Picture*, EMEDIA MAGAZINE, July 1, 2002 at 55.

⁷⁷ 150 Cong. Rec. H6624 (daily edition July 22, 2004) (statement of Rep. Zoe Lofgreen) (“[t]he FCC’s plan sounds a little like the old Soviet Union”).

⁷⁸ Reply Brief of Petitioners at 19–24, *Am. Library Assn. v. FCC*, No. 04-1037 (D.C. Cir. 2004).

⁷⁹ Broadcast Flag R&O, *supra* note 11, at 23562.

⁸⁰ *Id.* at 23564.

⁸¹ Digital Broadcast Copy Protection, 67 Fed. Reg. 53903 (proposed Aug. 20, 2002) (to be codified at 47 C.F.R. pt. 73 and 76) [hereinafter Broadcast Flag NPRM].

⁸² *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 428–29 (1984).

⁸³ Broadcast Flag R&O, *supra* note 11, at 23555.

The FCC did not ignore the topic of consumer functionality in its decision making process, though one could conceivably argue that the Broadcast Flag system will not allow the full “use and enjoyment of DTV broadcast content,” that the FCC purports to defend.⁸⁴ In spite of this, one of the approved Broadcast Flag schemes, compliant with Covered Demodulator Products regulation, severely limits the resolution of consumer recordings.⁸⁵ The Broadcast Flag Report and Order contradictorily states:

In light of our decision to adopt a redistribution control scheme and to avoid any confusion, we wish to reemphasize that our action herein in no way limits or prevents consumers from making copies of digital broadcast television content. Furthermore, the scope of our decision does not reach existing copyright law. The creation of a redistribution control regime establishes a technical protection measure that broadcasters may use to protect content.⁸⁶

As the technology provides permanent copy and redistribution protection over embedded content, the Broadcast Flag is not explicitly compliant with the limited-time restriction on the duration of copyrights, and the FCC report and order fails to address the topic.⁸⁷

The technology behind the Broadcast Flag is comprised of both hardware and software in order to accomplish its goal of protecting high value content from piracy. Under the previous mandate, all hardware manufacturers were required to include an FCC-approved Broadcast Flag decoder chip in all DTV-related devices.⁸⁸ Thirteen DRM technologies were approved by the FCC when the mandate was still in place.⁸⁹ The DRM restrictions created by manufacturers could be turned on or off at the will of broadcasters, with the use of an embedded 16-bit “flag” in their DTV signals.⁹⁰

Broadcast Flag restrictions can vary widely, but are able to restrict the quality of consumer recordings to 720 x 480—hardly more than the status quo analog resolution.⁹¹ Despite the potential for low-resolution recordings, none of the currently approved FCC formats deprive users of high-resolution content—

⁸⁴ See *id.* at 23576.

⁸⁵ *Id.* at 23565, 23581 (noting that unencrypted output to an analog device must be restricted to 720 x 480 pixels).

⁸⁶ *Id.* at 23555.

⁸⁷ See Numbers, *supra* note 25, at 457.

⁸⁸ Broadcast Flag R&O, *supra* note 11, at 23576.

⁸⁹ Broadcast Flag Technology and Certification R&O, *supra* note 12, at 15878.

⁹⁰ Jim Burger, *Why the Broadcast Flag Won't Work*, NEWS.COM, May 26, 2005, http://news.com.com/Why+the+broadcast+flag+wont+work/2010-1071_3-5720006.html (last visited Jan. 28, 2007).

⁹¹ See *supra* note 85 and accompanying text.

at least not in cases in which hardware and software compliant with the specific DRM method is used.⁹² Broadcast Flag compliance is dependent upon the FCC robustness rules, as outlined in 47 C.F.R. § 73.9007, which specify that technologies “cannot be defeated or circumvented merely by an ordinary user using generally-available tools or equipment.”⁹³ Furthermore, companies creating technologies for public use must develop an indiscriminate licensing scheme.⁹⁴

C. Broadcast Flag Policy Concerns

In May 2005, the court overturned the FCC Broadcast Flag mandate on the grounds that the FCC lacked authority; yet, the issue is still very much alive.⁹⁵ The Commission did not appeal the ruling, but Congress is circulating proposed legislation to give the agency legal authority to re-implement the order.⁹⁶ While the FCC-approved Broadcast Flag awaits passage in Congress, a number of outstanding policy concerns that directly affect the Broadcast Flag’s effectiveness as well as the ability for consumers to engage in traditional fair use behaviors have yet to be addressed.

Opponents to the Broadcast Flag contend that the encryption method is weak because digital broadcasts remain unencrypted under the regime.⁹⁷ Although bypassing the Broadcast Flag would be punishable under copyright law, critics still contend that the 16-bit instructional code is vulnerable to software decoding.⁹⁸ Also, devices created prior to a Broadcast Flag mandate will continue to function freely and distribute video at will.⁹⁹

Current analog-input-based digital recorders, such as TiVo or computer TV cards, would continue to function and record properly under the Broadcast Flag regime.¹⁰⁰ Critics note that this creates an “analog loophole” that allows users to record content on analog devices and then re-digitize them for portabil-

⁹² Telephone Interview with Natalie G. Roisman, Attorney Advisor, Media Bureau, FCC (Dec. 2, 2005).

⁹³ 47 C.F.R. § 73.9007 (2005).

⁹⁴ Broadcast Flag R&O, 18 F.C.C.R 23,574, 23,575 (2003).

⁹⁵ *Am. Library Ass’n*, 406 F.3d at 708.

⁹⁶ Communications, Consumer’s Choice, and Broadband Deployment Act of 2006, *supra* note 19, at § 452(342).

⁹⁷ *See* Burger, *supra* note 90.

⁹⁸ *Id.*

⁹⁹ *See* CENTER FOR DEMOCRACY AND TECHNOLOGY, *supra* note 8 at 31–32.

¹⁰⁰ Cory Doctorow, Electronic Frontier Foundation, *Consensus at Lawyerpoint: Hollywood Wants to Plug the “Analog Hole”*, May 23, 2002, <http://bpdg.blogs.eff.org/archives/000113.html>.

ity to transfer over the Internet,¹⁰¹ however, analog devices are not capable of recording the highest quality version of high-definition television (1080p).¹⁰² Additionally, no guarantee of backwards compatibility exists, meaning that a recording from a Broadcast Flag compliant PVR or DVD recorder may not work on a pre-Broadcast Flag device.¹⁰³

Comments filed by the Veridian Corporation in response to the Broadcast Flag report and order identify a loophole in the Broadcast Flag scheme that allows users of DVRs with analog inputs to make analog recordings of the digital transmission and then to re-digitize them for high-quality redistribution.¹⁰⁴ One popular method of output is through S-video, which follows the SVGA specification for 800 x 600 pixel resolution¹⁰⁵ and only 425 lines of resolution, compared with HDTV which ranges from 720 to 1080 lines.¹⁰⁶ The most threatening and highest definition analog output, however, is through component outputs, available on most HDTVs and many DVRs. Component outputs are unencrypted and allow for 720p and 1080i to be transmitted without quality loss.¹⁰⁷ In early testimony, the MPAA suggested that users wanting to make portable fair use copies of HDTV content could use such analog outputs to do so,¹⁰⁸ but, the MPAA actually supports closing the “analog hole” that would make possible such freedom.¹⁰⁹

Some critics claim that the analog hole is evidence of the Broadcast Flag’s failure to prevent redistribution.¹¹⁰ A consumer can technically export video from a DTV via analog cables to a recording device, such as a TiVo or a

¹⁰¹ See Numbers, *supra* note 25, at 444.

¹⁰² See Jeffrey Krauss, *Here Comes 1080p—Maybe*, COMMUNICATIONS ENGINEERING & DESIGN, Dec. 1, 2005, at 58.

¹⁰³ Rodolfo La Maestra, *Analysis of DTV Content Protection Rulings and Agreements*, HDTV MAGAZINE, Feb. 9, 2006, available at http://www.hdtvmagazine.com/articles/2006/02/analysis_of_dtv_content_protection_rulings_and_agreements.php (last visited Jan. 28, 2007).

¹⁰⁴ Broadcast Flag R&O, *supra* note 11, 23557–58.

¹⁰⁵ See, e.g., Robert L. Myers, DISPLAY INTERFACES: FUNDAMENTALS AND STANDARDS 186 (2002) (describing SVGA specifications).

¹⁰⁶ Joshua Schwartz, *Thinking Outside the Pandora’s Box: Why the DMCA is Unconstitutional Under Article I, § 8 of the U.S. Constitution*, 10 J. TECH. L. & POL’Y 93, 133 (2005); see also DUPANGE & SEEL, *supra* note 56, at 53.

¹⁰⁷ See Broadcast Flag R&O, *supra* note 11, at 23557–58.

¹⁰⁸ See Crawford, *supra* note 26, at 618–19.

¹⁰⁹ Mark Hackman, *Next Gen “Analog Hole” Legislation Proposed*, EXTREMEDRM.COM, Nov. 2, 2005, http://www.extremedrm.com/article/NextGen+Analog+Hole+Legislation+Proposed/164220_1.aspx (last visited Jan. 28, 2007).

¹¹⁰ See Kaplan, *supra* note 26 at 331–32.

PC TV card, which then re-digitizes the content. The content, though much lower in quality than HDTV, can then theoretically be shared over the Internet. This low-resolution portability, however, may limit consumer choice and digital fair-use rights.

In light of the potential threat, the FCC has called for broadcast, cable, and satellite operators to resolve the common “analog hole” threat.¹¹¹ The Analog Reconversion Discussion Group (“ARDG”) has proposed analog encryption standards similar to the Broadcast Flag that would thwart this controversy.¹¹² In response, the Electronic Freedom Frontier (“EFF”) argued that closing the hole would further take away analog fair-use rights already protected by *Sony-Betamax*.¹¹³ Legislation to close the analog hole has been introduced in Congress but thus far has not been passed.¹¹⁴

Another policy concern resides in the Broadcast Flag’s lack of interoperability among various DRM standards. The FCC has approved 13 Broadcast Flag-compliant formats from nine different companies.¹¹⁵ While some of the formats are compatible, others are not.¹¹⁶ This inconsistency permits consumer-device incompatibilities that inhibit the exercise of fair-use behavior. A DTV recorder might use the Helix DRM Trusted Recorder format, but a personal media player could use the Sony MagicGate Type-R format, preventing the devices to interchange full-quality video. Thus, if the Broadcast Flag is implemented, behavior analogous to ripping a CD to an MP3 player might be practically impossible when using high definition video.

Through Broadcast Flag restrictions users may not transfer recordings to other digital devices like portable media players or computers unless they use the same DRM method.¹¹⁷ Without open-source, unencrypted video, consumers must own compatible products. Currently, unencrypted digital video recordings can be manipulated at will and played on different devices no matter what the

¹¹¹ Broadcast Flag R&O, *supra* note 11, at 23553–59.

¹¹² See Seth Schoen, Electronic Frontier Foundation, *Analog Reconversion Discussion Group: General Comments of the Electronic Frontier Foundation*, at 3 (2003), available at http://www.eff.org/IP/Video/ardg_eff_comments.php (last visited Jan. 28, 2007).

¹¹³ *Id.* at 2.

¹¹⁴ See Digital Television Content Protection Act, H.R. 4569, 109th Cong. (2005).

¹¹⁵ Broadcast Flag Technology and Certification R&O, *supra* note 12 at 15878–79 (See *infra* Appendix A for full list).

¹¹⁶ Broadcast Flag Technology and Certification R&O, *supra* note 12, at 15913–14.

¹¹⁷ See Crawford, *supra* note 26, at 613.

brand.¹¹⁸ One Broadcast Flag-approved method is the Sony MagicGate DRM for its MemoryStick medium. While MemorySticks are used in many Sony brand electronics, they often are not used with MP3 and video players from other manufacturers. As a result, consumers will likely be fragmented under the Broadcast Flag unless they are readily aware of issues involving DRM compatibility.

Another potential drawback of the Broadcast Flag policy is its threat to innovations that depend on redistribution abilities. Certain consumer uses, such as the rebroadcast of HDTV programming over the Internet for personal or educational uses, will be effectively prevented. Current consumer products like Slingbox, which retransmits video from a television set over the Internet for space-shifting purposes,¹¹⁹ will not operate under the Broadcast Flag regime because the technology does not use Broadcast Flag-compliant DRM standards.

The popular DVR TiVo received FCC broadcast flag approval in 2004 for its TiVoGaurd technology that allows customers to record and swap shows via the Internet to up to ten other customers with the same user account.¹²⁰ Other methods, such as Sony's MagicGate, allow for recorded content to go portable with compatible products.¹²¹ None of these formats utilize open source code, because doing so would trump the purpose of encrypting content. As a result, DTV technology innovators will be required either to license existing Broadcast Flag DRM technologies when creating new devices or invent their own DRM, subject to FCC approval. The FCC approval process is ambiguous, however, as DRM creators are required merely to follow established robustness rules, which require technologies to sufficiently protect content and not overly restrict consumer uses.¹²² Under the proposed Broadcast Flag regime, Linux and other open-source users are virtually eliminated from technological innovations protected by DRM because of the circumvention required for interoperability.

The FCC Plug and Play Report & Order outlines issues specific to creating digital cable ready standards that may allow consumers to simply plug a cable in the back of a new DTV set between instead of requiring a digital set-top

¹¹⁸ Declan McCullagh, *Are PCs Next in Hollywood Piracy Battle?*, CNET NEWS.COM, Nov. 5, 2003, at http://news.com.com/Are+PCs+next+in+Hollywood+piracy+battle/2100-1028_3-5103305.html (last visited Jan. 28, 2007).

¹¹⁹ David Colker, *Technopolis; Bringing Your TV Signal Along*, L.A. TIMES, Aug. 14, 2005, at C2.

¹²⁰ Broadcast Flag Technology and Certification R&O, *supra* note 12, at 15885–86.

¹²¹ *Id.* at 15892.

¹²² 47 C.F.R. § 73.9007.

box.¹²³ Then FCC Commissioner, Michael Powell, made reference to the Broadcast Flag in approving the Plug and Play rules, stating “consumers and content owners will retain all of their existing rights and remedies under copyright law.”¹²⁴ While it is true that the Broadcast Flag mandate itself does not change the law de jure, it most certainly changes the de facto reality of consumer rights. Political expression via the Internet has become commonplace through the creation and sharing of videos strung together from fair-use clips of copyrighted materials.¹²⁵ Thus, with more restrictions on the ability to transfer even small video clips from televisions to computers, a fair use chilling effect may occur.

Consumers have enjoyed making home recordings of television content since the advent of the Sony Betamax video tape recorder in 1976. The right to video tape broadcast television was upheld in 1984 as lawful under the copyright fair use doctrine,¹²⁶ and products for personal recording and viewing have since evolved.¹²⁷ Hard-drive based DVRs like ReplayTV and, more commonly, TiVo provide options for consumers to digitally record analog and DTV shows.¹²⁸ These options are popular, and more than three million people currently subscribe to TiVo.¹²⁹

Home recordings are often used for “timeshifting,” the process of watching a television program at a different time than its original broadcast.¹³⁰ Current technologies allow consumers to also engage in space shifting, which allows contents to be enjoyed on different media.¹³¹ Such methods are increas-

¹²³ See *Compatibility Between Cable Systems and Consumer Electronic Devices*, 18 F.C.C.R. 20885 (2003) [hereinafter *Plug n' Play Report*].

¹²⁴ See *FCC Eases Digital Television Transition for Consumers; Competition, Convenience and Simplicity Cited as Key Goals of the “Plug and Play” Rules*, 2003 FCC LEXIS 4913, 10–11 (2003).

¹²⁵ See Michael Geist, *Clip Culture on the Rise: Online Video-Sharing Competes with On-Demand, Converged Internet*, OTTAWA CITIZEN, Mar. 23, 2006, at F6.

¹²⁶ *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 442 (1984).

¹²⁷ See Diane Werts, *Unglued from the Tube: The Changing Ways we Watch TV*, NEWSDAY, May 1, 2006, at B25 (discussing the emergence of DVRs, recordable DVDs, Video on Demand, Video iPods and Internet streaming).

¹²⁸ Gail Pennington, *DV Revolution*, ST. LOUIS POST-DISPATCH, April 10, 2005, at A1.

¹²⁹ Catherine Colbert, *TiVo Inc. Information and Related Industry Information*, HOOVERS, http://www.hoovers.com/tivo/--ID__59993--/free-co-factsheet.xhtml (last visited Jan. 28, 2007).

¹³⁰ See Frank Ahrens, *With Digital Video Recorders, Viewing Times, They Are A-Changin’; DVRs Manipulate Broadcast Schedules to Fit Audience’s*, WASH. POST, May 13, 2005, at H3.

¹³¹ See Benny Evangelista, *Video to Go; Electronics Industry to Showcase Technologies that Let Consumers Watch TV Anywhere, Anytime*, S.F. CHRONICLE, Jan. 3, 2005, at F1.

ingly useful as more digital media devices utilize video playback features. TiVo recently announced the availability of a TiVoToGo service, which allows users to copy recorded content onto portable devices like video iPods.¹³² A consumer would not need to purchase an iPod-formatted television show if he or she were to record a digitally-broadcast show on a DVR and then convert it for portable use on a computer.¹³³

Senator Ted Stevens's latest Broadcast Flag proposal includes slight modifications allowing for more flexibility for small amounts of recorded digital broadcast television to be transmitted over the Internet and includes increased leeway for school and nonprofit institutions to use video as they currently do.¹³⁴ The proposal still calls for the implementation of the original FCC Broadcast Flag order, however, and does not address any of the interoperability issues associated with the FCC's robustness rules.¹³⁵

III. FAIR USE AND ANTI-CIRCUMVENTION PROVISIONS OF THE DMCA

The Broadcast Flag is an important issue not only for digital broadcast television but is also as an example of the vast DRM debate that affects everything from iPods to DVDs. DRM schemes like the Broadcast Flag are able to control behavior even when laws do not restrict behavior. The Broadcast Flag, as a content-protection scheme, finds legal solace in anti-circumvention laws like the DMCA, but the technology also limits traditional fair uses. The technical restrictions make it possible to limit the traditionally protected behavior of "time-shifting," defined as recording an item to watch it later, and to restrict commonly enjoyed digital behaviors such as "space-shifting," which is the act of transferring media from one medium to another. The legal and technological freedoms to record, manipulate, and distribute video content when using analog television will change under a Broadcast Flag regime that controls DTV. Case law articulating consumer fair-use rights for broadcast television was decided long ago, but consumer fair-use rights in the digital age seem much more uncertain without clear codification of digital time-shifting rights.

¹³² *TiVo Adds Apple iPod Support to TiVoToGo*, MACDAILYNEWS, Nov. 21, 2005, http://macdailynews.com/index.php/weblog/comments/tivo_adds_apple_ipod_support_to_tivotogo/ (last visited on Jan. 28, 2007).

¹³³ See generally Peter Rojas, *How-To: Get TV Shows off of Your TiVo and onto your iPod (with Video)*, ENGADGET, Oct. 8, 2005, <http://www.engadget.com/entry/1234000583063891/> (last visited Jan. 28, 2007).

¹³⁴ See Communications, Consumer's Choice, and Broadband Deployment Act of 2006, *supra* note 19, at §§ 452–(342)(b).

¹³⁵ *Id.*

The purpose of this section is to define copyright law relevant to the Broadcast Flag and to present court decisions that influence the interpretation of digital fair-use rights. This section will define fair use and then provide an in-depth legal analysis of *Sony-Betamax*. Next, *Davidson & Associates. v. Jung* is analyzed to expose the legal conflict between *Sony-Betamax* fair-use rights and enforcement of the anti-circumvention provision of the DMCA that prevents the by-pass of DRM technologies. Combined, the two cases provide a lens through which to analyze the interpretation of digital fair-use rights in many lower court cases. Cases meeting the aforementioned criteria are explored chronologically with emphasis on their interpretation of *Sony-Betamax* in a DMCA era to provide insight into the Broadcast Flag's compatibility with existing law.

A. Fair Use

“Fair Use” exemptions to copyright restrictions initially only existed in case law¹³⁶ and were not codified until the 1976 Copyright Act.¹³⁷ Section 107 of the Copyright Act exempts those who engage in the unauthorized duplication of copyrighted works from infringement liability with consideration of the following conditions:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.¹³⁸

Fair uses of television content are numerous, yet the Broadcast Flag can effectively prevent an end-user from producing high-resolution copies of digital content for legally acceptable purposes. Furthermore, the Broadcast Flag can serve as a technological burden on the legally-protected duplication rights of libraries. Libraries are lawfully exempt from copyright-infringement provisions when

¹³⁶ Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 549 (1985) (stating that § 107 of the Copyright Act was an attempt to codify existing case law); see also Horace G. Ball, THE LAW OF COPYRIGHT AND LITERARY PROPERTY 260 (1944) (“the author’s consent to a reasonable use of his copyrights works has always been implied by courts as a necessary incident of the constitutional policy of promoting the progress of science and useful arts”).

¹³⁷ Copyright Act of 1976, Pub. L. No. 94-553; 90 Stat. 2541, 2546 (codified as amended at 17 U.S.C. § 107).

¹³⁸ *Id.*

duplicating copyright-protected materials for archival purposes.¹³⁹ Video coverage of newsworthy events also is protected under the fair-use doctrine, allowing news organizations and producers of archival programming to use such clips without first receiving authorized consent from the copyright holder.¹⁴⁰ If activated, the Broadcast Flag challenges protected fair use activities including the practice of “time shifting.”¹⁴¹

The advent of the Sony Betamax video tape recorder for the first time allowed consumers to watch broadcast television at a later time than that of the original broadcast. Known as “time shifting,” the behavior of recording video for later viewing was upheld as a legal fair use by the Supreme Court.¹⁴²

B. Sony-Betamax Doctrine

Many of today’s copyright battles merely involve new media. The *Sony-Betamax* decision is the most relevant Supreme Court case regarding the fair-use of consumers duplicating copyrighted materials for time-shifting purposes.¹⁴³ Introduced in 1976, the Sony Betamax Video Tape Recorder (“VTR”) was functionally similar to today’s DVRs, though much less sophisticated.¹⁴⁴ The Betamax VTR, however, was still capable of recording broadcast television programs for consumers to view at later times.¹⁴⁵

At issue in the *Sony-Betamax* case was whether or not Sony engaged in secondary and vicarious copyright infringement by selling a VTR that permitted customers to record copyrighted content.¹⁴⁶ Motion picture studios were dismayed that Sony’s home recording device permitted consumers to make personal copies of broadcast television programs, including copyrighted material.¹⁴⁷ Content providers sued the technology distributor, Sony, rather than the indi-

¹³⁹ 17 U.S.C. § 108 (2006).

¹⁴⁰ Meghan Twohey, *You’ve Got Lawsuit: Father Sued for Teen’s Downloads*, MILWAUKEE J. SENTINEL, May 16, 2005, at A1.

¹⁴¹ See Numbers, *supra* note 25, at 459 (the broadcast flag only allows recordings to be made and played on broadcast flag compliant devices, many of which are incompatible with one another).

¹⁴² *Sony*, 464 U.S. at 443–47.

¹⁴³ Michael J. Madison, *A Pattern-Oriented Approach to Fair Use*, 45 WM & MARY L. REV. 1525, 1571 (2004).

¹⁴⁴ *Sony*, 464 U.S. at 421–23.

¹⁴⁵ *Id.* at 421.

¹⁴⁶ *Id.* at 420.

¹⁴⁷ *Id.* at 419–20.

viduals using the device for home recording.¹⁴⁸ Backing the content providers, the Court of Appeals for the Ninth Circuit ruled in favor of Universal City Studios and Disney World Productions.¹⁴⁹

Sony appealed to the Supreme Court.¹⁵⁰ Although the respondents sought royalties from Sony for lost revenue, the Court held that argument lacked legal merit under the 1976 Copyright Act.¹⁵¹ Though Congress had authority to expand the Copyright Act, no remedy existed for the respondents' claims.¹⁵²

While the Court reflected upon patent law and the staple article of commerce doctrine when considering contributory copyright infringement doctrine,¹⁵³ the main focus of the consumer infringement question lay in the fair-use section of the 1976 Copyright Act.¹⁵⁴ According to the Court, anyone "who makes a fair use of the work is not an infringer of the copyright with respect to such use."¹⁵⁵ Thus, an unauthorized use of a copyrighted work must fall under fair use exemptions to evade copyright infringement liability. When interpreting the four statutory elements of fair use, the Court cited reports from both the House and Senate, which argued that no "rigid, bright-line approach to fair use" existed.¹⁵⁶ Thus, the Court used an "equitable rule of reason" analysis to answer the question of whether or not consumers violated copyright law when engaging in home recording of broadcast television.¹⁵⁷ Congress left the Court with the responsibility to weigh economic factors due to the broad nature of the fair use doctrine.¹⁵⁸ The Court held that non-commercial use of consumer recording behavior was presumed fair unless proven otherwise in the Court's analysis.¹⁵⁹

Guided by Congress, the Court next analyzed the economic arguments in Universal's claims.¹⁶⁰ The Court determined that consumers engaging in home recording for personal use inflicted no significant damage to Universal.¹⁶¹

¹⁴⁸ *Id.* at 420.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.* at 421.

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *Id.* at 429, 442.

¹⁵⁴ *Id.* at 433.

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* at 450, n.31.

¹⁵⁷ *Id.* at 448.

¹⁵⁸ *Id.* at 448–49.

¹⁵⁹ *Id.* at 449.

¹⁶⁰ *Id.* at 451–52.

¹⁶¹ *Id.* at 451.

First, the Court assumed that broadcast airwaves belong to the public, not to the respondents.¹⁶² Justice Stevens, who wrote the *Sony-Betamax* majority opinion, noted that customers use VTRs for “time-shifting” purposes, a common practice for consumers wishing to watch content at a time different than that of the original broadcast.¹⁶³ Additionally, time-shifting “enlarges the television viewing audience.”¹⁶⁴ Based on arguments presented before the Court, Stevens wrote that the practice was not objectionable to most affected copyright holders and that petitioners, Universal City Studios and Walt Disney Productions, did not prove that the action was harmful to their revenues.¹⁶⁵

When analyzing the merits of the technology, the Court noted that the Sony Betamax enabled consumers to view one television program while recording another.¹⁶⁶ The Court paid attention to survey data compiled by both Sony and the content providers which showed similar trends in Betamax user habits.¹⁶⁷ Stevens noted that most survey respondents claimed to use the Betamax for time-shifting purposes.¹⁶⁸ Though the *Sony-Betamax* case did not center on individual copyright infringement, the Court necessitated analysis of the topic to determine the validity of the respondents’ arguments.¹⁶⁹ With regard to consumer home-recording habits, the Court held that “unauthorized uses of a copyrighted work are not necessarily infringing.”¹⁷⁰

A distinguishing factor that sets recording of broadcast television apart from other unauthorized duplication is that “time-shifting merely enables a viewer to see such a work which he had been invited to witness in its entirety free of charge.”¹⁷¹ The Court, in fact, found the expansion of broadcast viewership to be of public value.¹⁷² Similarly, years prior to *Sony-Betamax*, in the 1940s, the FCC initially authorized cable to expand the reach of broadcast tele-

¹⁶² *Id.* at 419–20.

¹⁶³ *Id.* at 421.

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *Id.* at 422.

¹⁶⁷ *Id.* at 423.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* at 434–35.

¹⁷⁰ *Id.* at 447.

¹⁷¹ *Id.* at 449.

¹⁷² *Id.* at 454.

vision into rural communities.¹⁷³ Copyrighted content, thus, was retransmitted without individual permission to increase viewership.

Although broadcasters were dependent upon advertising revenue determined by a market-share ratings system, the Court found no evidence that ratings would be adversely affected by consumer home recording.¹⁷⁴ The Court instead held that, if anything, advertising viewership would increase because of increased audience size.¹⁷⁵ Today's television environment is much different than that of 1984, particularly with the advent of commercial-skipping digital video recorders.¹⁷⁶

For distributors to escape copyright infringement liability the Court held that a technology "need merely be capable of substantial non-infringing uses."¹⁷⁷ The Opinion also stated that "unauthorized uses of a copyrighted work are not necessarily infringing."¹⁷⁸ The Court identified the four prongs of fair use and interpreted their definitions to include legal uses of the new technology.¹⁷⁹ In considering time-shifting as a fair use,¹⁸⁰ Justice Stevens remarked that the Court had historically been reluctant to expand copyright law because of Congress's constitutional capacity to do so.¹⁸¹ He concluded, however, that Congress had not specified legislative intent for the time-shifting technology.¹⁸² The Court reversed the Ninth Circuit Court of Appeals ruling and sided with Sony in a five-to-four decision.¹⁸³

The Court placed on the complainant the burden to prove that consumer creation of non-commercial, unauthorized copies of copyrighted works was harmful or could have an adverse effect on the market for the copyrighted work.¹⁸⁴ This tenant is central to current broadcasters' arguments against unrestricted HDTV home recordings that enable consumers to produce perfect cop-

¹⁷³ Fed. Comm'n Comm'n, *General Cable Television Industry and Regulation Information Fact Sheet*, <http://www.fcc.gov/mb/facts/csgen.html> (last visited on Mar. 4, 2006).

¹⁷⁴ *Sony*, 464 U.S. at 452–55.

¹⁷⁵ *Id.* at 454.

¹⁷⁶ Frank Ahrens, With *Digital Video Recorders, Viewing Times, They Are A-Changin'*; *DVRs Manipulate Broadcast Schedules to Fit Audience's*, WASH. POST, May 13, 2005 at H3.

¹⁷⁷ *Sony*, 464 U.S. at 442.

¹⁷⁸ *Id.* at 447.

¹⁷⁹ *Id.* at 433.

¹⁸⁰ Justice Stevens defined time-shifting as "the practice of recording a program to view it once at a later time, and thereafter erasing it." *Id.* at 423.

¹⁸¹ *Id.* at 430–31.

¹⁸² *Id.* at 431.

¹⁸³ *Id.* at 456.

¹⁸⁴ *Id.* at 451.

ies of over-the-air programming.¹⁸⁵ The *Sony-Betamax* doctrine is still the foundation for legally-protected fair-use rights of consumers to make home recordings of analog broadcast television for time-shifting purposes.¹⁸⁶

Broadcasters in the current Broadcast Flag debate, like those in *Sony-Betamax*, believe consumers will not purchase copyrighted works if they can record them for free and will not watch advertisements if they are viewing recordings. The Court deflated this argument in *Sony-Betamax* by stating that advertising revenue would not be lost because advertisements would still appear on the recorded tapes.¹⁸⁷ One point of contention in today's DVR debate centers on consumers' new-found ability to bypass commercials during the playback of digital recordings.¹⁸⁸ Sonic Blue's RePlayTV 4000 PVR generated controversy because of its advertisement-bypass feature, and 27 companies filed suit against the DVR manufacturer.¹⁸⁹ The lawsuit became moot once the company filed for bankruptcy and its successor removed the feature; thus, the conflict disappeared without being interpreted by a court.¹⁹⁰ The Broadcast Flag has the potential to make similar commercial-skipping functions unavailable on Broadcast Flag-compliant DVRs.

C. Lower Courts' Application of Space-Shifting and Time-Shifting Rights to Digital Media

Aside from the *Sony-Betamax*-protected "time-shifting" activity, consumers also engage in "space shifting" with electronic devices. "Space-shifting," the process of transferring content from one medium to another, was upheld by the Ninth Circuit Court of Appeals as a fair use in *RIAA v. Diamond Multimedia*.¹⁹¹ The 1999 case involved the Diamond Rio digital music player,

¹⁸⁵ Bill McConnel, *Broadcast Flag Gets FCC Salute*, BROADCASTING & CABLE, Oct. 6, 2003 at 26.

¹⁸⁶ See Daniel E. Abrams, Comment, *Personal Video Recorders, Emerging Technology and the Threat to Antiquate the Fair Use Doctrine*, 15 ALB. L.J. SCI. & TECH. 127, 131 (2005).

¹⁸⁷ 464 U.S. at 453 n.36 (citing *Universal City Studios, Inc. v. Sony Corp. of Am.*, 480 F. Supp. 429, 468 (C.D. Cal. 1979)).

¹⁸⁸ Christopher Saunders, *PVR Users Skip 71% of Ads*, CLICKZ INTERNET ADVERTISING NEWS, Jul. 3, 2002, available at <http://siliconvalley.internet.com/news/article.php/1380621> (last visited Mar. 29, 2005).

¹⁸⁹ Geoffrey Morrison, *SONICBlue ReplayTV RTV4000 PVR*, HOME THEATER, June, 2002, available at <http://www.hometheatermag.com/pvr/123/> (last visited on Apr. 5, 2005).

¹⁹⁰ *Paramount Pictures Corp. v. ReplayTV*, 298 F. Supp. 2d 921, 923 (C.D. Cal. 2004).

¹⁹¹ *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys. Inc.*, 180 F.3d at 1072, 1079 (9th Cir. 1999).

which allowed users to transfer and store songs from CDs onto the portable device via a computer.¹⁹² At issue was whether or not the duplicative ability of the Rio violated the 1992 Audio Home Recording Act (“AHRA”) that forbids the importation or sale of any digital audio device not employing the Serial Copy Management System (“SCMS”).¹⁹³

SCMS technology prevents digital-audio devices from making more than one exact copy of a master audio compilation.¹⁹⁴ The system was originally developed as a response to the advent of the Digital Audio Tape (“DAT”) format.¹⁹⁵ Similar to the Broadcast Flag, the SCMS was a codified DRM system.¹⁹⁶ The RIAA argued that the Rio was in violation of the law because of its failure to include SCMS.¹⁹⁷ Diamond argued that the Rio was not a digital recording device, but a hard-drive-based storage unit.¹⁹⁸

The court recognized the popularity of the MP3 file format and its easy dissemination over the Internet as a threat to the traditional music industry model.¹⁹⁹ As to the question of whether or not the Rio fell into the realm of the AHRA, the court concluded that the device was more a computer than a digital recorder.²⁰⁰ The Rio did not enable digital audio to be transferred to another device and was thus more restricting than the SCMS.²⁰¹ The court further reasoned that the Rio was consistent with the AHRA legislative history because it promoted “personal use.”²⁰² Citing *Sony*, the court described the ability of the Rio to transfer music from a computer to the portable hard-drive based unit, or “space shift.”²⁰³

Ultimately, this decision means that manufacturers of MP3 players may not be sued under the AHRA. Additionally, the *Sony-Betamax* defense provides a strong legal ground for current MP3-player manufacturers to defend the popular non-infringing uses of their devices—the most common being the playing of online music purchases and the space shifting of music from legally-purchased

¹⁹² *Id.* at 1073.

¹⁹³ 17 U.S.C. § 1002(a)(1).

¹⁹⁴ KEN C. POHLMANN, PRINCIPLE OF DIGITAL AUDIO, 220 (2005).

¹⁹⁵ *Id.*

¹⁹⁶ *RIAA*, 180 F.3d at 1079.

¹⁹⁷ *Id.* at 1075.

¹⁹⁸ *Id.* at 1078.

¹⁹⁹ *Id.* at 1073–74.

²⁰⁰ *Id.* at 1078–79.

²⁰¹ *Id.* at 1079.

²⁰² *Id.*

²⁰³ *Id.*

CDs. Although a lawsuit again could be brought forth against an MP3 player manufacturer, an anti-MP3 player ruling is unlikely particularly with the existence of DRM in most of today's MP3 players.

The RIAA ruling allowed for the continued sale of the Diamond Rio MP3 player, the first of its kind and the precursor to today's commonplace portable media players. The RIAA appealed the decision to the Supreme Court, which denied a writ of certiorari.²⁰⁴ Since then, similar devices have flourished, including portable audio and video players with input and output abilities that allow users to "space shift" beyond the Rio's realm.²⁰⁵ P2P file sharing and software suites with the specific purpose of "ripping" CDs to MP3 players continue to flourish, and online music sales are rapidly growing as a result of the portable music frenzy.²⁰⁶

In 2000, the RIAA filed a lawsuit against 18 year-old Shawn Fanning's P2P filing sharing company, Napster, for copyright infringement.²⁰⁷ The company provided an Internet file-sharing service that enabled users to exchange digital music files in the MP3 format over the Napster network.²⁰⁸ Much of the music was copyright-protected.²⁰⁹ Among other defenses, Napster argued that its users were engaged in fair-use "sampling" and "space shifting" when they downloaded copyright-protected files.²¹⁰

The Ninth Circuit Court of Appeals held that *Sony-Betamax* did not apply because Napster's users were not engaging in personal fair use.²¹¹ The court reviewed the four prongs for fair use and found Napster in violation of all of them.²¹² With regard to the character of use, the court wrote that Napster's users were exchanging for free songs that they would have otherwise paid for—a be-

²⁰⁴ *Diamond Multimedia Sys. Inc. v. Super. Ct. of Cal., Santa Clara County*, 527 U.S. 1003 (1999).

²⁰⁵ See Chris Anderson, *The Rise and Fall of the Hit*, WIRED, Jul. 2006, available at http://www.wired.com/wired/archive/14.07/longtail.html?pg=1&topic=longtail&topic_set= (last visited on Mar. 24, 2007).

²⁰⁶ *Id.*

²⁰⁷ *A&M Records v. Napster, Inc.*, 239 F.3d 1004, 1011 (9th Cir. 2001).

²⁰⁸ *Id.*

²⁰⁹ *Id.* at 1013.

²¹⁰ See *id.* at 1014 ("where users access a sound recording through the Napster system that they already own in audio CD format").

²¹¹ *Id.* at 1019.

²¹² *Id.* 1014–15 ("These factors are: (1) the purpose and character of the use; (2) the nature of the copyrighted work; (3) the 'amount and substantiality of the portion used' in relation to the work as a whole; and (4) the effect of the use upon the potential market for the work or the value of the work.").

havior from which Napster profited—thus rendering the file transfers commercial use.²¹³ For prong two, the nature of the use, the court found that the files being transferred were creative in nature and thus protected by copyright law, so that the behavior was not protected under the fair-use doctrine.²¹⁴ The court held that because Napster users exchanged songs in their entirety, the third prong of fair use—which allows for use of small segments of media—did not protect the behavior.²¹⁵ Lastly, the court concluded that Napster adversely affected CD sales and had a direct commercial impact on copyright holders' ability to earn money; thus, the final prong of fair use did not protect user behavior.²¹⁶

Napster was held liable for the same charges Sony had evaded—vicarious and contributory copyright infringement.²¹⁷ The structure of Napster's P2P network involved the company maintaining a file index on a centralized server.²¹⁸ The court held that because of this, Napster, unlike Sony, had "actual, specific knowledge of direct infringement"²¹⁹ and thus rendered "Sony's holding of limited assistance to Napster."²²⁰ While "bound to follow *Sony*,"²²¹ the court did not extend *Sony-Betamax* to protect Napster users or itself.²²² The ruling identified legal limits to the "space-shifting" concept and chastised the same style of copyright-infringing behavior the Broadcast Flag attempts to prevent.

"Space-shifting" rights first articulated in *RIAA*, and limited in *Napster*, were further explored in *RealNetworks v. Streambox*,²²³ which involved the use of a software program designed to capture and record "streaming" video from the Internet that could not otherwise be saved to one's hard drive.²²⁴ RealNetworks provided software that enabled users to view streaming video via web sites.²²⁵ Streambox manufactured software capable of recording both unprotected and copy-protected streaming video encoded in the RealNetworks for-

²¹³ *Id.*

²¹⁴ *Id.* at 1016.

²¹⁵ *Id.*

²¹⁶ *Id.*

²¹⁷ *Id.* at 1022, 1024.

²¹⁸ *Id.* at 1011.

²¹⁹ *Id.* at 1020.

²²⁰ *Id.*

²²¹ *Id.*

²²² *Id.* at 1021.

²²³ 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. 2000).

²²⁴ *Id.* at *3-4.

²²⁵ *Id.* at *3.

mat.²²⁶ RealNetworks moved for a preliminary injunction against Streambox to prevent the manufacture and sale of three software applications.²²⁷

The software in question, enabled content-providers to stream video to consumers' computers in much the same way broadcasters currently deliver content to home TV sets.²²⁸ With this software, however, the streaming-content provider could restrict the ability of the consumer to download and store the content on his or her computer or even prevent use of the fast-forward function.²²⁹ Thus, these software features make the technology strikingly similar to DTV broadcasts under the Broadcast Flag regime.

The most important of the three Streambox software offerings, was the Streambox VCR, which worked similarly to a standard VCR by capturing video that could not otherwise be saved.²³⁰ Not too dissimilar from the FCC-approved Broadcast Flag restrictions, online video providers could protect their video by streaming it from a RealServer, preventing users from capturing the content.²³¹ The Streambox VCR enabled users to bypass the restrictions and download streaming video.²³² The court drew a clear distinction between video that is exclusively streamed and that which can be downloaded, saved, and ultimately controlled by the end-user.²³³ The court did not rule on the legality of downloading unrestricted video but instead on the issues surrounding video offerings that copyright holders did not want to be downloaded.²³⁴

The court applied the *Sony-Betamax* analysis to the Streambox VCR model and distinguished it, stating that in *Sony Corp.* "substantial numbers of copyright holders who broadcast their works either had authorized or would not object to having their works time-shifted by private viewers."²³⁵ This was not the case with Streambox. Instead, copyright-holders specifically placed video content onto a RealServer, which, similar to the Broadcast Flag or restrictions currently imposed by some cable and satellite providers, controlled which content could be viewed and recorded by a consumer.²³⁶ The court held that

²²⁶ *Id.* at *10–11.

²²⁷ *Id.* at *16.

²²⁸ *Id.*

²²⁹ *Id.* at *19.

²³⁰ *Id.* at *10–11.

²³¹ *Id.* at *4–6.

²³² *Id.* at *11–12.

²³³ *Id.* at *4.

²³⁴ *Id.*

²³⁵ *Id.* at *21–22.

²³⁶ *Id.* at *11–12.

Streambox users were not exercising fair use and could likely be found liable for copyright infringement.²³⁷ The court drew another distinction between Streambox and *Sony-Betamax* because “the Sony decision did not involve interpretation of the DMCA.”²³⁸ This meant that *Sony-Betamax* could no longer be the sole basis upon which to determine the legality of a technology.²³⁹

The court granted a preliminary injunction to enjoin the distribution of two software programs, including the Streambox VCR, noting that Streambox likely violated §§ 1201 and 1202 of the DMCA.²⁴⁰ Broadcast Flag-protected broadcasts could be encrypted by DTV devices so that consumers are technologically forbidden from recording high-definition quality video or transfer recorded video to a portable media player, such as a video iPod. Under such a scenario, hardware or software devices similar to the Streambox VCR might be required to bypass Broadcast Flag restrictions and exercise commonplace “space-shifting” and “time-shifting” behaviors with high-definition video. If such a device were created, then it is likely a similar interpretation of *Sony-Betamax* and the DMCA would lead the device creator down a path of copyright-infringement liability.

In 2002, the RePlayTV 4000 PVR became a consumer hit that generated much controversy amongst media content-providers because of its touted commercial-skipping and digital-video redistribution capabilities.²⁴¹ 27 companies filed a lawsuit against RePlayTV’s parent company, SonicBlue Inc.²⁴² Five consumers who owned the 4000-series PVR sought declaratory relief to find out whether their use of the device to skip commercials and redistribute video constituted fair use.²⁴³ Under *Newmark v. Turner Broadcast Network*,²⁴⁴ the consumer case was consolidated with the RePlayTV case.²⁴⁵ Sonic Blue, Inc., filed for bankruptcy in the midst of the legal confrontation.²⁴⁶ Subsequently, Re-

²³⁷ *Id.* at *21–23.

²³⁸ *Id.* at *22.

²³⁹ *Id.* at *23 (citing 3 NIMMER ON COPYRIGHT, § 12A.19[B]).

²⁴⁰ *Id.* at *15–16.

²⁴¹ Morrison, *supra* note 189.

²⁴² Katie Dean, *Bankruptcy Blues for PVR Maker*, WIRED NEWS, Mar. 24, 2003, <http://www.wired.com/news/digiwood/0,1412,58160,00.html> (last visited on Mar. 24, 2005).

²⁴³ *See Paramount Pictures Corp.*, 298 F. Supp. 2d at 923.

²⁴⁴ 226 F. Supp. 2d 1215 (C.D. Cal. 2004).

²⁴⁵ *Id.* at 1224.

²⁴⁶ Katie Dean, *Bankruptcy Blues for PVR Maker*, WIRED NEWS, Mar. 24, 2003, available at <http://www.wired.com/news/digiwood/0,1412,58160,00.html> (last visited on March 24, 2005).

PlayTV chose not to include the controversial commercial-skipping and redistribution features in their newer DVRs.²⁴⁷ Thus, under the consolidated case of *Paramount Pictures Corp.*, the U.S. District Court for the Central District of California ruled it did not have the jurisdiction to grant declaratory relief to the five consumers nor to rule on the “fair use” extent of the no-longer manufactured RePlayTV device because a conflict was no longer present.²⁴⁸

D. Digital Millennium Copyright Act Anti-Circumvention Clause

Aware of the threat unrestricted digital media pose to content providers, Congress passed the DMCA in 1998, adopting the WIPO Treaty²⁴⁹ and granting broad rights to intellectual property holders.²⁵⁰ Specific to the Broadcast Flag, Title 17 of the DMCA grants DRM authors the right to sue anyone who circumvents their encrypted code.²⁵¹ For legally protected fair uses, compatibility is not always achievable due to various end-user technology standards or operating systems. Although the spirit of the open-source Internet is to share technology standards freely to allow for customizability and innovation, the DMCA will punish those who attempt break and/or distribute encrypted DRM code.²⁵²

Content providers have adopted DRM methods like the Content Scrambling System (“CSS”) for DVDs and the Secure Digital Music Initiative (“SDMI”) for CDs. Both methods have failed: CSS because of a young hack-

²⁴⁷ *Paramount Pictures Corp.*, 298 F. Supp. 2d at 923.

²⁴⁸ *Id.* at 924.

²⁴⁹ WIPO Copyright Treaty, arts. 11–12, Apr. 12, 1997, S. Treaty Doc. No. 105-17, 36 I.L.M. 65, 71–72, available at http://wipo.int/clea/docs/en/wo/wo033en.htm#P88_11974 (last visited Nov. 15, 2005) (participating countries adopted WIPO Copyright Treaty in Geneva Dec. 20, 1996).

²⁵⁰ Legal scholars that have critically examined the DMCA’s provisions and its effect on digital fair-use rights. See, e.g., Jeff Sharp, *Coming Soon Topay-Pay-Per-View How the Digital Millennium Copyright Act Enables Digital Content Owners to Circumvent Educational Fair Use*, 40 AM. BUS. L. J. 1, passim (2002).

²⁵¹ 17 U.S.C. §§ 1201, 1203 (2006).

²⁵² 321 Studios was sued under the DMCA and forced to shutdown and pay damages for selling a product that decrypted CSS. See Katie Dean, *321 Studios Shuts Its Doors*, WIRED NEWS, Aug. 3, 2004, available at <http://www.wired.com/news/digiwood/0,1412,64453,00.html> (last visited Apr. 1, 2006). For further commentary and analysis on 321 Studios, see Arnold P. Lutzker & Susan J. Lutzker, *Altering the Contours of Copyright—The DMCA and the Unanswered Questions of Paramount Pictures Corp v. 321 Studios*, 21 SANTA CLARA COMPUTER & HIGH TECH. L.J. 561 (2005).

er²⁵³ and SDMI for compatibility reasons.²⁵⁴ CSS was developed to prevent consumers from copying DVDs.²⁵⁵ The code was broken when then-16-year-old Jon Johansen set out to archive his legally purchased DVDs onto his hard drive, so he could play the movies on the open-source Linux operating system.²⁵⁶

Norwegian authorities, backed by the MPAA, charged Johansen on criminal computer-hacking grounds.²⁵⁷ The case against the teen eventually failed, in part because Johansen did not charge money for the code and because the court reasoned that Johansen had the right to access his legally-purchased DVDs.²⁵⁸ Though unsuccessful in Norway, the content industry could claim victory when shutting down DVD-copy program-creator 321 Studios on the grounds that it violated Title 17 of the DMCA for profit.²⁵⁹ The court agreed with the reasoning from another CSS-related case, *Universal Studios v. Reimerdes*, 111 F. Supp. 2d 294, 317–318 (S.D.N.Y. 2000), concluding that 321 Studios could not legally obtain the CSS keys without entering into a licensing agreement.²⁶⁰ Like CSS, DRM licensing under the Broadcast Flag may effectively shut out smaller entities from creating innovative products.

Under the Broadcast Flag regime, consumers using digital devices with incompatible digital protection formats might be required to engage in copyright infringement to successfully record video and transfer it to another medium for personal use. In other words, users might need to bypass Broadcast Flag restrictions to engage in some traditional fair use behaviors. U.S. copyright law, however, forbids the circumvention of digital copy protection schemes.²⁶¹ Under

²⁵³ Declan McCullagh, *Teen Hacking Idol Hits Big Apple*, WIRED NEWS, Jul. 20, 2000, available at <http://www.wired.com/news/culture/0,1284,37650,00.html> (last visited Oct. 15, 2006).

²⁵⁴ Chris Oakes, *Copy-Protected CDs Taken Back*, WIRED NEWS, Feb. 3, 2000, available at <http://www.wired.com/news/technology/0,1282,33921,00.html> (last visited Feb. 1, 2006).

²⁵⁵ BILL HUNT & TODD DOOGAN, DIGITAL BITS, 52 (2004); *Content-Scramble System*, WIKIPEDIA: THE FREE ENCYCLOPEDIA, available at http://en.wikipedia.org/wiki/Content-scrambling_system (last visited Dec. 29, 2005).

²⁵⁶ McCullagh, *supra* note 253.

²⁵⁷ Evan Hansen, *Will DVD acquittal mean tougher copyright laws?*, CNET NEWS.COM, Dec. 24, 2003, available at <http://news.com.com/2100-1025-5133152.html> (last visited Apr. 1, 2005).

²⁵⁸ Reuters, *Oslo Court OKs Personal Copying of DVDs*, LOS ANGELES TIMES, Dec. 23, 2003 at C11.

²⁵⁹ Dean, *supra* note 246.

²⁶⁰ 321 Studios v. MGM Studios, Inc., 307 F. Supp. 2d 1085, 1095 (N.D. Cal. 2004).

²⁶¹ 17 U.S.C. § 1201.

§ 1203 of U.S. Code, creators of the bypassed Broadcast Flag system would be permitted to sue consumers who thwarted their copy protection code.²⁶²

One case in which §§ 1201 and 1203 of U.S. Code were applied was *Davidson & Assocs. v. Jung*.²⁶³ The case involved video-game manufacturer Blizzard—which, along with parent company Vivendi—sued computer programmer Jim Jung and his project partners for circumventing the company’s copyrighted code to create an Internet-based gaming platform.²⁶⁴ Blizzard offered an online video-game service called Battle.net that allowed users to play legitimately-owned Blizzard video games for free in multiplayer mode over the Internet.²⁶⁵ Jung and fellow programmers created bnetd.org, which replicated Battle.net’s features but did not require users to prove their software was legitimate and not pirated.²⁶⁶ Blizzard contended its code must have been circumvented for Jung to create a compatible service.²⁶⁷

Blizzard’s software, like many other software and electronics, included an end-user license agreement (“EULA”) and terms of use (“TOU”) to which consumers were required to adhere when using the software.²⁶⁸ Defendants argued the contract was preempted by the fair-use doctrine, a defense that could conceivably be articulated by consumers restricted under the Broadcast Flag regime.²⁶⁹ The Eighth Circuit Court of Appeals ruled on the case and stated that users surrendered fair-use rights when they accepted the EULA and TOU to use the software.²⁷⁰ Judge Smith, writing the opinion for the court, remarked that the contract was mutually binding because users could return the software within 30 days if they disagreed with the terms.²⁷¹

The defendants argued that because emulating Battle.net’s code was a functional process and not did on serve an artistic purpose, the anti-circumvention provisions of copyright law should not apply.²⁷² The court disagreed, noting that the code was not readily available simply by using Blizzard’s

²⁶² 17 U.S.C. § 1203.

²⁶³ 422 F.3d 630 (8th Cir. 2005).

²⁶⁴ *Id.* at 637.

²⁶⁵ *Id.* at 633.

²⁶⁶ *Id.* at 636–37.

²⁶⁷ *Id.* at 637.

²⁶⁸ *Id.* at 633–35.

²⁶⁹ *Id.* at 638 n.9.

²⁷⁰ *Id.* at 639.

²⁷¹ *Id.* at 635.

²⁷² *Id.* at 640.

software and, thus, reverse-engineering occurred.²⁷³ Reverse-engineering of Blizzard's software violated the EULA, TOU, and anti-circumvention provisions of copyright law.²⁷⁴ Despite the fact that Jung and other programmers did not profit off bnetd.org, summary judgment was granted on behalf of Blizzard and Vivendi.²⁷⁵

Similarly, technology manufacturers who wish to avoid Broadcast Flag licensing schemes or want to create devices compatible with multiple platforms can be sued under the same copyright provision. A consumer seeking to meld two conflicting, incompatible Broadcast Flag technologies together might violate EULAs or TOUs and will most certainly violate the DMCA when circumventing copy controls. The fair-use goal does not guarantee immunity from DMCA provisions. Conceivably, a DRM creator could protect his code as early as the summary stage, if a similar interpretation of the DMCA is followed.

E. Supreme Court Almost Revisits Sony-Betamax

The 2005 *MGM v. Grokster* (“*Grokster III*”)²⁷⁶ showdown revisited some of the secondary liability and copyright-infringement inducement issues posed in *Sony-Betamax*. The case did not focus on consumer fair-use behavior, however, and stopped short of providing a digital update to *Sony-Betamax*'s time-shifting interpretation. Similar to the *Sony-Betamax* case, the question asked in *Grokster III* was “under what circumstances the distributor of a product capable of both lawful and unlawful use is liable for acts of copyright infringement by third parties using the product.”²⁷⁷

Grokster was a P2P network software creator and distributor.²⁷⁸ Grokster manufactured the “Kazaa” P2P client software that enabled Internet users to search for and swap files directly with one another, including copyright-protected software as well as video and audio media.²⁷⁹ Unlike Napster, which hosted a centralized server to catalog the names of shared files,²⁸⁰ Kazaa did not

²⁷³ *Id.* at 641.

²⁷⁴ *Id.* at 638–39.

²⁷⁵ *Id.* at 641–42.

²⁷⁶ *MGM Studios Inc. v. Grokster, Ltd.* (“*Grokster III*”), 545 U.S. 913 (2005).

²⁷⁷ *Id.* at 918.

²⁷⁸ *Id.* at 919–20.

²⁷⁹ *Id.* at 920.

²⁸⁰ *A&M Records*, 239 F.3d at 1004, 1011 (9th Cir. 2001), *aff'd in part and vacated in part*, 114 F. Supp.2d 896 (N.D. Cal. 2000).

host such a server.²⁸¹ Widespread proliferation of P2P file sharing of motion pictures led MGM Studios to sue the company for contributory copyright infringement in 2003.²⁸² Prior to reaching the Supreme Court, the U.S. Court of Appeals for the Ninth Circuit ruled that Grokster was not guilty of secondary copyright infringement and affirmed the technology's structural similarity to the Sony Betamax VTR.²⁸³

In *Grokster III*, the Supreme Court was faced with whether Grokster could be held liable for the infringing actions of its software's users. Grokster argued that because their company merely created the software and did not host or index the movies and music traded with its application, it could not be held liable for the infringing actions of its users due to the entirely decentralized nature of the P2P network.²⁸⁴ The Court noted that Grokster profited from advertisements promoted on the company's P2P network.²⁸⁵ Thus, the availability of pirated movies, music, and other digital files induced larger audiences and yielded higher revenue for the company.²⁸⁶ Though brief, the Court did address individual behavior, stating there existed "no finding of any fair use and little beyond anecdotal evidence of noninfringing uses."²⁸⁷

Also in the *Grokster III* decision, the Court ruled on whether summary judgment for another P2P network creator, Streamcast, was warranted. The Court found evidence of vicarious copyright infringement in the company's marketing of the software as a Napster alternative.²⁸⁸ In the *Sony-Betamax* case, Hollywood levied the advertisement charge against Sony for its marketing of the Betamax VTR as evidence of vicarious copyright infringement, but because the Court held personal "time-shifting" of broadcast television legal, it did not hold Sony liable for infringement.²⁸⁹ In *Grokster III*, however, file swapping of copyrighted materials was found to be infringing.²⁹⁰ Marketing a product as analogous to one already deemed to be in violation of copyright law, Napster's file

²⁸¹ MGM Studios Inc. v. Grokster, Ltd. (*Grokster I*), 259 F. Supp. 2d 102 (C.D. Cal 2003).

²⁸² *Id.*

²⁸³ MGM Studios Inc., v. Grokster ("*Grokster II*"), Ltd. 380 F.3d 1154, 1161–62 (9th Cir. 2004). Note that not only was the Ninth Circuit the same court that decided the moribund fate of Napster as a P2P software maker, but it also ruled against Sony prior to its eventual victory before the Supreme Court.

²⁸⁴ *Id.* at 1159–60, 1163–64.

²⁸⁵ *Grokster III*, 545 U.S. at 926.

²⁸⁶ *Id.* at 939–40.

²⁸⁷ *Id.* at 945.

²⁸⁸ *Id.* at 924–25.

²⁸⁹ *Id.* at 931.

²⁹⁰ *Id.* at 929–30.

swapping service convinced the courts that the P2P companies' unlawful objectives were "unmistakable."²⁹¹

The case was remanded.²⁹² As a result of the ruling, summary judgment was granted in MGM's favor so that the movie studio could press forward with a lawsuit to sue Grokster.²⁹³ The Court made no mention of "time-shifting," "space-shifting," or *Sony-Betamax* consumer fair-use rights.²⁹⁴

Absent a landmark Supreme Court decision on digital fair-use rights, current consumer fair-use rights are not consistently articulated, nor do they adequately extend into the digital era. The aforementioned cases exemplify a digital divorce from *Sony-Betamax*'s omnipotence as the catch-all fair-use doctrine. Nevertheless, the decisions provide a roadmap for a legal analysis of the Broadcast Flag. The advent of the DMCA changed fair-use protection by shifting protection away from consumers and toward the creators of behavior-restricting DRM technologies.

IV. LEGAL ANALYSIS OF BROADCAST FLAG POLICY

The Broadcast Flag is a policy of behavior control that places curbs on habits like time-shifting and space-shifting that consumers currently enjoy. The technology behind the Broadcast Flag also makes evident that both the policy of FCC-approved DRM schemes and the desire for a diversity of home media products may affect personal fair-use rights. Consumers are currently able to watch broadcast television shows at a later time than the original airing of a program and on a different medium than the one used to record a show. In other words, consumers can time-shift television and then space-shift shows to another device, such as a video iPod or notebook computer. Implementation of the Broadcast Flag, however, may restrict common consumer fair use behaviors for DTV broadcasts by not only encrypting content but by restricting media portability and interoperability.

This section seeks to determine the compatibility of the Broadcast Flag with existing law and current behaviors by applying relevant judicial decisions and reasoning. The legality of the Broadcast Flag hinges on the application of *Sony-Betamax* to digital technologies. The extent of digital fair-use rights will be looked at through the DRM lens of the FCC-approved Broadcast Flag. Inter-

²⁹¹ *Id.* at 939.

²⁹² *Id.* at 941.

²⁹³ *MGM Studios, Inc. v. Grokster ("Grokster IV")*, 419 F.3d 1005 (9th Cir. 2005).

²⁹⁴ *See Grokster III*, 545 U.S. 913 (making no mention of "time-shifting," "space-shifting" or fair-use).

pretation of fair use and the DMCA will determine the likelihood of the Broadcast Flag's technological restrictions legally prevailing within the digital copyright paradigm. Consumer "space-shifting" and "time-shifting" must extend to the digital era, and more specifically to DTV broadcasts that operate under the Broadcast Flag. The *Sony-Betamax* doctrine has not been replaced by the Supreme Court, but it has been narrowed to avoid the legalization of common digital behaviors, such as Internet file-sharing involving copyright-protected media.

A. *Different Technologies, Same Fair Uses?*

Although the *Sony-Betamax* court relied on evidence that many copyright holders did not oppose personal use of recorded video, today's digital home is met with more controversy. With the Broadcast Flag, content providers seek to prevent the unauthorized distribution of recorded television programming over the Internet. With 86% of homes capable of receiving broadcast television,²⁹⁵ some might argue that file sharing of freely-broadcast television programs is a fair use. This argument follows that, because a large majority of people already have access to the content, there is no adverse market effect of redistribution through a different medium.²⁹⁶

Broadcast airwaves, whether digital or analog, are considered a public resource licensed and leased free of charge to broadcasters. The vitality of this premise exists in the FCC's current role as a regulator of the DTV spectrum. When deciding *Sony-Betamax*, the Supreme Court reasoned that copyright-protected broadcasts on publicly-owned airwaves could be recorded for personal use.²⁹⁷ Though today's PVRs offer more features than the original Betamax, one controversial feature remains the same: PVRs, like the Betamax, allow users simultaneously watch one program while recording another.²⁹⁸ Likewise, users may also download a broadcast television program from the Internet while watching television.

An analogous case is *UMG Recordings, Inc. v. MP3.com, Inc.*,²⁹⁹ which dealt with downloadable music made available to customers via MP3.com.³⁰⁰ In

²⁹⁵ *New Data Shows Analog Broadcasting Cut-Off Will Impact Few U.S. TV Sets and Homes*, CONSUMER ELECTRONICS ASSOCIATION, June 8, 2005, available at http://www.ce.org/Press/CurrentNews/press_release_detail.asp?id=10764 (last visited Dec. 12, 2006).

²⁹⁶ See 17 U.S.C. § 107 (2006) (stipulating fair use exemptions).

²⁹⁷ For a discussion of *Sony*, see *supra* notes 143–187 and accompanying text.

²⁹⁸ Julian Clover, *What Next for the PVR?*, CABLE & SATELLITE INTERNATIONAL, Apr. 2004, available at <http://www.cable-satellite.com/features/march%20april%2004/20-24.pdf> (last visited Feb. 7, 2006).

²⁹⁹ *UMG Recordings, Inc. v. Mp3.com, Inc.*, 92 F. Supp.2d 349 (S.D.N.Y. 2000).

the case, the defendants argued that users who downloaded digital versions of music they already owned were engaging in legal fair use.³⁰¹ This claim was not substantiated because the behavior had a significant commercial effect on copyright holders, and users of the service were engaging in copyright infringement instead of fair use.³⁰² Copyright holders could have commercially benefited from consumers purchasing MP3's, and not downloading them for free from MP3.com, despite whether the consumers owned the album or not. One year later, *A&M Records v. Napster, Inc.*³⁰³ dispelled the notion that, without ownership, swapping copyright-protected files online was a lawful fair use.³⁰⁴

Similar to the MP3.com controversy, broadcast-television content providers can benefit from consumer purchase of digital video on DVDs—even if those consumers have made home-recordings of the content. In the absence of traditional laws forbidding home copies, DRM systems can make home copying a technologically impossible feat. The practice of private entities encrypting signals to prevent user access and manipulation is now commonplace.

The habit of using restrictions that rely on code rather than law is popular with content-providers like HBO because “by making it physically impossible to copy a work without the permission of the publisher, they moot the question of whether a particular act of copying is in fact illegal.”³⁰⁵ A government mandate imposed on consumer behavior might be one of the most visible breaches of fair-use law, or one of the most effective ways to enforce copyright law. To determine the legality of the Broadcast Flag policy, two questions must be addressed directly: 1) is the Broadcast Flag legal under the *Sony-Betamax* doctrine as applied to digital technologies; and 2) is *Sony-Betamax* quality-neutral when interpreting time-shifting and space-shifting rights?

B. The Broadcast Flag's Legality Under Sony-Betamax and the DMCA

The *Sony-Betamax* ruling has never been overturned nor have consumer fair-use rights with regard to broadcast television been narrowed. Thus, the

³⁰⁰ *Id.* at 350.

³⁰¹ *Id.*

³⁰² *Id.* at 352–53.

³⁰³ 239 F.3d 1004 (9th Cir. 2001)

³⁰⁴ *Id.* at 1015.

³⁰⁵ Jonathan Weinberg, *Copyright Law as Communications Policy: Convergence of Paradigms and Cultures: Digital TV, Copy Control, and Public Policy*, 20 CARDOZO ARTS & ENT. L.J. 277, 284 (2002).

Broadcast Flag walks a fine line between establishing a copy control solution for the digital age and forbidding consumers from engaging in Supreme Court articulated “time shifting” and lower court established “space shifting.” Perhaps more importantly, when the behaviors are not physically possible, the anti-circumvention provisions of U.S. copyright law forbid them from being legally possible as well.

As evidenced in *Davidson & Assocs. v. Jung*,³⁰⁶ even would-be fair uses are moot when a DRM system is hacked.³⁰⁷ In that case, the defendants’ fair-use behavior was accomplished by infringing upon both the end-user license agreement and the actual encryption used to protect the Battle.net service.³⁰⁸ In accordance with the legal reasoning, tampering with the Broadcast Flag even to exercise a pre-Broadcast Flag fair use or to achieve technological harmony would violate § 1201 of the DMCA.³⁰⁹

The U.S. District Court for the Western District of Washington’s interpretation of *Sony-Betamax* in the *RealPlayer v. Streambox*³¹⁰ case also yields power to the DMCA’s anti-circumvention provisions.³¹¹ As in *Davidson & Assoc.*, the logic would follow that the Broadcast Flag does not conflict with existing copyright precedent. In *RealPlayer v. Streambox*, the court placed the decision of fair use in the hands of the copyright holders and deemed *Sony-Betamax* irrelevant to newer technologies, due to the advent of the DMCA.³¹² Under this reasoning, any conflict between *Sony-Betamax*-related fair-use rights and violations of the DMCA would be tipped in favor of the latter.

The district court also noted that the “time-shifting” of copyrighted materials in *Sony-Betamax* was legal in part because a majority of broadcast television content copyright holders at the time did not object to such behavior.³¹³ The Broadcast Flag has broad support from content providers that hold the copyrights for the high value, HDTV media that would broadcast for free over the air. The industry leaders would not permit users to hold unfettered access to digital content. Also, the content-restriction code embedded in Broadcast Flag devices, as is the case of RealNetworks, would fall under DMCA § 1201 protection.

³⁰⁶ 422 F.3d 630 (8th Cir. 2005).

³⁰⁷ *Id.* at 638–39.

³⁰⁸ *Id.* at 635.

³⁰⁹ *Id.*

³¹⁰ 2000 U.S. Dist. LEXIS 1889 (W.D. Wash. 2000).

³¹¹ *Id.* at *22.

³¹² *Id.*

³¹³ *Id.* at *21–22.

A more liberal interpretation of the *Sony-Betamax* doctrine, found in *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys.*³¹⁴ does not extend the right of “space-shifting” to broadcast-television users.³¹⁵ The case extended fair-use protections to consumers who already owned the music they transferred to the Diamond Rio digital music player.³¹⁶ Television viewers, on the other hand, typically do not own the content broadcast into their homes nor do they own the content of any recordings they make. Unlike the music discussed in the Rio case, broadcast television content is free.

The *Sony-Betamax* Court held that personal time shifting was acceptable and there was no need to “give precise content to the question of how much use is commercially significant.”³¹⁷ The Court wrote that personal time-shifting plainly satisfied the fair-use standard because Universal City Studios had no right “to prevent other copyright holders from authorizing it for their programs” and because factual findings revealed unauthorized time-shifting constituted “legitimate fair use.”³¹⁸ Individual recordings of DTV programming could adhere to the same logic. As articulated *supra*, however, the Internet’s ability to mass distribute content could make even a few deviants commercially-significant offenders.

Due to the nature of today’s intellectual property atmosphere, the Broadcast Flag is likely to be found legal under the same criteria used by the Supreme Court in the *Sony-Betamax* case. Conversely, personal-consumption flexibility also appears to be legal. Consumers recording television for personal time-shifting purposes do not violate copyright law, nor is it likely that they are infringing on copyrights when transferring recorded programming to digital devices.

As a result, the Broadcast Flag’s consistency with existing copyright law and jurisprudence does not negate the similar legal protection afforded to today’s common fair-use behaviors. This discrepancy is one that must be rectified by Congress through the overt articulation of digital fair-use rights and limits placed on the restrictiveness of the Broadcast Flag. Congress must also remedy the conflict between the anti-circumvention provisions of the DMCA and the fair use doctrine so that consumers engaging in legal fair uses will not be sued under the DMCA for circumventing a DRM technology.

³¹⁴ 180 F.3d 1072 (9th Cir.1999).

³¹⁵ *Id.* at 1081.

³¹⁶ *Id.* at 1079–80.

³¹⁷ *Sony*, 464 U.S. 417, 442 (1984).

³¹⁸ *Id.*

C. Quality-Neutrality Time-Shifting and Space-Shifting is Absent in Sony-Betamax

DTV includes a new dimension for consumer enjoyment as well as piracy paranoia. This new technological advancement and legal conundrum involves the quality of HDTV. The extent of *Sony's* fair use protections pondered in Part I of this article take on a new form in the DTV realm. Broadcast Flag restrictions aim to prevent the unauthorized mass dissemination of high-definition video content. The FCC's robustness rules enable Broadcast Flag devices to prevent users from creating full-quality high-definition recordings.³¹⁹ Barring the commercially charged arguments supporting the legality of the Broadcast Flag, is it inconsistent with copyright law to purposely deny high-quality personal time-shifting to consumers?

Absent in the *Sony-Betamax* decision is any mention of broadcast video quality or resolution.³²⁰ At the time of that decision, the analog, NTSC-standard television picture was much lower quality than that of the original celluloid version of a television show or movie. Consumer recording of high-definition content, absent a Broadcast Flag, is not barred by *Sony-Betamax* because the opinion holds no reliance on quality degradation when articulating fair-use protections for consumer time shifting.³²¹ On the contrary, no fair-use right exists to create an exact copy of a high-definition program. Thus, even a degraded personal copy of broadcast-television content could be justified as a fulfillment of a basic fair use behavior. In other words, *Sony-Betamax's* quality-neutral interpretation of time-shifting rights and subsequent judicial reasoning do not extend fair-use protections to the resolution of high-definition personal recordings.

Additionally, due in part to the technological limitations of the era, *Sony-Betamax* makes no mention of "space-shifting" nor does the case allude to the transferring of video content from a Betamax tape to another medium.³²² Although "space-shifting" was upheld in *Recording Industries Association of America v. Diamond Multimedia Systems*, the Supreme Court has not extended this behavior as a protected fair use right.³²³ Thus, Congress must clarify this digital behavior as a protected fair use and disallow the Broadcast Flag from forbidding personal space-shifting.

³¹⁹ 47 CFR 73.9007 (2006).

³²⁰ See 464 U.S. at 417–500 (containing no reference to broadcast video quality or resolution).

³²¹ *Id.*

³²² *Id.*

³²³ 180 F.3d at 1072.

D. A Solution for a Non-existent Problem?

Congress will likely pass the Broadcast Flag in one form or another. In recent history, copyright legislation has favored the interests of the content industry over the interests of consumer groups.³²⁴ As the research shows, *Sony-Betamax* most likely does not directly apply to the Broadcast Flag because of the anti-circumvention provisions of the DMCA. Thus, the Broadcast Flag is not inconsistent with current copyright law. It is, however, a poorly constructed but legitimate copy-control solution that erodes previously held fair-use privileges and ushers in a new era of consumer restrictions.

Industry players indicate they will not make high-value content, such as high-definition motion pictures, available on digital broadcast television until the Broadcast Flag is implemented.³²⁵ The reluctance is reminiscent of another era. When the Betamax recorder debuted, Disney at first refused to air *Mary Poppins* or *The Jungle Book* for fear the content would be recorded.³²⁶ As we know now, though they enjoyed the ability to make home recordings, consumers still purchased VHS and Betamax copies of those movies.

The broadcast spectrum is a unique and scarce medium regulated by the premise that the airwaves are a property of the public.³²⁷ Thus, a technology like the Broadcast Flag, which narrows legal fair uses, poses a threat to consumer rights and contradicts the public-interest spirit of the spectrum. The existence of a free DTV compatible with lawful consumer habits and the array of personal devices currently used by consumers is in the public interest. The concern that an overly restrictive technology may go beyond the desire for consumers to flexibly enjoy digital media raises ample worries about free speech.

The Internet is an increasingly-popular medium for the exchange of political discussion and parodies.³²⁸ The popularity of sites like Myspace.com and YouTube.com, which allow users to upload personal videos, has provided a forum for widespread sharing of videos often extracted from news outlets or

³²⁴ Allan Friedman et al., *Understanding the Broadcast Flag: A Threat Analysis Model*, 28 TELECOMMS. POL'Y 503, 515 (2004).

³²⁵ See *supra* notes 64–65 and accompanying text.

³²⁶ Jessica Litman, *The Story of Sony, Mary Poppins Meets the Boston Strangler*, in INTELLECTUAL PROPERTY STORIES, at 362 (Jane C. Ginsburg and Rochelle Cooper Dreyfuss eds., 2005).

³²⁷ See generally, *Red Lion Broadcasting Co. v. FCC*, 395 U.S. 367, 376–77 (1969).

³²⁸ Joanna L. Ossinger, *Internet Spoofers Running a Risk; Parodies Spur Firms, Artists to Legal Action*, WALL ST. J., Feb. 27, 2006, at 1B.

copyrighted work.³²⁹ The restrictions of the current Broadcast Flag regime could prevent the creation and dissemination of fair use video parodies by forbidding the transfer of video over the Internet and making it harder to edit video due to interoperability issues. However, individual content and free speech authors are not the only ones at risk these situations. Even smaller news outlets would have trouble recording and reusing Broadcast Flag-protected television for the news-worthy purposes of comment and criticism.

Digital fair-use rights should not be shaped by technological restrictions or created by the Supreme Court. Instead, “Congress has the constitutional authority and the institutional ability to accommodate fully the varied permutations of competing interests that are inevitably implicated by such new technology.”³³⁰ Congress, via the electoral process, is a legitimate extension of the democratic principle of popular sovereignty and, in theory, voices the will of the people who “own” the spectrum. Therefore, the fair-use rights of the people cannot be ignored in the face of deep-pocketed industry pressure. Nor can the equally-important free speech aspects of the debate be sidestepped.

There is no harm yet inflicted on the motion picture industry from high-definition retransmissions because the DTV transition is not yet complete. During the *Sony-Betamax* legal battle, Universal City Studios’ failure to prove that the Sony Betamax caused economic harm helped sway the Court to side with Sony. In light of this, some argue the industry has not sufficiently proven that DVR recordings of DTV broadcasts will adversely affect them commercially. Today, 52% of users claim to use their PVRs and VCRs for time-shifting purposes, while 19% of those surveyed say they do it for commercial skipping.³³¹

Currently, DVD sales continue to grow, and the next generation of high-definition BluRay and HD-DVD mediums are around the corner. Content-providers should encourage sales through creativity and bonus features, not by holding high-quality content captive.³³² The Broadcast Flag policy should be revised to forbid quality degradation on first-generation recordings. Instead, the standard should mimic the spirit of the 1992 AHRA, which allowed for flawless

³²⁹ Joanna Weiss, *Clip and Play; Internet Shorts, and the Innovative Filmmakers behind them, Are Making their Way to TV, but Will they Translate?*, BOSTON GLOBE, Mar. 26, 2006, at N1.

³³⁰ *Sony*, 464 U.S. at 431.

³³¹ *For 29%, Recording a TV Show Means Skipping Ads: Study*, PROMO, Mar 30, 2005, available at <http://promomagazine.com/news/breakingnews/TVadskipping/> (last visited Apr. 12, 2005).

³³² HUNT & DOOGAN, *supra* note 255, at 53.

first-generation digital-audio copies and lessened the quality of successive recordings.³³³

Consumers should be able to export full-quality video content to at least one other device for personal enjoyment. After a full-quality copy is made, then the original video—as stored on the consumer’s PVR—could be restricted for future copies. Similarly, the video copied onto the other media device could be embedded with restrictions. A reworked Broadcast Flag scheme based on the preservation of first-generation fair-use rights would grant consumers time-shifting and space-shifting abilities and still deter unauthorized redistribution.

Another AHRA component that the Broadcast Flag should adopt is in the area of legal immunity. The AHRA included provisions for consumer copyright infringement exemption when consumers used a compliant device. Content providers already have legal tools to subpoena Internet Service Providers (“ISPs”) for identification information on suspected copyright infringers,³³⁴ and stiffer criminal penalties for infringement have been proposed in bills like the Family Entertainment and Copyright Act.³³⁵

The only protection for consumers bypassing the Broadcast Flag in order to exercise personal “time-shifting” and “space-shifting” behavior is an obscure DMCA provision. Under the DMCA, individuals are required to obtain permission from the Library of Congress through a rulemaking process to legalize the circumvention required to engage in the non-infringing behavior.³³⁶ Such permission would be rare and unlikely for most consumers.

E. Interoperability Not Part of Proposed Broadcast Flag

The interoperability conundrum is another detrimental aspect of Broadcast Flag policy. The prospect of encouraging incompatible digital-media devices in an increasingly fragmented digital marketplace is alarming. The existence of an oligarchic marketplace and its detriment to competition is already present in the digital music world wherein Apple’s overwhelmingly popular iTunes Music Store sells music that is incompatible with non-Apple portable music players.

³³³ Pamela Samuelson, *The Congressional Corral: The Future of Digital Technology is in the Hands of the U.S. Congress*, IEEE SPECTRUM ONLINE, May 2003, available at <http://www.spectrum.ieee.org/WEBONLY/publicfeature/may03/legi.html> (last visited Mar. 1, 2005).

³³⁴ 17 U.S.C. § 512(h) (2006).

³³⁵ The Family Entertainment and Copyright Act of 2005, S. 167, 109th Cong. (2005); see also Richard J. Dalton, Jr., *Taking on online movie pirates*, NEWSDAY, Apr. 21, 2005.

³³⁶ 17 U.S.C. § 1201a-(1)(B)–(C) (2006).

Apple revolutionized the legal digital media marketplace with its popular iPod MP3 player and iTunes online media store.³³⁷ The company utilizes a DRM-protection scheme dubbed “FairPlay” to prevent piracy proliferation.³³⁸ Music files sold by Apple—more than 350 million so far³³⁹—permit users to copy a song onto five computers and as many iPods and CDs as desired.³⁴⁰ Yet, the FairPlay encryption prevents purchased iTunes music files from working on competitors’ MP3 players—fragmenting the traditionally open Internet media marketplace.³⁴¹

Music lacking DRM restrictions can be played using any music player or software program. Music lovers also can make separate copies of digital music for custom mix CDs, create computer music libraries, and integrate tracks into home videos. Under the FairPlay regime, consumers are much more restricted. The FairPlay regime does not allow users to send purchased music files over e-mail or via the Web, thus preventing scenarios in which a person might send music to him or herself for remote retrieval or upload portions of a song for a fair-use educational project.³⁴² It is therefore evident that FairPlay overrides some forms of fair use. Consumers wishing to purchase legal music files are at a disadvantage because Apple’s iTunes is the largest online music store.³⁴³

Apple music players make up 90% of the hard-drive based MP3-player market, and the restrictions run counter to traditional Internet end-to-end connectivity and openness.³⁴⁴ The company has yet to license its FairPlay technol-

³³⁷ Paul R. La Monica, *Can Anyone Topple Apple?*, CNNMONEY.COM, Mar. 21, 2006, http://money.cnn.com/2006/03/21/news/companies/apple_itunes/index.htm (last visited Apr. 1, 2006).

³³⁸ Peter Cohen, *iTunes User Sues Apple over FairPlay DRM*, MACWORLD, Jan. 6, 2005, <http://www.macworld.com/news/2005/01/06/slattery/index.php> (last visited Oct. 1, 2005).

³³⁹ Tony Smith, *Apple iTunes Sales Tally Passes 350 Million*, THE REGISTER, Apr. 14, 2005, http://www.theregister.co.uk/2005/04/14/apple_itunes_downloads/ (last visited June 3, 2005).

³⁴⁰ Adam. L. Penenberg, *Digital Rights Mismanagement: How Apple, Microsoft, and Sony Cash in on Piracy Prevention*, SLATE, Nov. 14, 2005, <http://www.slate.com/id/2130300/?nav=ais> (last visited Apr. 1, 2006).

³⁴¹ Cohen, *supra* note 338.

³⁴² Smith, *supra* note 339.

³⁴³ *Apple iTunes Outselling Traditional Music Stores!*, TECH WHACK NEWS, Nov. 22, 2005, available at <http://news.techwhack.com/2518/221109-apple-itunes-outselling-traditional-music-stores/> (last visited Dec. 4, 2005).

³⁴⁴ Donna Higgins, *Antitrust Suit Against Apple Over iPod, iTunes to Proceed*, FINDLAW, Sept. 22, 2005, available at <http://news.findlaw.com/andrews/bt/cmp/20050922/20050922slattery.html> (last visited Nov. 3, 2006).

ogy, thus denying market forces the ability to correct market fragmentation.³⁴⁵ Apple also has resisted efforts by competitors to reverse-engineer the proprietary technology to enable iPod users access to alternative online music stores.³⁴⁶ An antitrust lawsuit filed against Apple may break up the company's monopoly, but it does not eradicate the threat of DRM technologies to Internet openness.³⁴⁷

If allowed to continue under the FCC-approved form, the Broadcast Flag may perpetuate an incompatible digital home quagmire for consumers. The digital Pandora's Box is already open, and American consumers currently embrace time-shifting and space-shifting regularly with an array of digital video recorders and portable media players. The prospect of DRM systems limiting personal media flexibility is problematic for consumers, particularly advertiser-prized college students who recently chose the iPod over beer as the most "in" form of entertainment.³⁴⁸ Congress should codify the rights of individuals to make personal home DTV recordings and to space-shift media content to portable electronic devices like iPods.

A necessary step to assuage the incompatibility flaws of the Broadcast Flag policy is to require all FCC-approved Broadcast Flag technologies to be interoperable to prevent market chaos. Under the current policy, the Broadcast Flag fosters market fragmentation and consumer fair-use stagnation.³⁴⁹ Consumers will be forced to purchase all DTV-related products from one company to ensure compatibility and flexibility. This in turn will create artificial monopolies that will damage consumer buying power and market prices. Such a trend should not be embraced as the norm in the DTV era, for it may cause even greater harm to the industry. Ironically, without interoperability, the content industry may induce an even larger problem by inadvertently encouraging hackers to decrypt the broadcast flag standards and provide displeased consumers with the tools to engage not only in fair use, but also illegal piracy.³⁵⁰

³⁴⁵ Tony Smith, *EMI Irks Apple over iPod anti-rip CD compatibility claim*, THE REGISTER, Nov. 18, 2005, available at http://www.theregister.co.uk/2005/11/18/apple_emi_macrovision/ (last visited on April 1, 2006).

³⁴⁶ *Id.*

³⁴⁷ Higgins, *supra* note 344.

³⁴⁸ Associated Press, *Survey: College Kids Like iPods Better than Beer*, FOXNEWS.COM, June 8, 2006, available at <http://www.foxnews.com/story/0,2933,198632,00.html> (last visited Jan. 28, 2007).

³⁴⁹ See Appendix B-1 for a compatibility list.

³⁵⁰ Joan Van Tassel, *Digital Rights Management: Interoperability*, THE HOLLYWOOD REPORTER, May 23, 2005, available at http://www.hollywoodreporter.com/thr/pwc/talking_display.jsp?vnu_content_id=1000930094 (last visited Jan. 7, 2006).

V. CONCLUSION

Although the FCC-approved Broadcast Flag policy may not instill a full array of digital fair-use rights for consumers, the DRM method is nevertheless legal under common and statutory law. The Broadcast Flag's legal legitimacy is grounded in the anti-circumvention protections of § 1202 of the DMCA, which has never been struck down or bypassed when in conflict with the *Sony-Betamax* doctrine. *Sony-Betamax* established time-shifting rights, but it did not create digital fair-use rights; thus, DRM systems are able to define rights and restrictions not fully articulated by current case law or statutory law. As time passes, the realization of the Broadcast Flag policy's follies might lead to major policy changes. While the Broadcast Flag DTV environment is not praiseworthy, the words of Commissioner Adelstein echo another truth: "Nor should the current analog world necessarily be the model for what consumers can reasonably expect to do in a digital world."³⁵¹

The conclusion of this research is that Commissioner Adelstein's comments should be changed from *what* consumers can reasonably expect to enjoy from their entertainment to *how* consumers can reasonably expect to enjoy their entertainment. Before enacting a DTV copy-protection system, policymakers must articulate the extent of end-user fair-use rights in the digital world. The prospects of consumers owning portable media players not compatible with different-branded DTVs could put an even greater damper on much-enjoyed fair-use "space-shifting" and "time-shifting" than the actual overt Broadcast Flag restrictions. Congress must act to ensure compatibility and encourage DTV device competition rather than DRM license competition.

The objective of this article is to elevate the Broadcast Flag debate and catch the attention of public policy makers. Thus far, much of the existing Broadcast Flag scholarship focuses on the potential effects the DRM system might have on much-celebrated consumer fair-use rights. Authors often assume the Broadcast Flag violates fair-use time-shifting rights first articulated in *Sony-Betamax*. In contrast to such prevailing thought, this research articulates why the Broadcast Flag does not conflict with the *Sony-Betamax* doctrine, as evidenced by court interpretation of the anti-circumvention provisions of the Digital Millennium Copyright Act.

This article also provides evidence that fair-use rights in the digital era have been altered through technology as DRM creators have come to be protected by the DMCA. Relevant court cases demonstrate that the Broadcast Flag

³⁵¹ *In the Matter of Digital Broadcast Content Protection*, 18 F.C.C.R. 23550, 23581 (2003).

does not violate existing fair-use rights or copyright law. A middle ground should be sought by lawmakers that grant legal immunity for consumers exercising fair-use behaviors under any future Broadcast Flag regime. The most important contribution from this article is the exploration beyond the legal question and into the practical reality of interoperability. If something is not physically possible, then legality becomes moot. Any future policy must ensure cross-platform and cross-technology compatibility.

Appendix A-1: List of FCC-approved Broadcast Flag Technologies

DRM Manufacturer	DRM Type
Sony	MagicGate Type-R for Secure Video Recording for Hi-MD Hardware
	MagicGate Type-R for Secure Video Recording for Memory Stick PRO Software
	MagicGate Type-R for Secure Video Recording for Hi-MD Software
	MagicGate Type-R for Secure Video Recording for Memory Stick PRO Hardware
Thomson, et al.	SmartRight
Philips Electronics North America and Hewlett-Packard Company	Vidi Recordable DVD Protection System
Digital Content Protection, LLC	High Bandwidth Digital Content Protection
4C Entity, LLC	Content Protection recordable Media for Video Content
TiVo Inc.	TiVoGuard Digital Output Protection Technology
Digital Transmission Licensing Administration	Digital Transmission Content Protection
RealNetworks, Inc.	Helix DRM Trusted Recorder
Microsoft Corporation	Windows Media DRM
Victor Company of Japan (JVC)	D-VHS

Appendix B-1: Compatibility between Broadcast Flag-Approved Technologies

DRM Type	MagicGate Type-R for Secure Video Recording for Hi-AD Hardware	MagicGate Type-R for Secure Video Recording for Memory Stick PRO Software	MagicGate Type-R for Secure Video Recording for Hi-AD Software	MagicGate Type-R for Secure Video Recording for Memory Stick PRO Hardware	SmartRight In System	Vidli Recordable DVD System	High Bandwidth Digital Content Protection	Content Protection recordable Media for Video Content	Digital Output Protection Technology	Digital Transmission Content Protection	Heely DRM Trusted Recorder	Windows Media Digital Right Management	D-VHS
MagicGate Type-R for Secure Video Recording for Hi-AD Hardware	X	X	X	X									
MagicGate Type-R for Secure Video Recording for Memory Stick PRO Software	X	X	X	X									
MagicGate Type-R for Secure Video Recording for Hi-AD Software	X	X	X	X									
MagicGate Type-R for Secure Video Recording for Memory Stick PRO Hardware	X	X	X	X									
SmartRight					X								
Vidli Recordable DVD Protection System						X							
High Bandwidth Digital Content Protection							X						
Content Protection recordable Media for Video Content								X					
TVoGuard Digital Output Protection Technology									X				
Digital Transmission Content Protection										X			
Heely DRM Trusted Recorder											X		
Windows Media Digital Right Management												X	
D-VHS													X