

The Audio Broadcast Flag System – Can It Be a Solution?

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I. Introduction

Recently, on March 2nd, an audio version of the broadcast flag bill, titled the Audio Broadcast Flag Licensing Act of 2006, was introduced in Congress.¹ The primary goal of this bill is to help the Federal Communications Commission (FCC) speed up its efforts to create a strong content protection rule for digital audio broadcasting (DAB).² The bill would grant the Commission authority to impose licensing conditions on digital over-the-air radio (HD Radio) and digital satellite radio devices to protect against unauthorized copying and distribution of DAB contents.³ This action is particularly noticeable given last year's D.C. Circuit Court decision that the FCC does not have authority to enforce the TV Broadcast Flag Rule⁴ under the current law.⁵ In this decision the three-judge panel unanimously ruled that Congress has never conferred the Commission authority to regulate "consumer electronics products that can be used for receipt of wire or radio communication when those devices are not engaged in the process of radio or wire transmission."⁶ The Court carefully examined the previous two statutory enactments that

¹ See Audio Broadcast Flag Licensing Act of 2006, H.R. 4861, 109th Cong. (2006), available at <http://thomas.loc.gov/cgi-bin/query/z?c109:H.R.4861>: (last visited July 24, 2006) [hereinafter *Audio Broadcast Flag Bill*]. This bill was introduced by Rep. Mike Ferguson (R-N.J.) and four co-sponsors and referred to the Committee on Energy and Commerce.

² See *Id.*

³ *Id.* at Section 2. (Under Section 2, the bill suggests that Part I of Title III of the Communications Act of 1934 (47 U.S.C. 301 et seq.) be amended by adding at the end a new section (Section 342) titled "Grant of limited authority regarding the licensing of device for over-the-air and satellite digital audio broadcasting.")

⁴ See *In re Digital Broadcast Content Protection, Report and Order and Further Proposed Rule Making*, MB Docket 02-230, FCC 03-273 (Nov. 4, 2003), at 3, available at http://www.eff.org/IP/Video/HDTV/20031104_fcc_order.pdf (last visited July 24, 2006) [hereinafter *2003 DTV R&O*]. Through this Report & Order, the FCC announced a flag-based DTV content protection regime called "ATSC flag" (ATSC: Advanced Television System Committee). This regulation was intended to limit unauthorized Internet redistribution of over-the-air TV broadcasts.

⁵ See *Am. Library Ass'n v. FCC*, 406 F.3d 689 (D.C.Cir. 2005).

⁶ *Id.* at 700 (stating that "the Television Broadcast Flag rule does not require demodulator products to give effect to the broadcast flag until after the DTV broadcast has been completed.")

provided the FCC with authority over receiver equipments⁷ and confirmed that there is no statutory basis, even in these two acts, that can support the idea that the FCC has authority to regulate receiver apparatus after the completion of broadcast transmissions.⁸

For digital audio broadcast, the Commission started to seek a content protection measure in April 2004 as a response to the concerns raised by the Recording Industry Association of America (RIAA).⁹ The RIAA's concerns addressed the possibility of indiscriminate recording as well as Internet redistribution of musical recordings that are part of digital audio broadcasts,¹⁰ which began in 2003.¹¹ Until the introduction of the Audio Broadcast Flag Bill (ABF Bill) in Congress, the discussion of this issue within the FCC's purview had not gone beyond the preliminary stage of rule development, in which the Commission issued a Notice of Inquiry (NOI) on the matter¹² and interested parties

⁷ See *Am. Library Ass'n v. FCC*, 406 F.3d, at 706 (citing The All Channel Receiver Act of 1962, Pub. L. No. 87-529, 76 Stat. 150. This act granted the FCC authority to require that televisions sold in interstate commerce are "capable of adequately receiving all frequencies allocated by the Commission to television broadcasting." 47 U.S.C. § 303(s)); *Id.* at 707 (citing The Communication Amendments Act of 1982, Pub. L. No. 97-259, § 108, 96 Stat. 1087. This act granted the FCC authority "to impose appropriate regulations on home electronic equipment and systems so that they will not be subject to malfunction due to radio frequency interference." H.R. Conf. Rep. No. 97-765, at 32 (1982)).

⁸ See *Am. Library Ass'n v. FCC*, 406 F.3d, at 692, 707.

⁹ See In the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, *Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (Apr. 20, 2004), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-99A4.doc (last visited July 24, 2006) [hereinafter *2004 DAB FNPR & NOI*].

¹⁰ See Letter from Theodore Frank, Counsel for the Recording Industry Association of America, to Mary Beth Murphy, Chief, Policy Division, Media Bureau, FCC (Oct. 2, 2003). See *2004 DAB FNPR & NOI*, *supra* note 9, at para 67.

¹¹ See In the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, *First Report and Order*, MM Docket No. 99-325, FCC 02-286 (Oct. 11, 2002), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-02-286A1.doc (last visited July 24, 2006) [hereinafter *2002 DAB R&O*]. The Commission approved digital radio transmission technology in October 2002, and the commercial rollout of the technology began in 2003 when AM and FM stations around the country began digital broadcasts and continued with the launch of HD Radio receivers at the Consumer Electronics Show in January 2004, <http://www.ibiquity.com/hdradio/whatishdradio.htm> (last visited July 24, 2006).

¹² See *2004 DAB FNPR & NOI*, *supra* note 9, at para 69. In this NOI, the Commission sought comments on the following two issues (1) whether a problem exist that requires governmental intervention; and (2) to what extent the Commission can, and should, involve itself in the matter.

submitted comments on the NOI.¹³ On its comments to this NOI, the RIAA proposed the necessity of adopting an effective content protection scheme for digital audio broadcasting.¹⁴ It suggested two technological methods – encryption and flag - as possible solutions for the problem.¹⁵ Many other commenters, including the National Association of Broadcasters, iBiquity Digital Corporation, and some consumer protection groups, commented against the RIAA’s proposal.¹⁶ In short, at the time of the ABF Bill’s introduction in Congress, the recording industry had suggested the audio broadcast flag system (ABF system) as just one of the possible measures for consideration.¹⁷

Accordingly, the discussion of the ABF system was in its most precursory stage compared to that of the TV Broadcast Flag, and the FCC had not even finished its first

¹³ The interested parties include the RIAA, the American Society of Composers, Authors, and Publishers, the National Association of Broadcasters (NAB), iBiquity Digital Corporation, the Electronic Frontier Foundation (EFF) and the Brennan Center for Justice Free Expression Policy Project, Public Knowledge, Consumer Union, Consumer Federation of America (CFA), the Home Recording Rights Coalition (HRRC).

¹⁴ See Recording Industry Association of America, Inc., *Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Services*, MM Docket No. 99-325, FCC 04-99 (June 16, 2004), at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516213850 [hereinafter 2004 RIAA Comments].

¹⁵ *Id.* at 61-67.

¹⁶ See e.g., iBiquity Digital Corporation, *Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (June 16, 2004), at 28-29, at

http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516213849

[hereinafter 2004 iBiquity Comments] (stating that any action to implement a digital audio content control regime would be premature and has a great potential to stifle consumer acceptance of HD Radio.) ; iBiquity Digital Corporation, *Reply Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (Aug. 2, 2004), at 11, at

http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516286348 [hereinafter 2004 iBiquity Reply Comments]; National Association of Broadcasters, *Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (June 16, 2004, 2004), at 32, at

http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516213792 (last visited July 24, 2006) [hereinafter 2004 NAB Comments].

¹⁷ See 2004 RIAA Comments, *supra* note 14, at 61-67.

examination of the proposal. However, it is reasonably foreseeable that the introduction of the ABF Bill in Congress may accelerate the development of this issue, encouraging the FCC to more actively pursue the ABF system as the most promising and plausible solution for unauthorized copying and distribution of DAB contents.

The goals of this paper are (1) to investigate the problems associated with the adoption of the audio broadcast flag system as the content protection measure for digital audio broadcasting and (2) to explore less restrictive and more technologically friendly alternatives through modifications of the existing digital audio content protection policies.

Part I addresses the background that led to the ABF bill's introduction in Congress and the goals and organization of the paper. Part II reviews (1) the history and current status of digital transition in radio and the resulting threats to content industries and (2) the progress in the discussion of the DAB content protection measures within the FCC's purview. Part III examines the soundness of the audio broadcast flag system as a public policy as a whole, focusing on the following aspects: (1) A critical lack of justifiable rationale for the adoption of the system given that the digital conversion in radio, unlike that of TV, proceeded smoothly without aid of such a system; (2) Serious defects of the ABF technology as a content distribution control system, mainly due to potentially much more significant legacy problems than those with the TV broadcast flag system and inherent vulnerability to circumvention; (3) A significant possibility of stifling technological innovation; (4) A great possibility of impeding the development of the fledgling HD and satellite radio industry; (5) A serious possibility of significantly limiting consumers' rightful use of broadcast materials.

Part IV examines the two relevant existing regulations as a useful groundwork from which the discussion of new alternatives can be developed. The two regulations are the Audio Home Recording Act of 1992 (AHRA)¹⁸ and the Digital Performance Rights in Sound Recordings Act of 1995 (DPRSA).¹⁹ First, Part IV explores the capability of these two acts to address the issues that have developed since the launch of satellite radio and HD radio broadcasting.²⁰ Next, it explores what modifications need to be made in order for these two Acts to adequately address these new issues. With respect to the AHRA, the examination particularly focuses on whether the new generation of DAB devices should be included in the category of the Digital Audio Recording Device (DARD),²¹ and the pros and cons of the modification of the definition of the DARD for that inclusion.²² With respect to the DPRSA, the paper examines the potential effects of the inclusion of the over-the-air digital radio (HD Radio) service within the scope of the regulation and explores ways to modify the compulsory license provision so that the provision can also be applied to the HD radio service.²³ The cases of other countries are investigated for a useful reference for the analysis. Finally, Part V concludes the paper with the emphasis of critical points proposed throughout the paper and suggestions for further study.

¹⁸ 17 U.S.C. §§ 1001-1010, Pub. L. No. 102-563, 106 Stat. 4237 (1992).

¹⁹ 17 U.S.C. § 114, Pub. L. No. 104-39, 109 Stat. 336 (1995).

²⁰ The HD Radio began its service in the United States in October 1, 2003. *See 2004 DAB FNPR & NOI*, *supra* note 9, at para 13.; The satellite radio broadcast service started in 2001. *See Id.* at para 12.

²¹ *See Infra* Section IV.A.1.

²² *See Infra* Section IV.A.2

²³ *See Infra* Section IV.B.

II. Discussion of the Digital Audio Broadcast Content Protection System Under the Purview of the FCC

A. Digital transition in radio and its potential threats to the content industry

In 1999, the Federal Communications Commission, recognizing that the appropriate technology for digital audio broadcasting (DAB) had matured, fostered the further development of the relevant technology by issuing a Notice of Inquiry.²⁴ In October 2002, the FCC selected iBiquity Digital Corporation's HD Radio technology using in-band-on-channel (IBOC) methods²⁵ as the technology enabling AM and FM radio broadcast stations to begin digital operations (HD radio broadcasts).²⁶ At the same time, the FCC announced notification procedures allowing AM and FM radio stations to begin digital broadcasts on an interim basis.²⁷ In 2003, AM and FM stations in the United States began digital broadcasts²⁸ and first HD Radio receiver was sold in January 2004.²⁹

Digital audio broadcasts, unlike analog broadcasts, produce compact disc quality sound with no static or fading.³⁰ The technology available today also permits listeners to

²⁴ See In the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, *Notice of Proposed Rule Making*, MM Docket No. 99-325, FCC 99-327 (Nov. 11, 1999), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-99-327A1.pdf (last visited July 24, 2006) [hereinafter *1999 DAB NPRM*].

²⁵ With the IBOC method, broadcasters can transmit their new digital signals simultaneously with the existing analog signals as sideband transmission bracketing the top and bottom of the host analog signal.

²⁶ See *2002 DAB R&O*, *supra* note 11, at para 1.

²⁷ *Id.*

²⁸ See *2004 DAB FNPR & NOI*, *supra* note 9, at para 13

²⁹ See Howard Wolinsky, *Radio's Digital Revolution*, CHICAGO SUN TIMES, July 17, 2006, at <http://www.suntimes.com/output/business/cst-fin-hdradio17.html>.

³⁰ Jonathan Franklin, *Pay to Play: Enacting a Performance Right in Sound Recording in the Age of Digital Audio Broadcasting*, 10 U. MIAMI ENT. & SPORT L. REV. 83, 85 (1993).

program their DAB receivers to record automatically selected music from any radio station in the market without ever listening to the stations.³¹ This technology would enable listeners to create large collections of recordings without having to pay for the content.³² The RIAA saw DAB's new technological features as a serious threat because they would facilitate unauthorized copying and distribution to a greater degree. The RIAA argued that without an appropriate content protection measure DAB would provide a better vehicle than P2P file sharing services for copying the same variety of music³³ and also for creating libraries of huge numbers of copyrighted songs without any of the costs or risks associated with P2P file sharing, such as spyware or computer viruses.³⁴

Responding to the concerns raised by the RIAA over the potential threat to the recording industry, the FCC issued a Notice of Inquiry in April 2004 seeking comments on the matter.³⁵ At this stage, the Commission primarily sought comments on whether a problem exists and if so, to what extent, and whether the Commission should involve itself in the matter.³⁶ The Commission also asked for suggestions of the possible solutions if it can reasonably conclude that problems exist related to digital radio broadcasting.³⁷ The majority of commentators, including Electronic Frontier Foundation

³¹ See Recording Industry Association of America, Inc., *Reply Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Services*, MM Docket No. 99-325, FCC 04-99 (Aug. 20, 2004), at 13, available at, http://gulfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516286389 (last visited July 24, 2006) [hereinafter *2004 RIAA Reply Comments*].

³² *Id.* (citing *2004 RIAA Comments*, *supra* note 14, at 23-24).

³³ *Id.* at 13.

³⁴ *Id.* at 14.

³⁵ See *2004 DAB FNPR & NOI*, *supra* note 9, at 27.

³⁶ *Id.* at para 69.

³⁷ *Id.*

(EFF), Public Knowledge, Consumer Federation of America, National Broadcasters Association (NAB), and iBiquity Digital Corporation (iBiquity), suggested that there was insufficient evidence of an immediate copyright problem to warrant Commission action. These commentators argued that the concerns raised by the RIAA were unfounded fears, and therefore there was no justification yet for the Commission to adopt any technological mandates.³⁸ These responses indicated that there had been insufficient consensus of the problem to support any form of content protection measure.³⁹ Particularly, iBiquity argued that unlike the Broadcast Flag proceeding, there had been no consensus among the affected industries as to how content protection requirements should be implemented.⁴⁰

B. RIAA's proposal of content protection measures

³⁸ See generally Electronic Frontier Foundation and the Brennan Center for Justice Free Expression Policy Project 14, *Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (June 16, 2004), at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516213826 [hereinafter *2004 EFF Comments*]; Public Knowledge, Consumer Union, and Consumer Federation of America, *Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (Jun 16, 2004), at http://www.hearushnow.org/fileadmin/sitecontent/061604_FCCComm_DAB.pdf [hereinafter *2004 Public Knowledge & Consumer Group Comments*]; National Association of Broadcasters, *Reply Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99 (Aug. 2, 2004), at <http://www.nab.org/Newsroom/PressRel/Filings/IBOCFNReplies8204.pdf> [hereinafter *2004 NAB Reply Comments*].; iBiquity Digital Corporation, *Reply Comments on the matter of Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service, Further Notice of Proposed Rulemaking and Notice of Inquiry*, MM Docket No. 99-325, FCC 04-99, at 3-4 (Aug. 2, 2004), at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516286348 [hereinafter *2004 iBiquity Reply Comments*].

³⁹ See *2004 iBiquity Reply Comments supra* note 38, at 11; *2004 NAB Reply Comments, supra* note 38, at 32.

⁴⁰ See *2004 RIAA Reply Comments, supra* note 31, at 46.

In its August 2004 reply comments on the matter, the RIAA strongly re-acknowledged the existence of problems of unauthorized copying and distribution related to digital audio broadcasting and suggested two technological methods as possible solutions for the problems.⁴¹ These two methods are (1) Encryption and (2) Audio Protection Flag.⁴²

1. Encryption System

Encryption is the “translation of data into a secret code that can be decrypted, or made useable, by the use of a secret key.”⁴³ Using encryption as a content protection measure, as proposed by the RIAA, means that the “digital segment of radio transmissions would be scrambled and unable to be heard without special equipment.”⁴⁴ Under the encryption system, all copyright asserted content (covered content)⁴⁵ would be encrypted at the source, that is, at or before the time of broadcast.⁴⁶ With encryption on, noncompliant devices could not receive digital broadcast signals of covered contents, not to mention record or replay them.⁴⁷ That is, with encryption legacy devices cannot be used at all for any usage purposes for covered contents.⁴⁸ For this reason, the FCC excluded this

⁴¹ *Id.* at 57-64.

⁴² *Id.* at 61; Jeff Hamilton, Report of the Jeff Hamilton Technologies, Inc. For the Recording Industry Association of America, Inc. To Be Submitted in Federal Communications Commission, at 9-12 (June 16, 2004), at http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516213851 (last visited July 24, 2006) [hereinafter Hamilton Report].

⁴³ See Scott Franklin, *What Is So B-A-D about D.A.B.?: How High Definition Radio Affects the Producers of Sound Recordings*, 25 LOY. ENT. L. REV. 203, 240 (2004/2005) (citing Webopedia, <http://www.webopedia.com/TERM/e/encryption.html> (last visited July 24, 2006)).

⁴⁴ See Nate Anderson, Broadcast Flag Also Coming to HD Radio, Jan. 17, 2006, <http://arstechnica.com/news.ars/post/20060117-5992.html>.

⁴⁵ See *Hamilton Report*, *supra* note 42, at 10 (“copyrighted sound recordings contained in a... broadcast transmission for which protection has not been waived.”).

⁴⁶ *Id.* at 9.

⁴⁷ *Id.*

⁴⁸ With a flag-base system, legacy devices can receive, or record, signals of covered contents, although they cannot replay the materials recorded through compliant devices.

method from possible options for DTV content protection measures,⁴⁹ even though it can provide robust content protections,⁵⁰ much better protections than a flag-based system can provide.⁵¹ The FCC, when considering DTV content protection measures, viewed the obsolescence of legacy equipment as particularly burdensome to consumers.⁵² Considering the FCC's choice of the broadcast flag system for DTV, it is very likely that the Commission will less positively consider the encryption method as a means to protect DAB contents than a flag-based system,⁵³ which has less significant obsolescence problems with existing devices.

2. Audio Broadcast Flag System

The Audio Broadcast Flag (ABF) system, which was initially named Audio Protection Flag (APF) in the Hamilton Report submitted to the RIAA,⁵⁴ is similar to the DTV flag adopted by the FCC in November 2003.⁵⁵ Under the DTV flag rule, receiving devices should not be allowed to output the digital signal to devices that do not comply with the system.⁵⁶ The RIAA seeks similar treatment for HD Radio with its proposed ABF system, except that the use of APF would be mandatory and not at the discretion of the

⁴⁹ See 2004 RIAA Comments, *supra* note 14, at 62.

⁵⁰ See Hamilton Report, *supra* note 42, at 4.

⁵¹ See 2004 RIAA Comments, *supra* note 14, at 62.

⁵² See 2003 DTV R&O, *supra* note 4, at 11-12.

⁵³ The RIAA suggests that encryption should be a better means of DAB content protections than ABF. See 2004 RIAA Comments, *supra* note 14, at 62.

⁵⁴ See Hamilton Report, *supra* note 42, at 4, 10-11; 2004 RIAA Comments, *supra* note 14, at 63.

⁵⁵ See 2004 RIAA Comments, *supra* note 14, at 63. For DTV flag, see 2003 DTV R&O, *supra* note 16.

⁵⁶ See 2003 DTV R&O, *supra* note 4, at para 40.

broadcaster.⁵⁷ With the proposed APF system, the flag would be on by default and turned off at the choice of individual copyright owners.⁵⁸ HD Radio transmissions carry a metadata set called Program Associated Data that contains a wide variety of content description information well beyond titles of songs and artist names.⁵⁹ Audio protection flag can be inserted in this data and carried.⁶⁰ That is, the ABF system works as a flag, which is (copyright notice) inserted within the metadata, enables an HD radio device to “recognize the content as protected and ensure[s] that the appropriate protections are in place.”⁶¹ In contrast to encryption systems, with flag-based systems, legacy devices can receive or record signals of covered contents, although they cannot play or redistribute materials recorded through flag-compliant devices.⁶²

III. Analysis of the Soundness of the ABF System as a Public Policy as a Whole

A. A critical lack of justifiable rationale for the adoption of the system: A smooth transition to digital radio in comparison with the DTV transition

So far the DAB transition has progressed smoothly without employment of any technological measures for content protection.⁶³ There are many factors that can contribute to radio’s smooth transition to digital. This section considers those factors.

⁵⁷ See 2004 RIAA Comments, *supra* note 14, 61-63; See also Declan McCullagh & Milana Homs, *Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems*, 2005 Mich. St. L. Rev. 317, 324 (2005).

⁵⁸ See *Hamilton Report*, *supra* note 42, at 4-5.

⁵⁹ *Id.* at 4, 10.

⁶⁰ *Id.*

⁶¹ See Franklin, *supra* note 43, n. 359 (citing *Hamilton Report*, *supra* note 42, at 10).

⁶² See 2003 DTV R&O, *supra* note 4, at para 14, 21.

⁶³ See 2004 DAB FNPR & NOI, *supra* note 9, at paras 10-17; See also Wolinsky, *supra* note 29.

1. No critical barrier impeding the DAB transition

First, compared to the case of the DTV transition, the DAB transition has no critical barrier to impede it. In the process of the DTV transition, which is scheduled to be completed by February 2009,⁶⁴ one critical issue has been the program owners' unwillingness to provide high value programs for digital TV broadcasts in the absence of an effective copy protection scheme.⁶⁵ The fear has been that without such programming, consumers would not buy DTV receivers and this would delay the DTV transition.⁶⁶ The FCC considered this a practical threat that could significantly slow the phase of the DTV transition⁶⁷ and had aggressively sought a method that could provide content owners with reasonable assurance that DTV broadcast content would not be indiscriminately redistributed.⁶⁸ In November 2003 the Commission adopted the ATSC flag-based regime (DTV Broadcast Flag system), which was developed by the Broadcast Protection Discussion Subgroup (BPDG)⁶⁹ under the auspices of the Copy Protection Technical Working Group,⁷⁰ as the best solution for said issue.⁷¹

⁶⁴ See David Lieberman, *Digital TV deadline could be 2/17/09*, USA TODAY, Dec. 20, 2005, at 1B.

⁶⁵ See 2003 DTV R&O, *supra* note 4, at 4.

⁶⁶ See Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L.J. 603, 610 (2003).

⁶⁷ In the Matter of Digital Broadcast Content Protection, MB Docket No. 02-230, Notice of Proposed Rulemaking (Aug. 20, 2002) [hereinafter 2002 DTV NPRM], http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-02-231A1.pdf; This issue was also recognized in Congress through the Consumer Broadband and Digital Television Promotion Act (Hollings Bill), S. 2048, 107th Cong. (2002).

⁶⁸ 2003 DTV R&O, at 3, para 4.

⁶⁹ The Broadcast Protection Discussion Subgroup (BPDG) is a working group comprised of more than 80 representatives from the consumers electronics, information technology, motion picture, cable and broadcast industries, specifically formed for the purpose of evaluating the suitability of the broadcast flag

In contrast, during the process of the DAB transition, the FCC has not confronted this kind of issue. This may have been mainly because digital audio contents have been more widely available through various media⁷² for a substantially longer time as compared to digital audio-visual contents.⁷³ In the absence of this type of barrier to the DAB transition, the Commission and Congress would critically lack justifications for the adoption of a strong technological mandate such as the ABF scheme.

2. Innovative HD radio technology enabling the co-operation of analog and digital services

As briefly mentioned earlier, iBiquity's IBOC technology enables broadcasters to air new digital services simultaneously with the existing analog broadcast.⁷⁴ Thanks to this technology, the digital transition in radio is substantially easier and less costly for broadcasters compared to television's digital transition. Radio broadcasters can use the existing spectrum and preserve it for as long as needed.⁷⁵ The broadcasters can also use existing infrastructure; they can implement IBOC using their existing towers, antennas,

for preventing unauthorized redistribution. *See 2003 DTV R&O, supra* note 4, at para 12; Wikipedia, http://en.wikipedia.org/wiki/Broadcast_Protection_Discussion_Group (last visited July 26, 2006).

⁷⁰The Content Protection Technical Working Group (CPTWG) is a voluntary working group formed in 1996 by leading companies from the technology and entertainment industries to study and evaluate content protection technologies. *See europe4DRM, http://www.europe4drm.com/standards/cptwg_st.htm* (last visited July 26, 2006).

⁷¹ 2003 DTV R&O, at 3, para 4.

⁷² Such media include digital audio players (e.g., Apple iPod), compact discs, and the Internet, among many.

⁷³ The prerecorded music market had settled into digital formats by the early 1980s. *See History of Recordings, http://www.riaa.com/issues/audio/history.asp* (last visited July 26, 2006); *See also* ROBERT P. MERGES, PETER S. MENELL, & MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 497 (3d. ed. 2003).

⁷⁴ *See 2004 DAB FNPR & NOI, supra* note 9, at para 2.

⁷⁵ *Id.*

and transmission lines.⁷⁶ All these aspects make the DAB conversion inherently less costly than the DTV conversion.⁷⁷ The IBOC technology also offers backward and forward compatibility, which allows consumers to receive analog broadcasts from stations that have yet to convert and digital broadcasts from stations that have converted.⁷⁸ That is, consumers can continue listening to analogue broadcasts both on existing analog radios and HD radios, and can listen to added services on HD Radio receivers.⁷⁹ For all these reasons, it can be fairly argued that there is no urgent need for the FCC to rush the DAB conversion as it did with digital television by setting a hard date for conversion.⁸⁰

B. Seriousness of the defects of the ABF technology as a redistribution control mechanism

1. Legacy problems

According to the DTV broadcast flag rule, the existing digital devices are not required to comply with the flag requirement in order to prevent obsolescence of already

⁷⁶ *Id.* at para 14.

⁷⁷ The estimated average changeover costs for each radio station is \$100,000. This is far less than the changeover costs for a TV station. Drew Winter, High-Definition Radio Almost Ready for Prime Time, *WardsAuto.com*, Mar 31, 2006, at http://wardsauto.com/ar/high-definition_radio_almost_ready/ (last visited July 27, 2006).

⁷⁸ *Id.*

⁷⁹ *Id.* at paras 2-4.

⁸⁰ Congress initially codified December 31, 2006, as the analog television termination date and decided to move the date back to February 2009 in December 2005 due to slow progress of conversion. However, it did not set any termination date for analog radio broadcasting *See* Lieberman, *supra* note 64, at 1B; *See* also *2004 DAB FNPR & NOI, supra* note 9, at para 16 (stating that “there is no analogous Congressional mandate for the termination of analog radio broadcasting. We have not considered a date certain when radio stations should commence digital broadcast operations because radio stations are not using additional spectrum to provide digital service, as is the case with digital television, and band-clearing is not required by statute.”)

manufactured and distributed devices.⁸¹ The same provision can be seen in the Audio Broadcast Flag Bill.⁸² This implies that the audio broadcast flag system is also expected to suffer from problems with legacy devices (legacy problem), as the DTV broadcast flag system could have if it had been enforced as scheduled by the FCC in July 2005.⁸³ This is because, under a flag-based system, unlike under an encryption system,⁸⁴ non-compliant digital legacy devices would still be able to function, being allowed to receive unencumbered digital broadcasts⁸⁵ and output contents without giving recognition and effect to the flag.⁸⁶ This could significantly weaken the effectiveness of a flag-based content protection system.

This critical loophole with a flag-based system led the public interest groups, such as the Electronic Foundation Frontier, to encourage consumers to buy digital TV receivers or personal video recorders without flag protections before July 1, 2005,⁸⁷ the scheduled enforcement date of the DTV flag, which was repealed as a result of the D.C. Circuit Court's decision.⁸⁸ Recognizing this strategy would work well, some manufacturers of DTV devices believed, before the Court decision was made, they would no longer be able to sell their DTV receivers after that date.⁸⁹ It can be fairly expected that if the audio

⁸¹ See 2003 DTV R&O, *supra* note 4, at para 14.

⁸² Audio Broadcast Flag Licensing Act of 2006, H.R. 4861, 109th Cong. § 2 (2006).

⁸³ See 2003 DTV R&O, *supra* note 4, at para 57.

⁸⁴ See *supra* section II.B.

⁸⁵ See Franklin, *supra* note 43, at 242-43.

⁸⁶ DTV R&O, at 9, para 17.

⁸⁷ See e.g., Declan McCullagh & Milana Homs, *Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems*, 2005 MICH. ST. L. REV. 317, 318 (2005); Electronic Frontier Foundation, *High-Definition Personal Video Recorders: Short Introduction*, at <http://www.eff.org/broadcastflag/hdtv-introHY.php> (last visited July 26, 2006).

⁸⁸ See *Am. Library Ass'n v. FCC*, 406 F.3d 689 (D.C.Cir. 2005)..

⁸⁹ See McCullagh & Homs, *supra* note 87, at n. 36 (CNET, citing *Are PCs next in Hollywood Piracy Battle?*, Nov. 5, 2003, <http://news.com.com/2100-10283-5103305.html?tag=nefd.pop> (last visited May 1,

broadcast flag system is adopted and the enforcement date is set, the same situation would occur with DAB devices.

The legacy problem can also be regarded as significant, given the current diffusion phase of satellite radio and HD radio devices.⁹⁰ Satellite radio began its service in the United States in 2001.⁹¹ At the end of the first quarter of 2004, the number of subscribers for each of the two major satellite radio service companies were more than 2,000,000 for XM Satellite Holdings (XM) and 350,000 for Sirius Satellite Radio Inc. (Sirius).⁹² The numbers have grown radically. Currently (as of July 6, 2006), XM has amassed about 6.89 million subscribers while Sirius claims about 4.7 million subscribers.⁹³ XM predicts it will have 20 million subscribers by 2010.⁹⁴

As of October 2003, 10 months after HD radio service launched, the number of HD radio stations was 280 over 100 markets.⁹⁵ In early 2005, in a rare example of cooperation, the major radio broadcasters announced a plan to invest \$250 million to upgrade 2,500

2006));Declan McCullagh & Milana Homs, Leave DRM Alone: A Survey of Legislative Proposals Relating to Digital Rights Management Technology and Their Problems, 2005 Mich. St. L. Rev. 317, 318 (2005).

⁹⁰ Both HD radio and satellite radio service are considered in this section because both services are covered by the ABF Bill. See Audio Broadcast Flag Bill, *supra* note 1, at §§ 2 (a)(1), 2(a)(2).

⁹¹ See 2004 DAB FNPR & NOI, *supra* note 9, at para 12.

⁹² See 2004 iBiquity Comments, *supra* note 16, at 3.

⁹³ Sirius Satellite Radio, http://en.wikipedia.org/wiki/Sirius_Satellite_Radio (last visited on July 26, 2006).

⁹⁴ See 2004 iBiquity Comments, *supra* note 16, at 3(citing XM Satellite Radio Tops Two Million Subscribers, XM Press Release dated June 14, 2004, available at http://www.xmradio.com/newsroom/screen/pr_2004_06_14.html).

⁹⁵ DAB FNPR & NOI, at 6, para 13.

stations across North America for HD radio.⁹⁶ As of April 2006, 770 HD radio stations were in operation in the U.S.⁹⁷ Currently (July 26, 2006) the number of HD radio stations is 917.⁹⁸ This number is expected to reach 1,200 by the end of 2006.⁹⁹ In the case of the radio broadcasting industry, as in the case of the TV broadcasting industry, about 20% of the largest stations, which is 3,000 stations out of 13,000, control most of the ratings/listeners.¹⁰⁰ By the end of 2007, the largest 3,000 stations are supposed to start their digital services.¹⁰¹ At that point, HD radio is expected to reach 90% of Americans.¹⁰²

Although HD Radio receivers first appeared in the market in January 2004, the number of HD Radio receivers in the market has radically increased. The number was 65,000 in 2005¹⁰³, and is expected to be 500,000 in 2006¹⁰⁴ and 12 million by 2007.¹⁰⁵ Diffusion of the HD radio receiver may increase as the price of HD radio receiver radically decreases. The price dropped from about \$1,000 to \$300 in January, 2006. It is expected that the

⁹⁶ Michael Kanellos, High-Definition Radio Gears Up for Reality (May 26, 2005), http://news.com.com/High-definition+radio+gears+up+for+reality/2100-1041_3-5722285.html.

⁹⁷ HD Radio Broadcasting Stations, <http://www.ibiquity.com/cgi-bin/liststations?state=&go=Go%21> (last visited May 1, 2006).

⁹⁸ Find HD Radio Stations Near You, http://www.ibiquity.com/hd_radio/hdradio_find_a_station (last visited July 26, 2006).

⁹⁹ Joseph Palenchar, HD Radio Stations Hit 700, Feb. 13, 2006, <http://www.twice.com/article/CA6307181.html> (last visited July 26, 2006).

¹⁰⁰ See Drew Winter, High-Definition Radio Almost Ready for Prime Time, WardsAuto.com, Mar 31, 2006, at http://wardsauto.com/ar/high-definition_radio_almost_ready/ (last visited July 27, 2006).

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ Wolinsky, *supra* note 29.

¹⁰⁴ *Id.*

¹⁰⁵ See Franklin, *supra* note 43, at 203 (citing Paul Bond, Free Digital Radio Hits Airwaves: iBiquity Piggybacks HD Signal on Analog Broadcasts, Hollywood Reporter, June 13-15, 2003, at 16.)

\$100 price point, which is considered as the price point for consumer acceptance, will be reached sometime in 2007.¹⁰⁶

2. Inherent vulnerability to circumvention

All copy protection schemes are inherently vulnerable to circumvention. That is, there is no copy protection scheme that is perfectly safe from circumvention.¹⁰⁷ There have been numerous examples of the circumvention of the newly introduced digital right management systems by clever programmers.¹⁰⁸ Being fully mindful of such an aspect of copy protection schemes, the Commission itself noted in its Report and Order on the adoption of the DTV broadcast flag that hardware or software demodulators free from the effect of the flag could be produced with relative ease by individuals with some degree of technical sophistication, particularly through the use of digital to analog converters.¹⁰⁹ When the information in digital form is converted to a perceptible analog form through these converters, the resulting analog signal would have no restrictions, and the converted analog signals can be captured back into digital form with no restrictions.¹¹⁰ In this process, the flag would be lost and a high-quality file available for perfect and unlimited digital copying and transmission with no flag attached would be produced.¹¹¹ The term

¹⁰⁶ Wolinsky, *supra* note 29.

¹⁰⁷ See McCullagh & Homs, *supra* note 87, at 318.

¹⁰⁸ *Id.*

¹⁰⁹ See 2003 DTV R&O, *supra* note 4, at para 17.

¹¹⁰ Analog Hole, http://en.wikipedia.org/wiki/Analog_hole (last visited July 27, 2006).

¹¹¹ See Crawford, *supra* note 66, at 618.

“analog hole” refers to this problem.¹¹² Moreover, flagged digital materials captured from an analog output are transformed into high-quality analog form, and then redigitized.¹¹³

The Commission responded to these concerns with an ill-grounded optimism, stating that its goal with the broadcast flag system was to create a “speed bump” mechanism, rather than a perfect solution, against indiscriminate redistribution of broadcast content.¹¹⁴

However, the problem with this rationale is that perfect digital copies and the Internet could lead just one bypass of a copy protection to millions of perfect copies available through file trading networks.¹¹⁵ Therefore, it is very doubtful how well and how long a flag-based system can play a significantly meaningful role as a “speed bump” to prevent unauthorized copying and distribution of broadcast content.

C. A great possibility of stifling technological innovation

1. Broad scope of the regulation

According to the proposed ABF Bill, the scope of technologies targeted by the regulation is substantially broad. The Bill specifically states that all technologies necessary to make transmission and reception devices capable of receiving digital audio signals, including digital satellite radio services, should be compliant with the flag requirement.¹¹⁶ The

¹¹² See 2003 DTV R&O, *supra* note 4, at para 17 (stating that “analog hole” refers to the fact that “high quality content can be transmitted over component analog outputs without content protection.”)

¹¹³ Crawford, at 619

¹¹⁴ *Id* at 9, para 19.

¹¹⁵ See McCullagh & Homs, *supra* note 87, at 318.

¹¹⁶ Audio Broadcast Flag Bill, *supra* note 1, at § 2.

scope of regulatory targets proposed by the RIAA is equally much too broad. The RIAA suggests that all content should be effectively protected via “any wired or wireless network or HD radio receivers or removable media”¹¹⁷ as well as “all HD radio services.”¹¹⁸

Given the similarity of the DTV flag and the ABF, the scope of regulation the ABF would aim to cover can be inferred from what the DTV flag rule aimed to cover.

According to the joint proposal by the Motion Picture Association of America (MPAA) and the “5C” companies,¹¹⁹ “all consumer electronics, personal computer (PC) or information technology (IT) products with demodulators that are used to receive DTV broadcast programming must respond and give effects to the ATSC flag.”¹²⁰ This broad scope of regulation was anticipated when the Hollings Bill was introduced in Congress in 2002.¹²¹ This bill concretely mentioned the scope of devices targeted by the regulation as “nearly any kind of electronics device, from TV sets to personal digital assistants to wristwatch cell phones to general purpose computers.”¹²² Practically, this means that “any redistribution to any machine will have to be authorized.”¹²³ Although the bill failed to be adopted due to public outcry, the content industry used this bill as a precedent-

¹¹⁷ See *Hamilton Report*, *supra* note 42, at 12.

¹¹⁸ *Id.* at 11.

¹¹⁹ The “5C” is a consortium that has developed the Digital Transmission Content Protection System, or DTCP, which offers secure electrical transmission of compressed content over particular interconnections. See *Crawford*, *supra* note 66, at n. 13; The “5C” consortium is made up of the following 5 companies: Sony, Hitachi, Intel, Mitsubishi, and Toshiba. See *2003 DTV R&O*, *supra* note 4, at n. 89.

¹²⁰ *2003 DTV R&O*, *supra* note 4, at para 39.

¹²¹ The Hollings Bill, Sen. 2048, 107th Cong. 5 (2002) [hereinafter *Hollings Bill*].

¹²² See *Crawford*, *supra* note 66, at 607 (citing *Hollings Bill*).

¹²³ *Id.* at 630.

setting “mini-Hollings” approach in the context of the country’s move towards digital television.¹²⁴

The FCC largely adopted the joint proposal on the regulatory scope of the MPAA and the 5C companies and concluded that any PC and IT products that are used for off-air DTV reception would be included in the scope, only leaving consumer modulators¹²⁵ which the MPAA and content providers believe may not ever become prevalent,¹²⁶ out of the scope.¹²⁷ This means “not only future digital televisions and set-top boxes” but also “computers or other future hardware or software capable of demodulating a DTV broadcast or receiving content from a device that has demodulated the signal” would have been included the scope of the DTV flag regulation.¹²⁸ Recognizing the broadness of the scope of regulation, the Commission itself noted in its Report and Order on DTV flag that “the keystone of a flag protection system is the ubiquitous ability of reception devices to respond and give effect to the redistribution control descriptor.”¹²⁹

Considering the fact that implementation of the ABF scheme would require a certain degree of restrictions on designs of otherwise lawful consumer electronics, as would the

¹²⁴ *Id.* at 608.

¹²⁵ Consumer modulators refer to “devices that would convert digital broadcast content into 8-VSB, 16VSB, 64-QAM, or 256 QAM signals for use in a home network.” *See* Motion Picture Association of America, et al, Reply Comments on the Matter of Digital Broadcast Copy Protection, MB Docket No. 02-230, at 39 (Feb. 13, 2003), available at <http://www.nab.org/newsroom/PressRel/Filings/DTVCopyReply21803.pdf> [hereinafter *2003 MPAA Reply Comments*].

¹²⁶ *See* 2003 MPAA Reply Comments, *supra* note 122, at 39.

¹²⁷ *See* 2003 DTV R&O, *supra* note 4, at para 40.

¹²⁸ *See* Crawford, *supra* note 66, at 612.

¹²⁹ 2003 DTV R&O, at 20, para 39.

DTV flag scheme,¹³⁰ it can be fairly argued that the broadness of the scope of technologies the ABF regulation targets would cause detrimental effects on innovation.

2. Design restrictions on functionalities of the DAB devices

DAB devices, both satellite radio and HD radio, have seen a great degree of development within a relatively short period.¹³¹ It is fairly expected that the evolution of DAB devices will continue at a rapid rate, unless there are any external forces working against it, such as regulatory restrictions that would negatively affect technological innovation.

One of the most revolutionary features of digital radio receivers compared to analog receivers is that they can offer data display service in scrolling text form. Such data include song titles, artist names, traffic updates, weather forecasts, sports scores, etc.¹³² Newer generations of devices offer more advanced data and audio services, such as “surround sound, multiple audio sources at the same dial position, on-demand audio services, store-and-replay, overlaying real-time traffic information on a navigational map to help [audiences] find the shortest route, a buy button for music, sports and concert tickets, etc.”¹³³

¹³⁰ See Crawford, *supra* note 66, at 633.

¹³¹ See e.g., 2004 DAB FNPR & NOI, *supra* note 9, at para 2; iBiquity Digital, HD Radio: How HD Radio Works, http://www.ibiquity.com/hdradio/hdradio_how.htm (last visited May 5, 2006) [hereinafter *How HD Radio Works*]; See 2004 iBiquity Comments, *supra* note 16, at 3.

¹³² See e.g., See 2004 iBiquity Comments, *supra* note 16, at 4; *How HD Radio Works*, *supra* note 127.

¹³³ *Id.* *How HD Radio Works*, *supra* note 1318.

Furthermore, recording functions and storage capacity have been greatly improved.¹³⁴ With newer devices listeners can automatically store music content for later listening,¹³⁵ schedule recordings from both music and talk stations, and link up to their personal computers in order to transfer recorded music to MP3 players.¹³⁶ It is expected that HD Radio receivers with TiVo-like features would be available in the near future, which would allow the listener to skip from song-to-song and skip over advertisements.¹³⁷

The usage rules suggested by the RIAA related to the ABF system specifically target all these innovative functions of DAB devices. The usage rules include:

- (1) Users should be permitted to record digital broadcasts manually and to record blocks of time on a pre-programmed basis.¹³⁸
- (2) Pre-programmed recordings shall be for a minimum period of 30 minutes in duration.¹³⁹
- (3) Each recording of covered content may not be divided into recordings of individual songs on automated basis using ID information.¹⁴⁰
- (4) ID information shall be recorded only in a manner that effectively limits its use to display during simultaneous audio play back.¹⁴¹

¹³⁴ See 2004 RIAA Reply Comments, *supra* note 31, at 14, 22.

¹³⁵ See Franklin, *supra* note 43, at 207.

¹³⁶ See e.g., 2004 RIAA Reply Comments, *supra* note 31, at 14; Troy Drierier, Editor's Review, Dec. 20, 2005, at http://reviews.cnet.com/Sirius_S50/4505-7873_7-31629417.html (last visited July 27, 2006); Paul Festa, XM Radio pulls PC hardware amid piracy concerns, Aug. 30, 2004 http://news.com.com/XM+Radio+pulls+PC+hardware+amid+piracy+concerns/2100-1026_3-5330698.html?tag=nl (last visited July 27, 2006).

¹³⁷ See Franklin, *supra* note 43, at 207.

¹³⁸ RIAA Reply Comments, at 57.

¹³⁹ RIAA Comments, at 58

¹⁴⁰ *Id.*

- (5) No recordings device shall record covered content based on ID information.¹⁴²

Although the above usage rules are not adopted by the FCC yet, these rules indicate how the ABF scheme should be framed in order to achieve the originally desired robustness as an effective copying and redistribution control measure. In other words, the ABF system would not be able to achieve its policy goal without mandating design changes on DAB devices, at least to some degree, and this clearly would be detrimental to innovation.

3. Impediment to the development of the fledgling DAB industry

Both HD and satellite radio services are fledgling industries. Technological restrictions on functionalities of DAB devices would impede the development of these industries.¹⁴³

This is particularly true, considering that both industries can use the innovative functionality features of DAB devices as killer applications to promote their services. For example, consumers would have little incentive to buy DAB devices if the devices could not offer as much convenience in personal recording for time shifting purposes as they should.¹⁴⁴ Manufacturers would not be interested in producing DAB devices if such critical functionalities have to be removed or restricted.¹⁴⁵

¹⁴¹ *Id.* at 59

¹⁴² *Id.*

¹⁴³ See 2004 *iBiquity Comments*, *supra* note 16, at 31.

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

For these reasons, the National Association of Broadcasters (NAB) strongly objects to any type of content protection rules for digital audio broadcasting.¹⁴⁶ The NAB contends that the FCC should adopt policies that provide broadcasters with the flexibility needed to offer innovative supplemental services.¹⁴⁷ For a justification of that argument, the NAB points out the fact that “radio stations must compete for listeners’ attention with many different media, including television, portable digital audio players (e.g., Apple iPod), compact discs, video games, movies, and the Internet.”¹⁴⁸ Design restrictions on some of the innovative functions of the DAB devices may abolish broadcasters’ most workable competitive advantages over other media.

D. A serious possibility of significantly limiting consumers’ rightful use of broadcast materials

With respect to the RIAA’s proposal of the ABF system as a content protection scheme for digital audio broadcasts, many commentators raised objections on the grounds that the functional mechanism of the ABF system inherently constrains or prohibits certain types of legitimate uses of broadcast content.¹⁴⁹ Pointing out this aspect of the ABF scheme, the Electronic Frontier Foundation strongly criticizes the RIAA’s proposal: “The RIAA proposal is not about content protection to prevent piracy, but rather restricting otherwise

¹⁴⁶ See 2004 NAB Reply Comments, *supra* note 38, at iii-iv.

¹⁴⁷ *Id.* at 5.

¹⁴⁸ *Id.* at 6.

¹⁴⁹ Private home use for time-shifting or space-shifting purposes, and other types of fair use. See *Sony Corp. America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984); *Recording Indus. Assoc. of America v. Diamond Multimedia System, Inc.*, 180 F. 3d 1072 (1999); 17 U.S.C. § 107.

lawful noncommercial home recording, contradicting the considered policy determinations of Congress and the courts.”¹⁵⁰

Section 2 of the Audio Broadcast Flag Licensing Act of 2006 (ABF Bill) deals with this concern, attempting to delineate the scope of non-infringing uses that the regulation should exclude:

The adoption of any digital audio regulations...shall not be inconsistent with the customary use of broadcast content by consumers to the extent such use is consistent with the purpose of this act and other applicable law.¹⁵¹

However, the interpretation of this provision is very problematic, because of the use of the phrases of “customary use” and “other applicable law” without any reference or definition. There are several statutory or case laws that could support certain types of uses of broadcast content as “customary use.” The most relevant such statutory laws include: the fair use provision of the Copyright Act of 1976¹⁵² and the Audio Home Recording Act of 1992 (AHRA).¹⁵³ The most relevant such case laws include: the Supreme Court decision in 1984 (*Sony*)¹⁵⁴ and the decision of the U.S. Court of Appeals

¹⁵⁰ See 2004 EFF Comments, *supra* note 38 , at 4.

¹⁵¹ See Audio Broadcast Flag Bill, *supra* note 1, at § 2.

¹⁵² 17 U.S.C. § 107. Limitations of exclusive rights: Fair use.

¹⁵³ Audio Home Recording Act of 1992, 17 U.S.C. §§ 1001-1010, Pub. L. No. 102-563, 106 Stat. 4237 (1992) [hereinafter *AHRA*] (prohibits copyright owners from bringing a copyright infringement action against non-commercial private home recording using digital audio recording devices. 17 U.S.C. § 1008.)

¹⁵⁴ *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984) (held that non-commercial private home recording for time-shifting purposes is fair use.)

for the 9th Circuit in 1999 (*Diamond*).¹⁵⁵ Most of the non-exclusive right provisions of the Copyright Act of 1976¹⁵⁶ and the Digital Millennium Copyright Act of 1998 (DMCA).¹⁵⁷ should be included within the boundary of “other applicable law,” which prescribe the copyright owners’ rights and copyright infringements.

When the FCC announced the DTV broadcast flag rule, it articulated that the express goal of the regulation was to build a redistribution control system, rather than a copy control system, to prevent the indiscriminate redistribution of broadcast content over the Internet or through similar means.¹⁵⁸ Given that it is fairly expected that the Commission would pursue the same goal with the ABF scheme, the issue is that there is an inherent conflict between this policy goal and consumers’ customary uses supported by the laws listed above. That is, the above mentioned provision in the ABF Bill is self-contradictory in that “the adoption of any digital audio regulations, which are not inconsistent with the customary use of broadcast content by consumers” tends not to be “consistent with the purpose of the act and other applicable law,” often to a significant degree.¹⁵⁹ In the same sense the Commission statement that its DTV flag rule “no way limits or prevents

¹⁵⁵ *Recording Indus. Assoc. of America v. Diamond Multimedia System, Inc.*, 180 F. 3d 1072 (9th Cir. 1999) (held that non-commercial private home recording of digital sound recording for space-shifting purposes is fair use.)

¹⁵⁶ 17 U.S.C. §§106, 106(A).

¹⁵⁷ Digital Millennium Copyright Act of 1998, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 17 U.S.C.) [hereinafter *DMCA*] DMCA expanded copyright protection “beyond its traditional prohibitions against infringement of copyright’s exclusive rights to include limits on the decryption or circumventing or technological protection systems and the trafficking in such decryption tools. *See* ROBERT P. MERGES, PETER S. MENELL, & MARK A. LEMLEY, *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 499 (3d. ed. 2003).

¹⁵⁸ *See 2003 DTV R&O*, *supra* note 4, at 6.

¹⁵⁹ *See* Audio Broadcast Flag Bill, *supra* note 1, at § 2(c)(3).

consumers from making copies of digital broadcast television content”¹⁶⁰ clearly contradicts its statement about the goal of the regulation mentioned above.¹⁶¹

Most notably, the ABF scheme restricts consumers’ customary use for space-shifting purposes, which was approved as lawful use in *Diamond*.¹⁶² This is because under the proposed ABF scheme, “receiving devices would not be allowed to output the digital signal, except to another device that will honor the content protection usages rules.”¹⁶³ That is, as with the case of DTV flag, content recorded onto a flag-compliant device will only be able to be viewed on other flag compliant devices and not on legacy devices.¹⁶⁴ In addition to this, if a program is encoded with a flag that allows it to make only a first generation copy, space-shifting between different types of media would be impossible, even when using only compliant devices.

Other equally serious issues are involved with the ABF scheme’s effects on fair use. When the RIAA proposed the ABF mechanism, it specified that under the ABF scheme, radio broadcasters would be required to flag all covered content to indicate that copyright is asserted.¹⁶⁵ When the FCC adopted the DTV flag rule, it declined to involve itself in the matter of determining which types of broadcast content merit protection from indiscriminate redistribution and which do not.¹⁶⁶ The Commission deferred this critical

¹⁶⁰ See 2003 DTV R&O, *supra* note 4, at 6.

¹⁶¹ *Id.*

¹⁶² Recording Indus. Assoc. of America v. Diamond Multimedia System, Inc., 180 F. 3d 1072 (9th Cir. 1999).

¹⁶³ See 2004 RIAA Comments, *supra* note 14, at 64.

¹⁶⁴ See 2003 DTV R&O, *supra* note 4, at para 47.

¹⁶⁵ See Hamilton Report, *supra* note 42, at 10.

¹⁶⁶ See 2003 DTV R&O, *supra* note 4, at 20.

task to the hands of broadcasters.¹⁶⁷ Considering the closely entangled relationships between broadcasters and television content providers, in many cases within the same umbrella of common-ownership,¹⁶⁸ this Commission action means that content providers can exert powerful control over consumers' use of broadcast contents. In fact, when many consumer advocate groups, such as the Consumer Electronics Association, Public Knowledge, Consumer Union, and Consumer Federation of America, suggested a prohibition on the use of the flag for news and public interest programming,¹⁶⁹ the Corporation of Public Broadcasting (CPB), the Motion Pictures Association of America (MPAA), and the National Association of Broadcasters (NAB) opposed the suggestion on the following grounds:¹⁷⁰ (1) it would implicate FCC overview of content, and (2) news and public interest programming merits the same level of protection afforded to entertainment programming.¹⁷¹ NBC Affiliates and other broadcast interests argued that "local broadcasters should have the right to protect news programming as it has inherent economic value and that to do otherwise could discourage its creation."¹⁷² The Commission agreed with the broadcasters and content providers and concluded that "to the extent broadcasters wish to use the ATSC flag to protect unencrypted DTV broadcasts, they may do so provided they do not transmit the optional additional bits" provided otherwise.¹⁷³

¹⁶⁷ *Id.*

¹⁶⁸ See BEN H. BAGDIKIAN, *THE MEDIA MONOPOLY: WITH ANEW PREFACE ON THE INTERNET AND TELECOMMUNICATIONS CARTELS* (6th ed. 2000), at 28-29, 30-50.

¹⁶⁹ See *2003 DTV R&O*, *supra* note 4, at para 38.

¹⁷⁰ *Id.* at para 38. (CPB Reply Comments at 2; see also MPAA 10/8/03 Letter at 6-7; Letter from Lonna Thompson, APTS, to Kenneth Ferree, Chief, Media Bureau, FCC (Oct. 8, 2003); Letter from Eddie Fritts, NAB, to Michael K. Powell, FCC (Oct. 27, 2003) (opposing any exemption for news and public affairs programs).)

¹⁷¹ *Id.*

¹⁷² *Id.* .

¹⁷³ *Id.*

VI. Examination of the relevant existing regulations

The Audio Home Recording Act of 1992 (AHRA)¹⁷⁴ and the Digital Performance Right in Sound Recordings Act of 1995 (DPRSA)¹⁷⁵ are relevant in a discussion of the current issue in that they also deal with the concerns caused by the development of the digital audio technology and its concomitant threats to the recording industry and artists.

The AHRA addresses the problem of unauthorized copying and distribution using digital audio devices. For the first time in copyright history, it imposed technological design restrictions on copying devices and established a royalty system on the sale of devices and blank recording media.¹⁷⁶ The DPRSA addresses the same problem by recognizing a public performance right in digital sound recording that is digitally transmitted to the public.¹⁷⁷ Although some of the provisions of these two acts can be used as useful guidelines in seeking solutions for the present matter, both of these regulations have limitations because they were enacted when the Internet was still in its formative stages.¹⁷⁸ At the times of the enactment of these two acts, neither Congress nor any of the parties involved appreciated the role of the Internet as a new distribution channel, nor the

¹⁷⁴ 17 U.S.C. §§ 1001-1010, Pub. L. No. 102-563, 106 Stat. 4237 (1992)

¹⁷⁵ 17 U.S.C. § 114, Pub. L. No. 104-39, 109 Stat. 336 (1995).

¹⁷⁶ See MERGES, MENELL, & LEMLEY, *supra* note 157, at 497.

¹⁷⁷ See 17 U.S.C. § 114, Pub. L. No. 104-39, 109 Stat. 336 (1995).

¹⁷⁸ See Elizabeth R. Gosse, *Recording Industry Association of America v. Diamond Multimedia Systems, Inc.: The FIAA Could Not Stop the Rio—MP3 files and the Audio Home Recording Act*, 34 U.S.F. L. REV. 575, 599 (2000).

threat the Internet would pose to copyright owners.¹⁷⁹ Consequently, the introduction and rapid growth of music services on the Internet led to an amendment of the DPRSA through the Digital Millennium Copyright Act (DMCA) in 1998.¹⁸⁰ Moreover, these two acts did not deal at all with the issues associated with digital audio broadcasting, which has rapidly developed since the two acts were created.

This section examines the methods these two acts created to counteract unauthorized copying and distribution of digital audio contents for their possible application to the present matter. The examination specifically focuses on how the relevant provisions can be modified so that they can address the present matter in the current context.

A. Audio Home Recording Act of 1992 (AHRA)

1. Definitional issues

The AHRA was the result of a compromise between the recording industry and the consumer electronics industry.¹⁸¹ The Act prohibits the importation, manufacture, and distribution of any digital audio recording devices (DARDs) or digital audio recording medium (DARMs) that do not conform to the Serial Copy Management System (SCMS) and royalty payment obligations.¹⁸² In return, copyright owners may not bring any copyright infringement action against the non-commercial use by a consumer of a

¹⁷⁹ *Id.* at 599; *See also* Steven M. Marks, *Entering the Sound Recording Performance Right Labyrinth: Defining Interactive Services and the Broadcast Exemption*, 20 Loy. L.A. Ent. L. Rev. 309, 309 (2000).

¹⁸⁰ *See* Marks, *supra* note 178, at 309.

¹⁸¹ *See* Franklin, *supra* note 43, at 236.

¹⁸² 17 U.S.C. §§ 1002-1003.

compliant digital audio recording device or medium for making digital musical recordings or analog musical recordings.¹⁸³

Under the compensatory royalty system of the AHRA, two percent of the transfer price (minimum \$1, maximum of \$8 per device) is imposed on each digital audio recording device imported or manufactured and distributed in the U.S.¹⁸⁴ Three percent of the transfer price is imposed as royalties on each of the digital audio recording medium.¹⁸⁵

The royalty payments are divided into two funds – 66 and 2/3 percent of the payments are released to the Sound Recordings Fund and 33 and 1/3 percent of the payments are released to the Musical Works Fund¹⁸⁶ – and then distributed to any interested copyright parties.¹⁸⁷

The AHRA employs a copying control system titled Serial Copy Management System (SCMS).¹⁸⁸ It sets a “copy bit” in each copy, which prevents users from making further copies of the first copies.¹⁸⁹ However, the SCMS allows users to create as many first generation copies as they wish.¹⁹⁰

¹⁸³ 17 U.S.C. § 1008.

¹⁸⁴ 17 U.S.C. § 1004 (a).

¹⁸⁵ 17 U.S.C. § 1004 (b).

¹⁸⁶ 17 U.S.C. § 1006 (b).

¹⁸⁷ 17 U.S.C. § 1006 (a).

¹⁸⁸ The SCMS is an early form of digital rights management (DRM).

¹⁸⁹ Serial Copy Management System, http://en.wikipedia.org/wiki/Serial_copy_management_system (last visited July 27, 2006).

¹⁹⁰ 17 U.S.C. § 1002.

One of the questions for which the FCC sought comments in its Notice of Inquiry on DAB matters in 2004¹⁹¹ was the relationship between the AHRA and any action the Commission might be requested to take in relation with DAB content protection issues.¹⁹² The responses of many commentators to this question was that the AHRA directly governs the DAB issues, therefore, the copy control restrictions proposed by the RIAA, including the ABF scheme, should be considered as violation of the Act's provision that assures non-commercial private home recording using a digital audio recording device.¹⁹³ The RIAA's position was opposite to this. The RIAA argued that the DAB issues are out of the perimeter of the AHRA, therefore, the RIAA can freely seek any methods that can deal with the piracy concerns brought by digital audio broadcasting.¹⁹⁴ The discrepancy between the two sides is mainly caused by the confusing definitions of the following two terms under the AHRA: a "digital audio recording device" (DARD) and a "digital musical recording" (DMR).

A "digital audio recording device" (DARD) is defined under the AHRA as "any machine or device of a type commonly distributed to individuals for use by individuals, whether or not included with or as part of some other machine or device, the digital recording function of which is designed or marketed for the primary purpose of, and that is capable of, making a digital audio copied recording for private use."¹⁹⁵ A "digital musical recording" (DMR) is defined as a "material object in which are fixed, in a digital

¹⁹¹ See 2004 DAB FNPR & NOI, *supra* note 9.

¹⁹² *Id.* at para 69.

¹⁹³ See e.g., See 2004 EFF Comments, *supra* note 38 , at 3-4; See 2004 Public Knowledge & Consumer Group Comments, *supra* note 38 , at 11; See 2004 HRRC Comments, *supra* note 149 , at 21-22.

¹⁹⁴ See 2004 RIAA Comments, *supra* note 14, at 68-75.

¹⁹⁵ 17 U.S.C. § 1001(3).

recording format, only sounds and material, statements, or instructions incidental to those fixed sounds.”¹⁹⁶ A digital musical recording does not include “a material object... in which one or more computer programs are fixed...”¹⁹⁷

The issue here is whether a DAB receiver/recorder should be considered as DARD under the meaning of the AHRA. To address this matter properly, the 9th Circuit Court’s decision in 1999 (*Diamond*)¹⁹⁸ first needs to be considered. In this case, the Court needed to determine whether to enjoin the manufacture and distribution by Diamond Multimedia Systems (Diamond) of the Rio, the portable MP3 music player.¹⁹⁹ To decide the matter, the Court had to decide whether the Rio is a DARD under the meaning of the AHRA, therefore falls within the ambit of the Act.²⁰⁰ To decide whether or not the Rio is a DARD, the Court first needed to consider the question of whether the Rio was directly able to reproduce a “digital music recording” as defined in the Act, which specifically refers to “a specific type of material object in which only sounds are fixed (or material and instructions incidental to those sounds).”²⁰¹ Through a long process of reasoning, the court concluded that the Rio is not a DARD under the meaning of AHRA.²⁰² The Court’s reasoning for this conclusion was as follows:

Although the typical computer hard drive from which a Rio directly records is a material object, almost all computer hard drives contain much more than “only

¹⁹⁶ 17 U.S.C. § 1001(5)(A).

¹⁹⁷ 17 U.S.C. § 1001(5)(B).

¹⁹⁸ Recording Indus. Ass’n of Am. V. Diamond Multimedia Sys. Inc., 180 F. 3d 1072 (9th Cir. 1999).

¹⁹⁹ *Id.* at 1073.

²⁰⁰ *Id.* at 1075.

²⁰¹ *See Diamond*, 180 F. 3d, at 1076 (citing 17 U.S.C. § 1001(5)(A).)

²⁰² *Id.*

sounds, and material, statements, or instructions incidental to those fixed sounds.”²⁰³ That is, computer hard drives almost always contain numerous programs and databases that are not incidental to any sound files fixed on the hard drive. Therefore, it can not be said that the Rio makes copies from digital music recordings, and thus would not be a DARD under the meaning of AHRA.²⁰⁴

The Court also reviewed the legislative history reflecting Congress’s unwillingness to include computers within the purview of the AHRA.²⁰⁵ The Court held that computers and the Rio are not DARDs, so do not have to conform the AHRA’s requirements for royalty payments and the SCMS encryption, and there is no basis to enjoin the manufacture and distribution of the Rio.²⁰⁶ The logics in *Diamond* that exclude computers from the category of DARD within the meaning of the AHRA was reaffirmed in *A&M Records, Inc. v. Napster* in 2001 (*Napster*).²⁰⁷

²⁰³ 17 U.S.C. § 1001 (5).

²⁰⁴ *See Diamond*, 180 F. 3d, at 1076.

²⁰⁵ *See Diamond*, 180 F. 3d, at 1077 (citing the Senate Report stating that “if the material object contains computer programs or data bases that are not incidental to the fixed sounds, then the material object would not qualify under the basic definition of a digital musical recording. S. Rep. 102-294 (1992), reprinted at 1992 WL 133198, at *118-19); *See also Id.* (citing the House Report considering “talking books” and “computer programs as an exemption from the digital musical recording definition of “a material object in which one or more computer programs are fixed” 16 U.S. C. § 1001(5)(B)(ii). H.R. Rep 102-873(I) (1992), reprinted at 1992 WL 232935, at *35).

²⁰⁶ *Id.*

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

2. Are DAB devices DARDs under the meaning of the AHRA?

When dealing with the question of whether DAB receiving/recording devices can be regulated by the AHRA, the RIAA largely relied on the logic in *Diamond*.²⁰⁸ It also used the following fact as circumstantial evidence to support its position that DAB devices are unlikely to be regulated by the AHRA: There have not been any new notices filed in the Copyright Office with respect to DARDs since the year 2000.²⁰⁹ The AHRA requires the importer or manufacturer of any DARD (or DARM: digital audio recording medium) to file with the Register of Copyrights a notice with respect to such device.²¹⁰ The RIAA argues that the very experience with the AHRA's filing requirements demonstrates that the reach of the Act is quite limited.²¹¹ The RIAA goes on to argue that the AHRA was designed to address a narrow issue – serial copyright by a limited class of devices – but not the issues posed by wide scale of digital copying or distribution of DAB contents.²¹²

Considering the fact that more and more DAB devices operate in conjunction with a computer²¹³ and that a device with such function can be considered as a removable hard drive,²¹⁴ it can be reasonably argued that DAB devices should not be considered as DARDs under the meaning of the AHRA. Thus, they are not subject to the regulatory control of the AHRA. We can find further support for this claim if we consider the fact

²⁰⁸ See 2004 RIAA Comments, *supra* note 14, at 68 -75.

²⁰⁹ *Id.* at 68, n. 210.

²¹⁰ 17 U.S.C. § 1003 (b).

²¹¹ See 2004 RIAA Comments, *supra* note 14, at 68, n. 210.

²¹² *Id.* at 71.

²¹³ See *supra* section III C.2.

²¹⁴ See Franklin, *supra* note 43 , at 231.

that DAB devices themselves are equipped with built-in hard drives.²¹⁵ In addition to this, the definition of a DARD as “any machine or device ...the digital recording function of which is designed or marketed for the *primary purpose* of, and that is capable of, making a digital audio copied recording for private use”²¹⁶ can also be triggered as a basis to exclude the DAB devices from the category of the DARD. This “primary purpose” requirement can easily be used as a loophole to exclude the DAB devices, which have a wide variety of functions, including data service,²¹⁷ from the DARD category.

3. Application of the AHRA - Creation of a new act using the compulsory royalty system of the AHRA

Excluding the DAB device from the category of DARD is critical in order to safely leave DAB devices and computers (and their hard drives) out of the range of the AHRA requirement to comply with the Serial Copy Management System (SCMS), which strictly prohibits the creation of second-generation copying. Slight changes of some wordings in the definition of the DARD in AHRA may force the DAB device to be included within that category. However, it is very likely that such definitional changes would destroy the special status of the computer as an exemption from coverage under the AHRA, which was deliberately contoured by Congress when it created the Act.²¹⁸ If computers and their

²¹⁵ *Id.*

²¹⁶ 17 U.S.C. § 1001(3).

²¹⁷ *See supra* section III C.2.

²¹⁸ About the District Court’s opinion that the exemption of computers from the AHRA’s ambit would effectively eviscerate the Act because “any recording device could evade regulation simply by passing the music through a compute,” the Diamond Court said that “the Act seems to have been expressly designed to create this loophole.” *See Diamond*, 180 F. 3d, at 1078.; The Diamond Court also said that the exclusion of computers from the Act’s scope seemed to have been a calculated move by those trying to pass the Act who recognized that the computer industry

hard drives are subject to the technological design restrictions the AHRA mandates, the detrimental effects on innovation would be severe. This is especially true considering that the open-platform personal computer has been an engine driving American innovation during the past decade.²¹⁹

The virtue of the AHRA in dealing with the problem of unauthorized copying and distribution of digital sound recording lies in its compulsory royalty system, rather than in its copying control system. As discussed earlier, copying control systems, however advanced they are, have inherent vulnerability to circumvention, not to mention their detrimental impact on innovation.²²⁰ Moreover, when the copying control system is enforced in the form of centralized regulation through federal agencies, such as the FCC, the cost and stifling effects on innovation should be greater.

This paper suggests that the AHRA's carefully configured compulsory royalty system, which has been managed through the Copyright Office and Treasury throughout the past decade²²¹ should be a good example of a productive regulatory scheme that can more positively address the current problems. The key point of this scheme is to let those who benefits from a technology compensate, directly or indirectly, some of the loss the use of

would have vigorously oppose passage of the Act without that exclusion. *Id.* See also See Franklin, *supra* note 43 , at 230-31, n. 255.

²¹⁹ See Crawford, *supra* note 66, at 633.

²²⁰ See generally *supra* section III. B, C.

²²¹ 17 U.S.C. §§ 1003-1007.

the technology causes to copyright owners.²²² One crux of this system is the careful consideration of the rights of recording companies and recording artists (featured and non-featured) to receive some degree of monetary compensation for their possible losses.²²³ The AHRA's compulsory royalty system allocates the largest chunk of the royalty payments (two third of the whole payments) to the Sound Recording Fund and specifies details so that certain portions of the fund can be distributed to all rightful recording artists as well as the owners of sound recording rights (mostly record labels) and independent administrators.²²⁴ This should be considered an appropriate measure, considering the following: (1) the potentially detrimental effect of the increasingly prevalent unauthorized digital copying and distribution of sound recording to the sale of music;²²⁵ (2) the U.S. copyright's lack of recognition of public performance right in sound recording at the time of the enactment of this Act;²²⁶ (3) the exemption of the over-the-air broadcast from the ambit of the DPRSA, which finally recognized a limited public performance right in sound recording;²²⁷ (4) the tendency of record companies to unjustly compensate recording artists due to private contracts.²²⁸

²²² Not only manufacturers or distributors but also the consumers should be considered as beneficiaries of the technology. Consumers would indirectly contribute to the compensation by paying higher prices for devices, because royalty payments will ultimately be reflected in the price of a device.

²²³ 17 U.S.C. §§ 1006.

²²⁴ See 17 U.S.C. §§ 1006 (b)(1).

²²⁵ See e.g., DONALD E. BIEDERMAN, MARTIN E. SILFEN, ROBERT C. BERRY, EDWARD P. PIERSON, & JEANNE A. GLASSER, *LAW AND BUSINESS OF THE ENTERTAINMENT INDUSTRIES* 584 (4TH ED.2001); See Crawford, *supra* note 66, at 603, n. 3; 2004 *iBiquity Comments*, *supra* note 16, at 2-3; *Diamond*, 180 F.3d, at 1073.

²²⁶ See 17 U.S.C. 106(4).

²²⁷ 17 U.S.C. § 114. (d)(1).

²²⁸ See BIEDERMAN et al., *supra* note 225, at 586-600. In general, various advances paid by a record company to the artist are supposed to be recouped against the artist's royalties. The artist's royalties (typically beginning at the rate of 9-12% of the suggested retail price or 20to 24% of the wholesale price) are substantially reduced by subsequent language in the record contract specifying various kinds of deductions.

As a possible solution to the problem of unauthorized copying and distribution of digital audio broadcasting, this paper suggests that Congress create a new act that would specifically address the issue of DAB with a compulsory royalty system similar to that of the AHRA. Creating a new act should be a safer method than modifying the AHRA, because any attempt to modify the AHRA would inevitably entail the problem of being trapped in controversies over definitions, as discussed above, and the risk of triggering SCMS' requirements for DAB devices and computers. This new Act (tentatively called the Digital Audio Broadcasting Facilitation Act) would impose a compulsory royalty on all devices capable of receiving off-air digital audio broadcast signals. This would include PC and IT products that are used for off-air DAB reception. A more specific scope of devices covered by the royalty system, royalty rates, and royalty payments distribution rules need to be very carefully considered through research and debates. One significant advantage of a levy system, such as a compulsory royalty system, over the technological mandates, such as a digital copying control system (e.g., the ABF system, SCMS), may be that with a levy system it would be relatively easy to decide the scope of devices covered by the regulation at a reasonably agreed-upon level. This is because even though certain types of devices would be excluded from the regulatory scope through negotiation, this would not cause overly serious problems to the holistic efficacy of regulation. However, when employing a digital copying control system, it would be very difficult to decide the correct level of the scope. This is because devices that would be exempt from the scope, however seemingly insignificant, could lead to millions of perfect copies available through Internet networks, seriously damaging the entire efficacy of the regulation.

Nevertheless, the compulsory royalty system has a critical shortcoming. Since not all consumers will necessarily use the devices for the purpose of copying and/or distribution of DAB material, the issue of unfair cross-subsidization between users-nonusers, and even heavy users-light users, can be raised.²²⁹ About this issue, Congress may need to persuade the opponents of the royalty system with the logic that copyright policy-making is an act of careful balancing between the public's interests and the copyright holder's interests,²³⁰ not an act of providing one side with absolute benefits taken from the other side.²³¹ Moreover, technological mandates, such as mandatory inclusion of a flag compliant device would cause unduly additional costs to consumers by adding costs to the manufacturer of devices without providing consumers with what they would perceive as added value.²³²

²²⁹ See William Fisher, *Digital Music: Problems and Possibilities* (Oct. 10, 2000) (unpublished manuscript), available at http://www.law.harvard.edu/Academic_Affairs/coursepages/tfisher/Music.html.

²³⁰ See Ruth L. Gana, *Has Creativity Died in the Third World? Some Implications of the Internationalization of Intellectual Property*, 24 DENV. J. INT'L. L. & POL. 109, 112 (1995).

²³¹ See *Protecting Innovation and Art While Preventing Piracy: Hearing on S. 2560 Before the Subcomm. on the Judiciary, 108th Cong.* (statement of Public Knowledge, Consumers Union and Consumer Federation of America), available at <http://www.publicknowledge.org/news/testimony/tesinduce> (last visited May 5, 2006) (stating that "we all benefit when creators create, and so we benefit from our copyright law to the extent that it adequately provides incentives for creators. At the same time, we also benefit from our copyright law to the extent that it allows all of us to make the fullest possible lawful use of copyrighted works.")

²³² See Crawford, *supra* note 66, at 608.

B. Digital Performance Rights in Sound Recordings Act of 1995 (DPRSA)

1. Rules under the DPRSA

Before the DPRSA²³³ was enacted, a sound recording was the only copyrighted work not accorded a public performance right in the United States.²³⁴ The Copyright Act of 1976 granted exclusive right of public performance for other areas, including literary, musical, dramatic, and choreographic works, pantomimes, motion pictures and other audiovisual works.²³⁵ In other words, while a composer of a song was entitled to enjoy public performance right whenever the song was publicly performed, the artist performing the song could not enjoy any rights for his performance.²³⁶ Copyright owners of sound recordings had searched for remedies to this inequity,²³⁷ contending that the lack of a public performance right in sound recordings should be considered an anomaly in United States copyright law.²³⁸ Support for sound recording performance rights grew with the increasing threat of digital copying and transmission technology to the recording industry.²³⁹ Finally, Congress responded to the threat by passing the DPRSA in 1995.²⁴⁰

The DPRSA granted the owner of copyright in sound recording exclusive public performance rights for transmission by the means of a subscription digital audio

²³³ 17 U.S.C. § 114, Pub. L. No. 104-39, 109 Stat. 336 (1995).

²³⁴ See Marks, *supra* note 179, at 310.

²³⁵ 17 U.S.C. § 106(4).

²³⁶ See Marks, *supra* note 179, at 310.

²³⁷ Id.

²³⁸ See O’ Dowd, *supra* note 251, at 249.

²³⁹ Marks, at 310

²⁴⁰ Robert J. Delchin, J.D. *Musical Copyright Law: Past and Future of Online Music Distribution*, 22 *Cardozo Arts & Ent LJ* 343, 352 (2004).

transmission.²⁴¹ The DPRSA distinguished between interactive and noninteractive services. It defines an interactive service as “one that enables a member of the public to receive, on request, a transmission of a particular sound recording chosen by or on behalf of the recipient.”²⁴² Services such as pay-per-listen and audio on-demand are included in this category.²⁴³ Interactive services are required to be licensed under the DPRSA²⁴⁴ because Congress argued that an interactive service provides a listener with the ability to listen to a song at his/her choosing, which is more likely to displace physical album sales.²⁴⁵ Noninteractive services are divided into subscription and nonsubscription services under the DPRSA. A subscription service is a transmission “controlled and limited to particular recipients, and for which consideration is required to be paid or otherwise given by or on behalf of the recipient to receive the transmission or a package of transmissions including the transmission.”²⁴⁶ Noninteractive subscription services are also required to be licensed under the DPRSA.²⁴⁷

The introduction and rapid growth of music services on the Internet prompted Congress to amend the DPRSA through the Digital Millennium Copyright Act (DMCA).²⁴⁸ The DMCA specifically extended the DPRSA’s license requirements from subscription services to nonsubscription services. As a result, the DMCA requires noninteractive

²⁴¹ 17 U.S.C. § 114.

²⁴² 17 U.S.C. § 114 (j)(7).

²⁴³ See Delchin, *supra* note 240, at 352.

²⁴⁴ 17 U.S.C. § 114 (d)(3)(C).

²⁴⁵ See Delchin, *supra* note 240, at 352-53.

²⁴⁶ 17 U.S.C. § 114 (j)(7).

²⁴⁷ 17 U.S.C. § 114.

²⁴⁸ See Marks, *supra* note 179, at 309; Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 17 U.S.C.).

nonsubscription services to be licensed.²⁴⁹ This DMCA amendment aimed “to further a stated objective of Congress when it passed the [DPRSA] to ensure that recording artists and record companies will be protected as new technologies [notably such as webcasting] affect the ways in which their creative works are used.”²⁵⁰

2. Broadcast exemption

The DPRSA provided a waiver to over-the-air broadcast services²⁵¹ by creating an exemption clause for “nonsubscription broadcast transmission” as follows:

The performance of a sound recording publicly by means of a digital audio transmission, other than as part of an interactive service, is not an infringement of section 106(6) if the performance is part of... a nonsubscription broadcast transmission.²⁵²

This provision means that terrestrial broadcasts are exempted from the public performance right, even if they are made of digital signals, as long as they are offered for free.²⁵³ The broadcast exemption survived the DMCA.²⁵⁴ Many scholars consider the provision of broadcast exemption under the DPRSA a “compromise between the

²⁴⁹ See Marks, *supra* note 179, at 313.

²⁵⁰ *Id.* at 326 (quoting H.R. Conf. Rep. No. 105-796, at 79 (1998)).

²⁵¹ 17 U.S.C. § 114(j)(3) (defining a “broadcast” as a “transmission made by a terrestrial broadcast station licensed as such by the Federal Communications Commission.”)

²⁵² 17 U.S.C. § 114. (d)(1), (d)(1)(A).

²⁵³ See Matthew S. DelNero, Music: Long Overdue?: An Exploration of the Status and Merit of a General Public Performance Right in Sound Recordings, 6 VAND. J. ENT. L. & PRAC. 181, 188 (2004).

²⁵⁴ Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified in scattered sections of 17 U.S.C.).

powerful recording industry lobby and the equally powerful radio broadcasting lobby²⁵⁵ by maintaining the status quo between labels and traditional radio stations.”²⁵⁶ The recording industry was tentatively satisfied with the DPRSA, because the Act covered services that could most harm record sales, such as cable, satellite, and Internet-based services.²⁵⁷ However, considering that terrestrial radio stations are now capable of offering digital over-the-air services and thus of becoming a major threat to the recording industry, the removal of the broadcast exemption from the DPRSA needs to be seriously considered.

3. Policy suggestions – Modification of the DPRSA

As another alternative to the ABF system this paper suggests a modification of the DPRSA. The modification would need to be made so that over-the-air digital radio (HD radio) service can be included in the scope of the DPRSA. The modification can be relatively easily made by simply removing the nonsubscription broadcast exemption clause from Section 114²⁵⁸ and deleting the word “subscription” from the following provision:²⁵⁹

(2) *Statutory licensing of certain transmissions.* The performance of a sound recording publicly by means of a *subscription* digital audio transmission not exempt under paragraph (1), an eligible nonsubscription transmission, or a

²⁵⁵ In spite of the Copyright Office’s issuance of a report endorsing the creation of a performance right in sound recordings in 1978, strong opposition from broadcasters repeatedly thwarted the enactment of such a performance right. *See Marks, supra* note 179, at 311.

²⁵⁶ *See Delchin, supra* note 240, at 352.

²⁵⁷ *Id.*

²⁵⁸ 17 U.S.C. § 114. (d)(1)(A) a nonsubscription broadcast transmission:

²⁵⁹ *See Franklin, supra* note 43, at 237-38.

transmission not exempt under paragraph (1) that is made by a preexisting satellite digital audio radio service shall be subject to statutory licensing...²⁶⁰

So far, the position of Congress and the courts with respect to this issue has been tilted toward the maintenance of status quo.²⁶¹ However, there are two factors that should be considered in order to positively examine the modification of the DPRSA. First, HD radio would provide increased business opportunities to broadcasters, the likes of which they have never enjoyed before. This is because, in the HD radio, “up to eight separate stations can be squeezed into the same spectrum currently allotted for a single station.”²⁶²

With this greatly expanded channel capacity, broadcasters can offer narrow casting through multiple channels, each of which carry related, but more specialized programming.²⁶³ For example, a classical music station can have channels specifically allocated to chamber music or opera. This type of narrow casting would ideally lead to more listeners and advertisers.²⁶⁴ That is, it can be reasonably expected that HD radio would bring more profits to the broadcasters. Secondly, the increase in the number of HD radio stations and rapid development of DAB devices would lead to an increase in unfettered copying and distribution of DAB contents and a subsequent decrease in the sales of prerecorded music, resulting in a greater loss for the creators of the copyrighted

²⁶⁰ 17 U.S.C. § 114. (d)(2).

²⁶¹ See Emily D. Harwood, *Staying Afloat in the Internet Stream: How to Keep Web Radio from Drowning in Digital Copyright Royalties*, 56 Fed. Comm. L.J. 673, 683 (2004) (stating that in *Bonneville Int'l Corp. v. Peters*, the court interpreted nonsubscription broadcast exemption as an indication “Congress had in mind the symbiotic relationship between the recording industry and broadcasters, and did not seek to change the existing relationship.” *Bonneville Int'l Corp. v. Peters*, 347 F.3d 485, 497 (3d. Cir. 2003)).

²⁶² See Michael Kanellos, *High-Definition Radio Gears Up for Reality*, May 26, 2005, at http://news.com.com/High-definition+radio+gears+up+for+reality/2100-1041_3-5722285.html (last visited July 28, 2006).

²⁶³ *Id.*

²⁶⁴ *Id.*

sound recordings.²⁶⁵ This will ultimately lead record companies to substantially reduced incentive “to invest in the creation of new sound recordings or to facilitate the creative efforts of their artists.”²⁶⁶

4. Harmonization with international standards

Reciprocity issues in the international context should be seriously considered when discussing the need for removing the broadcast exemption from the DPRSA. This is because the United States is the world's largest creator and exporter of sound recordings,²⁶⁷ thus the international market is a lucrative one for the U.S. recording industry.²⁶⁸ However, in the international context, particularly in the field of public performance rights in sound recording, rights are recognized only among the signatory countries to the Rome Convention on a reciprocal basis, as opposed to on the basis of national treatment.²⁶⁹ In other words, only those sound recording owners and performers whose countries are Rome Convention member countries can receive performance rights remuneration from other member countries.²⁷⁰

²⁶⁵ See e.g., William H. O’Dowd, *The Need for a Public Performance Right in Sound Recordings*, 31 HARV. J. ON LEGIS. 249, 259-60 (1993) (stating that “digital home delivery of sound recordings directly competes with the sales of packaged, prerecorded music”); J. Franklin, *supra* note, at q00 (stating that “the ability to receive and duplicate a signal that is the exact same quality as the transmitted original greatly increases the desirability of duplicating a digital audio broadcast rather than purchasing a prerecorded copy... Given this economic savings to the consumer, it is likely that record companies, music publishers, and performers will lose revenues from the decline in sales of prerecorded music because of home copiers.”)

²⁶⁶ See O’Dowd, *supra* note 251, at 260.

²⁶⁷ See e.g., *Id.* at 261; See J. Franklin, *supra* note, at 114.

²⁶⁸ See O’Dowd, *supra* note 251, at 262.

²⁶⁹ See Delnero, *supra* note 253, at 191; With “national treatment” benefits granted nationals are supposed to be extended to foreign nationals. See O’Dowd, *supra* note 251, at 263.

²⁷⁰ *Id.*

The Rome Convention (The International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations) is the primary international convention that provides international protection for record producers, performers, and broadcasters.²⁷¹ Particularly, producers in treaty countries are protected against unauthorized copying of their recordings, and have a right to payment for broadcast of their recordings.²⁷² Currently (as of July 2006) 83 countries are signatories to the Rome Convention.²⁷³ The member countries include most of the developed countries,²⁷⁴ such as the United Kingdom, Germany, France, Italy, Japan, Canada, etc.²⁷⁵ However, the United States is not currently a signatory to the Rome Convention. The United States neither signed nor ratified the Convention, although it actively participated in the drafting of the Convention.²⁷⁶

Considering the United States' leading position in creating and exporting sound recordings²⁷⁷ and the reciprocal recognition of sound recording performance rights for foreign nationals by most of the Rome Convention member countries, this paper suggests that joining the Rome Convention should be an ultimate choice of the United States in

²⁷¹ See International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, done at Rome on Oct. 26, 1961, at http://www.wipo.int/treaties/en/ip/rome/trtdocs_wo024.html (last visited July 24, 2006); Kimberly Hancock, *VII. Foreign and International Law: a) Foreign Law: 1997 Canadian Copyright Act Revisions*, 13 Berkeley Tech. L.J. 517, 524 (1998).

²⁷² *Id.* at Article 12 (stating that "If a phonogram published for commercial purposes, or a reproduction of such phonogram, is used directly for broadcasting or for any communication to the public, a single equitable remuneration shall be paid by the user to the performers, or to the producers of the phonograms, or to both. Domestic law may, in the absence of agreement between these parties, lay down the conditions as to the sharing of this remuneration.")

²⁷³ http://www.wipo.int/treaties/en/ShowResults.jsp?lang=en&treaty_id=17 (last visited July 23, 2006).

²⁷⁴ Jonathan S. Lawson, *Eight Million Performances Later, Still No a Dime: Why It Is Time To Comprehensively Protect Sound Recording Public Performances*, 81 NOTRE DAME L. Rev. 693, 712 (2006).

²⁷⁵ http://www.wipo.int/treaties/en/ShowResults.jsp?lang=en&treaty_id=17 (last visited July 23, 2006)..

²⁷⁶ See Delnero, *supra* note 253, at 190.

²⁷⁷ See *e.g.*, O'dowd, *supra* note 251, at 261; J. Franklin, *supra* note, at 114.

order to enable the U.S. sound recording owners and performers to reap their rightful share of foreign performance royalties. Since the United States exports more sound recordings than it imports,²⁷⁸ becoming a member of the Rome Convention would be economically beneficial.²⁷⁹ In order to join the Rome Convention, the United States would have to amend the DPRSA by removing the broadcast exemption so that the Act would be consistent with the Article 12 of the Rome Convention, which provides the sound recording producers and performers rights to payment for broadcast of their recordings.²⁸⁰ Although this move would cause some financial burden to broadcasters who would have to pay the equitable remuneration, the net income to the United States through foreign public performance rights royalties would be a net national benefit.²⁸¹

Examples of other countries provide useful references for the discussion of this issue. First, in Canada, one of the largest importers of U.S. sound recordings,²⁸² performers and producers of sound recordings are entitled to royalty payment from any public performance of the sound recordings, including performance through the over-the-air broadcasting.²⁸³ The royalty is split 50/50 between the performers and producers of the

²⁷⁸ See Lawson, *supra* note 274, at 712.

²⁷⁹ See J. Franklin, *supra* note, at 114.

²⁸⁰ See *supra* note 271 and 272. International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations, done at Rome on Oct. 26, 1961, at http://www.wipo.int/treaties/en/ip/rome/trtdocs_wo024.html (last visited July 24, 2006)

²⁸¹ See J. Franklin, *supra* note, at 114 (citing Commercial Use of Sound Recordings: Hearings on H.R. 1805 Before the Subcommittee on Courts, Civil Liberties, and the Administration of Justice of the House Committee of the Judiciary, 97th Cong., 1st & 2d Sess., 436 (1981 & 1982) (Testimony of Stanley Gortikov, RIAA)).

²⁸² See Delnero, *supra* note 253, at 192.

²⁸³ See Hancock, *supra* note 271, at 524.

sound recording.²⁸⁴ Broadcasters are required to pay annual royalties in the amount of \$ 100 on the first \$ 1.25 million of revenues and a higher amount for revenues in excess of \$ 1.25 million.²⁸⁵

The United Kingdom and France, two major recording industry leaders, are firm participants in Article 12 of the Rome Convention, granting producers and performers of sound recordings full rights to broadcast their performance.²⁸⁶ The United Kingdom has recognized public performance right in sound recordings since a landmark court decision in 1934,²⁸⁷ and currently enjoys one of the strongest recording industries.²⁸⁸ In addition, France has long honored public performance rights in sound recording even before it officially enacted a legislative public performance right in sound recording in 1985. France also has a strong domestic recording industry, which is the fifth largest in the world as of 2000.²⁸⁹ Korea is another country that provides producers and performers full rights to broadcast their performances.²⁹⁰

V. Conclusion

The central point of this paper is that protections for copyright owners should not be granted at the sake of technological innovation and consumers' rightful use of

²⁸⁴ *Id.*

²⁸⁵ *Id.*

²⁸⁶ *See Delnero, supra note 253, at 191.*

²⁸⁷ *Id.* (quoting *Gramophone Co. Ltd. v. Stephen Cawardine & Co.*)

²⁸⁸ *Id.*

²⁸⁹ *Id.* at 191-92.

²⁹⁰ Copyright Act of Korea 2000, art. 2.

copyrighted works. This should be the bottom line even when dealing with the issue of the potentially enormous threat that the unfettered copying and distribution of the digital audio broadcasts poses to the sound recording industry.

The audio broadcast flag (ABF) system, as suggested by the RIAA and recently introduced in Congress, would move the balancing scale between the interests of copyright owners and the interests of the public too much in favor of copyright owners' interests. The proposed ABF regime is an unprecedented level of strong copying-distribution control that can be enforced only through tightly centralized government regulations. The biggest problem with this system is that the regulation would inevitably entail serious artificial restrictions on one of the most rapidly developing technologies that exists in fledgling industries. Some scholars argue that centralized regulations with technological interventions may distort the normal evolutionary process of related businesses as well as technologies by artificially impeding necessary changes that could have occurred without intervention.²⁹¹ These scholars suggest that "attention should be paid to the evolutionary ecosystem of the law as the background medium in which innovation occurs, business models evolve, and social factions grow and prosper."²⁹²

This paper shares those views.

Considering the unpredictability of technological progress and the significant role of the public, which is better informed through better access to information, in the sphere of production of creative works and technological innovation, this papers suggests that the

²⁹¹ See e.g., Crawford, *supra* note 66, at 629; McCullagh & Homs, *supra* note 87, at 324-26.

²⁹² *Id.* at 606.

reliance on a carefully configured levy system should be a safer, more equitable alternative to a technological mandate in providing copyright right owners measures to properly compensate their possible losses. In particular, concerning the potentially grave threat that the digital audio broadcasting may pose to the sound recording industry, this paper suggests that the existing relevant levy systems, the compulsory royalty system under the AHRA and the compulsory license system under the DPRSA, which have long been enforced and exposed to public evaluation, could be a good starting point to develop a solution. The paper specifically considered the ways to modify the two Acts so that they can properly address the DAB content protection issues.

For further study, this paper suggests a more thorough examination of the issue of subjecting over-the-air digital broadcasters to the compulsory license system under the DPRSA. Such an examination should specifically focus on the cases of other countries, who have long enforced public performance rights in sound recording for broadcast services, seeking references for the possibility of applying discriminatory license rates to free over-the-air services and paid services (e.g., satellite radio broadcasting), and of applying license rates differently to the stations according to each station's financial capability.