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Rio Grande: The MP3 Showdown at Highnoon in Cyberspace

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Cover Page Footnote

UCLA School of Law, J.D. 1999. The author thanks Professor Stuart Biegel of UCLA School of Law for his advice while researching and writing this article.

RIO GRANDE: THE MP3 SHOWDOWN AT HIGHNOON IN CYBERSPACE

Paul Veravanich*

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INTRODUCTION

As the new millennium dawns, a battle is shaping up in cyberspace that may redefine the manner in which many people obtain copies of their favorite music. In one corner stands the record and music industry, seeking to protect their current distribution channels and to control the dissemination of their intellectual property over the Internet. In the other corner, a group consisting of Internet mavens, some musical artists, including acts ranging from independent bands to well-established headliners, and the ever present cyberpirates, stand ready to exploit the Internet as a means to quickly and cheaply distribute and download songs. The development of compressed music files is the catalyst for this struggle over the use of the Internet to distribute songs.

Our society increasingly accepts and values the Internet as an integral part of everyday life. For example, the nation's use of the Internet has grown significantly in the past year alone. Forty-six percent of the estimated 74 million American Internet users began their use within the past twelve months.¹ As a consequence, more people than ever are turning to the Internet to shop, gather news, socialize, and play. Currently, the two most popular uses for the Internet are email and on-line shopping.²

In connection with the increased general use of the Internet, musical artists and consumers have turned to the Net as a means to distribute songs. The Internet provides artists with another avenue to disseminate their works while also enabling consumers to sample various recordings with ease. The availability of data compression formats such as MP3 enable web surfers to both upload and download music files with an efficiency that was previously unheard of. The ability of consumers to gain ready access to music files via the Internet may ultimately transform the manner in which the entire music industry operates. Unfortunately, although many

1. See Jube Shiver, Jr., *Web Clicking with More Mainstream Americans*, L.A. TIMES, Jan. 15, 1999, at C3.

2. Thirty-five percent of Internet users report using email while 32% report that they shop over the net. *Id.*

of the files available on-line are copies authorized by the artists, there are also a large number of pirated files that users post without the artists' permission.³

This article addresses the current controversy over the distribution of unauthorized digital music files over the Internet. The recent introduction of the Rio⁴, essentially a Walkman for MP3 digital music files, and the record industry's efforts to prevent the sale of the Rio raise the issue of whether today's federal copyright framework⁵ is sufficient to protect copyright owners, in this case the music industry, from piracy on the Net. Part I of this article provides background information on the current use of the Internet to distribute music files and a brief analysis of how the distribution of unauthorized music files violates a copyright owner's fundamental rights under the Copyright Act of 1976.⁶ Part II provides the technical background necessary to understand the technology at issue, namely the MP3 format and the Rio MP3 player, and introduces the litigation between a record industry group and Diamond Multimedia, the manufacturer of the Rio, over Diamond's right to market and distribute the Rio. Part III presents an analysis of the current copyright law as it pertains to the distribution of digital music over the Net. This section of the article includes an analysis of the Audio Home Recording Act of 1992⁷ which formed the basis for the record industry's recent action against Diamond Multimedia, and a critique of the decision in that case. Part III additionally examines the recently enacted Digital Millennium Copyright Act⁸ to determine whether the Act contains adequate protections for copyright owners' rights in cyberspace. Part IV contains proposals for measures that Congress, the record industry, and musical artists might consider in order to further the protection of musical

3. See P.J. Huffstutter, *A Musical Free-for-All on the Net*, L.A. TIMES, Feb. 8, 1999, at A1.

4. This article refers to the Rio player, Rio-like players, Rio-type players, and portable MP3 players interchangeably.

5. This article focuses exclusively on federal copyright law. It does not address any aspect of state or common law copyright protection.

6. 17 U.S.C. § 106 (1994 & Supp. III 1997).

7. 17 U.S.C. § 1001 (1994).

8. Digital Millennium Copyright Act, Pub. L. No. 105-304, § 512(d), 112 Stat. 2860 (1998).

copyrights on the information superhighway. This article concludes that while technological innovations such as the Rio and MP3 technology may have rendered the amendments to the copyright statute contained in the Audio Home Recording Act obsolete, the new Digital Millennium Copyright Act represents significant progress in furthering the protection of copyrights on the Internet and provides a framework of information regulation.

I THE EXPLOSIVE GROWTH OF DIGITAL MUSIC ON THE NET

A. *Waves of Music Flowing Across the World Wide Web*

Given the extraordinary growth in Internet use, it is hardly surprising that many recording artists utilize the Net as a means to promote their music. Hailing cyberspace as an alternative to conventional distribution through record labels, Public Enemy recently posted an audio file of their latest song on their web site, making it available for anyone to download free of charge.⁹ By using the Net to reach their audience, Chuck D, the lead singer/rapper of Public Enemy, hopes to eliminate what he perceives as the distractions and burdens inherent in dealing with the record industry and to possibly increase the amount of work that reaches the public.¹⁰ Like Public Enemy, the Beastie Boys also ventured into cyberspace in order to promote their music. In August 1998, the Beastie Boys posted several of their songs on their official web site.¹¹ Although allowing their fans to download the songs at no charge, the Beastie Boys required anyone downloading the files to enter their email address. As a result, the band collected over 100,000 email addresses that they hope will provide a valuable marketing resource.¹² Posting songs on the Internet is not limited to rap artists.

9. See Kevin M. Williams, *Fight the Powers: Public Enemy Puts New Song Straight to Web*, CHI. SUN-TIMES, Jan. 14, 1999, at 27.

10. According to Chuck D, "The Internet is a blessing in disguise . . . there won't be such things as making a recording and then sitting on it while you deal with the record company red tape, legalities and radio station payola. The Internet breaks all of that." *Id.*

11. See Eben Shapiro, *Capitol Offense: Beastie Boys Groove on the Net, Putting Their Label in a Funk*, WALL ST. J., Dec. 18, 1998, at A1.

12. See *id.*

Billy Idol also released some of his works on the MP3.com¹³ site for on-line distribution.¹⁴ Mainstream artists have also agreed to distribute some of their songs through the MP3.com site. Alanis Morissette posted several performances from her recent tour on the site for free downloading.¹⁵

While many high profile artists actively post their works on the Internet, less known artists are the ones most likely to benefit from such exposure. A local band may be able to gain exposure to a much wider audience through cyberspace that it would have through traditional promotional channels.¹⁶ In addition, the average musician earns more from live performances than from record sales.¹⁷ Consequently, distributing its music to as wide an audience as possible, in order to generate positive publicity, may be more important to a small band than worrying about any lost royalties as a result of giving away its songs.¹⁸ The MP3.com site contains many releases from smaller, independent acts such as Lucas, 790 Robot Head, and Ron Sunshine & Full Swing.¹⁹

Unfortunately, not all of the music files posted on the Internet are authorized by the artists. Due to the immediately accessible nature of the Internet, some on-line pirates are able to post copies of songs that the artists have not even commercially released. One example of this sort of piracy involved U2's release of its "POP" album in 1996. Before the record company was able to put "POP" on store shelves, pirates apparently obtained copies of the songs from the recording studio and posted them on the Web for anyone to download free of charge.²⁰ More recently, a cyberpirate posted

13. MP3.com is a web site that boasts a large collection of MP3 music files for download.

14. See David Segal, *Music Piracy Online Targeted; Recording Industry Plans Technology to Protect Copyright*, WASH. POST, Dec. 16, 1998, at C19.

15. See Shauna Snow, *Morning Report: Pop/Rock: Web Music*, L.A. TIMES, April 16, 1999, at F2.

16. See generally Alan Goldstein, *Tuning in to the Web: Latest Online Technology Captures Music, Worries Industry*, DALLAS MORNING NEWS, Dec. 29, 1998, at 1D.

17. See *id.*

18. See *id.*

19. See Ron Harris, *Tuning in to Your Computer*, J. REC. (Okla. City), Dec. 14, 1998, available in 1998 WL 11962607.

20. See *Cyber-pirates May Have Looted U2's New Songs*, STAR-TRIB. (Minneapolis-St. Paul), Nov. 19, 1996, at 4B.

one dozen new, unreleased songs from rap artist Nas.²¹ Nas intended to include those songs on an upcoming album.²²

Since the Internet is not defined by international boundaries, the problem of unauthorized postings of music files is not isolated to the United States. For example, in 1997, Art Music France and Warner Chappell France successfully sued a student at the Ecole National Superieure Des Telecommunications for copyright infringement.²³ The student digitized and posted, without authorization, several musical works to the web site he maintained on his school's student server.²⁴ Compounding this problem of cyberpiracy is that the population of Internet users who download unauthorized music files may include people not ordinarily viewed as pirates, including medical students, high school athletes, and teenage girls.²⁵

It has been estimated that nearly 3 million individual files are downloaded everyday.²⁶ Additionally, the availability of digital music files on-line is predicted to increase.²⁷ Recent surveys indicate that the most searched for word on the Internet is already "MP3", having surpassed "sex" in popularity.²⁸

In a recent development that promises to make MP3 files even more accessible to the average Internet user, Lycos, one of the major on-line search engines, launched a service dedicated to provid-

21. See Chuck Philips, *The Cutting Edge; IBM Aims to Unplug Online Music Pirates*, L.A. TIMES, Feb. 8, 1999, at C1.

22. See *id.*

23. See *French Student Infringed Reproduction and Performance Rights of Art Music and Warner Chappell France by Digitizing Musical Works by Michel Sardou and Posting Them on Student's Web Page on His School's Internet Server*, Paris Court Rules, 19 No. 2 ENT. L. REP. 4, 4-5 (1997) (reporting on Art Music France v. L'Ecole Nationale Superieure Des Telecommunications, T.G.I. Paris, Aug. 14, 1996.)

24. See *id.*

25. See Huffstutter, *supra* note 3.

26. See Doug Bedell, *The Box That Roared; MP3 Format Expected to Proliferate Even as Music Industry Tries to Safeguard Recordings*, DALLAS MORNING NEWS, Dec. 16, 1999 at 6F.

27. By 2003, up to 15% of all music will be acquired on-line. See P.J. Huffstutter, *Digital Music: You'll Be Hearing a Lot of It in the New Year*, L.A. TIMES, Jan. 3, 2000, at C7.

28. See Matt Kelly, *MP3 Beats Sex*, THE MIRROR, Jan. 17, 2000, at 13.

ing links to over 500,000 on-line songs.²⁹ Interestingly, Lycos chose to not distinguish between legal and illegal MP3 files since Lycos is merely providing links to other sites and is not maintaining its own database of files.³⁰ It should be noted that Lycos might not be entirely correct in its assumption that it will not be subject to liability for copyright infringement by merely providing links to other sites. In particular, an argument could be made that, by providing links to unauthorized files, Lycos is committing vicarious or contributory infringement by encouraging or assisting a third party to infringe a copyright.³¹ Also, the newly enacted Digital Millennium Copyright Act, discussed in Part III.B, provides a safe harbor for providers who unknowingly provide links to unauthorized files.³² However, this safe harbor limits protection to those providers who possess neither actual nor constructive knowledge that the links at issue point to infringing works and those providers who eliminate the links once they receive such notice.³³

On the other hand, persuasive arguments could be made that search engines such as Lycos should be protected from vicarious copyright infringement through the application of the fair use doctrine. Section 107 of the Copyright Act of 1976 provides an affirmative defense from copyright infringement based on fair use of the property at issue.³⁴ In deciding whether fair use applies in a given situation, section 107 lists a number of factors that courts should weigh.³⁵ Based on these factors, a credible position could

29. See *Lycos to Launch Service Offering Links to MP3 Songs*, L.A. TIMES, Feb. 1, 1999, at C2.

30. See *id.*

31. See generally ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 456-457 (1997) (discussing contributory infringement of copyrights).

32. See Digital Millennium Copyright Act, Pub. L. No. 105-304, § 512(d), 112 Stat. 2860, 2881 (1998).

33. See *id.*

34. Section 107 states, "the fair use of a copyrighted work . . . for purposes such as criticism, comment, news reporting, teaching . . . , scholarship, or research, is not an infringement of copyright." 17 U.S.C. § 107 (1994).

35. Section 107 states:

In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include-

(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;

be taken that search engines should be entitled to the fair use defense from copyright infringement. For example, a search engine that merely provides links to other sites ultimately helps users find authorized files, thereby causing a beneficial effect on the potential market for that work. Of course, a counterpoint to that argument is that, by pointing users to illegal sites, search engines may detrimentally affect the market for copyrighted works contained on those illegal sites. Nevertheless, copyright owners could still use these search engines to facilitate their policing of the Internet for unauthorized copies of their property.³⁶ An alternative argument that operators of a search engine such as the new Lycos music search engine could pose, using the fair use doctrine, is that the search engine merely reports the existence of certain files on the Internet. Therefore, if providing a link to a digital audio file is considered a use of a copyrighted work, this argument would protect operators of these search engines under the news reporting exception of the fair use doctrine.

After the initial announcement of its new search engine, Lycos maintained its original position that it would not distinguish between legal or illegal files.³⁷ Lycos, however, added that it would remove links to illegal materials after being notified by the record industry and other copyright owners.³⁸ Nevertheless, this venture by Lycos could prove to be a significant blow to the recording industry's current efforts to police and protect their copyrights by providing Internet users with easier access to unauthorized music files. Additionally, while many of the music files posted in cyberspace are authorized by the artists, such as the files posted by Pub-

-
- (2) the nature of the copyrighted work;
 - (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
 - (4) the effect of the use upon the potential market for or value of the copyrighted work.

Id.

36. For a more in-depth analysis of whether the fair use defense should apply to search engines, see Daniel Ovanezian, Comment, *Internet Search Engine Copying: Fair Use Defense to Copyright Infringement*, 14 SANTA CLARA COMPUTER & HIGH TECH. L.J. 267 (1998).

37. See P.J. Huffstutter, *Lycos Says It Won't Link to Pirated-Music Sites*, L.A. TIMES, Feb. 3, 1999, at C9.

38. See *id.*

lic Enemy, the Beastie Boys, Billy Idol, and Alanis Morissette, it is estimated that the majority of the songs posted on the Internet are unauthorized, including the previously discussed U2 and Nas situations.³⁹

B. *Traditional Copyright Protection - "Why Can't I Post Copies of My Favorite CD for the World to Download?"*

Under the Copyright Act of 1976, Congress granted copyright owners a bundle of valuable rights in regards to their work.⁴⁰ The traditional exclusive rights that copyright owners possess include the right to reproduce the work, the right to prepare derivative works, the right to distribute copies of the work, and the right to perform the work publicly.⁴¹ In 1995, Congress also added the right to perform sound recordings by means of a digital audio transmission to this bundle of rights.⁴² Anyone who violates any of a copyright owner's exclusive rights is considered an infringer of

39. See *supra* notes 8, 11-12, 17-19 and accompanying text.

40. See 17 U.S.C. § 106 (1994 & Supp. III 1997).

41. Section 106 states:

[T]he owner of copyright under this title has the exclusive rights to do and to authorize any of the following:

- (1) to reproduce the copyrighted work in copies or phonorecords;
- (2) to prepare derivative works based upon the copyrighted work;
- (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
- (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly;
- (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly; and
- (6) in the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

Id.

42. See 17 U.S.C. § 106(6) (1994 & Supp. III 1997). Congress added the right to perform sound recordings by means of a digital audio transmission to the copyright statutes in an effort to respond to recent technological advances and to ensure that recording artists would maintain their copyright protection in the face of new technology. See generally Jeffery A. Abrahamson, *Tuning Up for a New Musical Age: Sound Recording Copyright Protection in a Digital Environment*, 25 AM. INTELL. PROP. ASS'N Q.J. 181 (1997).

the copyright.⁴³

The most obvious exclusive rights that unauthorized posters of digital music files violate are the rights that copyright owners have to copy their works⁴⁴, to distribute copies of their work⁴⁵, and to perform sound recordings by means of a digital audio transmission.⁴⁶ In regards to the right to perform sound recordings by means of a digital audio transmission, cyberpirates may argue that merely placing files on their servers is not a “transmission.” However, Congress intended the digital audio transmission right to encompass the electronic delivery of copies of sound recordings.⁴⁷ This would include the delivery of music files to a web server.

Additionally, the Copyright Act of 1976 places an important limit on a copyright owner’s distribution right. Section 109(a) of the Act states that the owner of a particular phonorecord is entitled to dispose of that copy.⁴⁸ Under this part of the statute, commonly referred to as the “first sale doctrine,”⁴⁹ consumers may resell a compact disc, to a used record store for example, without violating the artist’s right of distribution. Unfortunately for those Internet users who desire to freely upload and download music files, the “first sale doctrine” does not protect consumers who, without authorization from the artist, post files that they made from their own compact discs onto the Internet. The “first sale doctrine” only protects subsequent transfers of the actual physical copy of the original compact disc.⁵⁰ The “first sale doctrine” does not provide a safe harbor for cyberpirates who deal in unauthorized music files. As a result, users who unlawfully post copies of their favorite songs on the Internet violate those respective artists’ exclusive

43. See 17 U.S.C. § 501(a) (1994).

44. See 17 U.S.C. § 106(1) (1994 & Supp. III 1997).

45. See 17 U.S.C. § 106(3) (1994 & Supp. III 1997).

46. See 17 U.S.C. § 106(6) (1994 & Supp. III 1997).

47. See Abrahamson, *supra* note 39 at 215.

48. Section 109(a) states, “Notwithstanding the provisions of section 106(3), the owner of a particular copy or phonorecord lawfully made under this title . . . is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord.” 17 U.S.C. § 109(a) (1994).

49. See Merges et al., *supra* note 31 at 439.

50. According to Merges et al., the “first sale doctrine” prevents copyright owners from restricting what consumers of a particular copy can do with that copy. “The purchaser may not copy it, but may resell it without restriction or liability.” *Id.*

rights to copy and to distribute copies of their copyrighted material.

As the preceding discussion reveals, it is clearly a violation of copyright laws to post copies of someone else's music on to the Internet without the artist's authorization. Although these unauthorized postings pose a problem for the recording industry, a much more serious issue for the industry is the emergence of devices that consumers may use for the remote playback of music files. One pressing issue is whether the government can, and in what manner, regulate digital music listening devices such as the newly introduced Rio MP3 player in order to effectively protect recording artists' copyrighted material. An ancillary issue that needs to be addressed is which tactic the record industry should implement in order to best protect its intellectual property in the face of the increasing use of the Internet to distribute music.

II. RIO BRAVO - MP3S, THE RIO, AND THE LAWSUIT

A. *The MP3 Downloading Phenomenon*

In searching for on-line music files, an Internet user will inevitably find that many of the posted files are in MP3 format. Although sound files such as AVIs and WAVs have been around for some time, it was the advent of the MP3 format that substantially increased the availability of music on the Internet.⁵¹ After its introduction, MP3 quickly became the most popular audio compression format on the Internet.⁵² Even software giant Microsoft recognized that the MP3 format is quickly becoming the *de facto* standard for digital music files and designed their Media Player to be MP3 compatible.⁵³ As a consequence, Windows users are now able to play MP3 files without any extra software.

MP3 is an abbreviation for Motion Picture Experts Group

51. See Chuck Melvin, *Securing Music on the Internet; Industry Works to Stop Pirating*, PLAIN DEALER (Cleveland), Dec. 26, 1998, at 3E.

52. See *id.*

53. Benny Evangelista, *Liquid Audio to Put Its Mark on MP3 Music*, S.F. CHRON., Jan. 25, 1999, at B1.

(MPEG) 1 layer 3.⁵⁴ Using the MP3 format, a user is able to compress audio-visual information into a digital format that occupies much less memory space than previous technology.⁵⁵ The MP3 format makes space savings possible by reducing the original sound data by a factor of twelve.⁵⁶ Normally, a five minute song requires about 50 megabytes of storage space.⁵⁷ Using the MP3 format, a user can compress the same song into a space of only about 5 megabytes.⁵⁸ The developers of MP3 claim that, while the space efficiencies are substantial, the original sound quality is maintained.⁵⁹ Moreover, since the MP3 files are digital, they result in perfect copies of the original source.⁶⁰ In the past, copies of music on the Internet were subpar when compared to CDs.⁶¹ As a result, there was a perception amongst audiophiles that record companies were willing to forego legal action in some cases because of the lower quality of the files available.⁶² Due to the quality of MP3 files, however, record companies are no longer taking a passive stance in regards to the distribution of on-line music files.⁶³ The exceptional quality of MP3 copies has apparently been the catalyst for the recent attempts by the record industry to stop the Rio player and to establish a secure Internet format for distributing

54. See Harris, *supra* note 19.

55. See *id.*

56. See Fraunhofer IIS-A – Layer-3 Info: MPEG Audio Layer-3 (visited Nov. 11, 1999) <<http://www.iis.fhg.de/amm/techinf/layer3/index.html>>.

57. See Diamond Multimedia - Rio PMP 300: MP3 Layer 3 Audio (visited Nov. 13, 1999) <<http://www.diamondmm.com/products/misc/rio-mp3.html>>.

58. See *id.*

59. See Fraunhofer IIS-A – Layer-3 Info: MPEG Audio Layer-3 (visited Nov. 11, 1999) <<http://www.iis.fhg.de/amm/techinf/layer3/index.html>>.

60. See Simson L. Garfinkel, *Singing the Rio Blues; Consumed by Concerns Over Piracy, Recording Industry is Tone Deaf to New Technology*, BOSTON GLOBE, Dec. 17, 1998, at B20.

61. See P.J. Huffstutter, *Music Wants to be Free on the Cyberspace Frontier*, SAN DIEGO UNION-TRIB., May 14, 1995, at E1.

62. Many unauthorized posters of digital music believe that record companies are not likely to seek legal action against them so long as the quality of the files are “crappy.” See *id.*

63. For example, the RIAA monitors the Internet daily for illicit postings of digital files, routinely sends cease-and-desist letters in attempts to bring down pirate websites, and bring lawsuits such as the action against Diamond Multimedia. See *Recording Indus. Ass’n of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072, 1074 (9th Cir. 1999).

music.⁶⁴

The fact that MP3 format also does not support any manner of copyright protection or encryption technology exacerbates the recording industry's current woes.⁶⁵ Because many personal computer systems include CD-ROM players as standard equipment, it is a relatively simple task for average computer users to create, maintain, and upload their own MP3 copies of songs from music CDs they purchased.⁶⁶ Anyone inclined to make MP3 music files would merely need to download an MP3 player program and use it to convert individual tracks from a CD into MP3 files, a process called "ripping."⁶⁷ Users could then upload the files to their servers, making them available to anyone with Internet access to download.⁶⁸ For example, the majority of college students have easy access to fast broadband Internet connections through their schools' networks.⁶⁹ Moreover, many students with shoestring budgets apparently welcome the opportunity to download copies of songs from their favorite artists for free or at very little cost.⁷⁰

B. *Diamond Multimedia's Rio Player*

In October 1998, Diamond Multimedia Systems Inc. planned to launch a portable MP3 playing device that the recording industry vigorously opposed.⁷¹ The Recording Industry Association of America filed an action seeking to prevent the sale of Diamond

64. See generally Michael S. Mensik & Jeffrey C. Groulx, *From the Lightweight 'Rio' Flows Heavyweight Battle*, NAT'L L.J., Dec. 14, 1998, at B5.

65. See Judy DeMocker, *The Frontline: Music Moguls Fear Format*, NEW MEDIA, Nov. 1998 <http://newmedia.com/NewMedia/98/12/frontline/Music_Moguls.html>.

66. Using a CD-ROM player is not the exclusive method by which a computer user could make MP3 files of songs. For example, users with the proper connections and hardware could conceivably tape a television program using a video cassette recorder and then, with the video cassette recorder connected to their personal computers, proceed to make MP3 files of the recorded program.

67. The term "ripping" is borrowed from the computer graphics industry. Raster Image Processors (RIPs) are programs used to convert images in one form to another form that is able to be printed on a high-quality printer. See Garfinkel, *supra* note 60.

68. See Goldstein, *supra* note 16.

69. See *id.*

70. See generally Huffstutter, *supra* note 3.

71. See Wendy Leibowitz, *The Sound of One Computer Copy*, NAT'L L.J., Nov. 2, 1998, at A16.

Multimedia's device, officially called the Rio PMP 300. The action sparked the discussion regarding what steps should be taken in order to protect copyright rights in the face of the Internet music explosion. Before proceeding, it would be beneficial to understand exactly what the Rio player is, and why the recording industry perceives it as such a dangerous threat to their business.

According to Diamond Multimedia, their Rio PMP300 player is the first portable MP3 player retailing for under \$200 that is capable of storing sixty minutes of music.⁷² While there have been other portable MP3 players on the market prior to the Rio, the Rio costs less and contains more features than its predecessors.⁷³ The Rio is extremely compact, with its dimensions being smaller than an audio cassette tape.⁷⁴ Because the Rio contains no moving parts, it does not skip during playback and is seen as an attractive alternative to portable CD players.⁷⁵ Rather than keeping data on traditional media such as tapes, the Rio utilizes flash memory to maintain any files that users download into it.⁷⁶ Additionally, the Rio accepts removable memory cards that increase the storage capacity of the unit.⁷⁷

Diamond Multimedia disputes that the Rio could be used as a recording device. However, a Rio user could record music onto one of the removable memory cards and then give the card to another user.⁷⁸ Court filings during the District Court proceedings claim that the flash memory cards are removable, thereby enabling a card from one Rio device to be used in a different device.⁷⁹ In

72. See *Diamond Multimedia - Rio PMP 300* (visited Nov. 14, 1999) <<http://www.diamondmm.com/products/main/rio.html>>.

73. See Tom Abate, *Diamond Multimedia Systems is Caught in Legal Quagmire / Music Publishers Fighting Firm's New Digital Gizmo*, S.F. CHRON., Oct. 13, 1998, at C1.

74. See *Diamond Multimedia - Rio PMP 300* (visited Nov. 14, 1999) <<http://www.diamondmm.com/products/main/rio.html>>.

75. See Goldstein, *supra* note 16. See also *Diamond Multimedia - Rio PMP 300* (visited Nov. 14, 1999) <<http://www.diamondmm.com/products/in-depth/rio-id.html>>.

76. See *Diamond Multimedia - Rio PMP 300* (visited Nov. 14, 1999) <<http://www.diamondmm.com/products/in-depth/rio-id.html>>.

77. See *Diamond Multimedia - Rio PMP 300* (visited Nov. 14, 1999) <<http://www.diamondmm.com/products/main/rio.html>>.

78. See *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., Inc.*, 29 F. Supp.2d 624, 625 (C.D. Cal. 1998).

79. See Ross J. Charap & Jessica L. Rothstein, *O'er the Ramparts We Watched: The*

the decision affirming the district court's opinion, the Ninth Circuit also noted that a flash memory card containing downloaded audio files could be passed between different Rio players.⁸⁰ Regardless of the technical feasibility of transferring cards from device to device, there is probably no danger of that type of use becoming widespread since the memory cards currently retail for \$50.⁸¹ Diamond Multimedia also ships with the player a program that consumers can use to convert CDs into MP3 files.⁸² Given the relative ease with which Rio owners could make MP3 files from their CDs and presumably download compatible files from the Internet, the record industry is apparently concerned that their copyrights and their ability to collect royalties would be irreparably harmed.⁸³

C. *The Record Empire Strikes Back: Recording Industry Ass'n of America v. Diamond Multimedia Systems, Inc.*

The struggle to control digitized music over the Internet recently reached the federal courts when a record industry trade association sought to enjoin the sale of the Rio player. In *Recording Industry Ass'n of America v. Diamond Multimedia Systems, Inc.*, the Recording Industry Association of America (RIAA) attempted to preliminarily enjoin Diamond Multimedia from distributing their Rio player based on allegations that the Rio violated the Audio Home Recording Act of 1992.⁸⁴ Based on a detailed analysis

Struggle to Control the Distribution of Music on the Internet, INTELL. PROP. TODAY, Sept. 1999, at 18 n.5 (citing Ans. to Compl. & Ctrcls., *Diamond Multimedia*, 29 F. Supp.2d 624.).

80. See *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., Inc.*, 180 F.3d 1072, 1074 (9th Cir. 1999).

81. See Garfinkel, *supra* note 57. Also, the viability of an MP3 player as a mass market device does not depend on the availability of low priced flash cards. MP3 players are designed to download music files that are already stored on the hard drive of the computer. The optional flash cards are merely a means to extend the playback capabilities of an MP3 player. The Rio PMP 300 is already able to playback 60 minutes of stored music without the use of any optional flash memory cards. See Charap & Rothstein, *supra* note 79 at n5.

82. See *Diamond Multimedia - Rio PMP 300: MP3 Layer 3 Audio* (visited Nov. 13, 1999) <<http://www.diamondmm.com/products/misc/rio-mp3.html>>.

83. The RIAA claims that losses due to piracy on the Internet will amount to over \$300 million. See *Diamond Multimedia*, 180 F.3d at 1074.

84. See *Id.*

of Diamond Multimedia's alleged Audio Home Recording Act violations, Judge Collins decided that, while the Rio could technically fall under the jurisdiction of the Audio Home Recording Act, the RIAA did not demonstrate a probability of success in establishing Diamond Multimedia's liability under the Act.⁸⁵ Consequently, she denied RIAA's request for an injunction against the distribution and sale of the Rio player.⁸⁶ In November 1998, the RIAA appealed Judge Collins's decision.⁸⁷ Subsequently, the Ninth Circuit affirmed Judge Collins's denial of the RIAA's motion for a preliminary injunction.⁸⁸

Although the dispute between the RIAA and Diamond Multimedia has been a source of substantial publicity, it should be noted that the immediate controversy concerning the Rio player may have a limited short-term impact. For example, Diamond Multimedia apparently joined a record industry coalition dedicated to establishing a standard means of controlling the proliferation of digitized music over the Internet.⁸⁹ Moreover, there is no guarantee that a different format or technology will not supplant the MP3 format itself in the future. In a larger context, however, the policy questions still remain in regards to what type of regulations should exist regarding the distribution of on-line music and the extent of any such regulations. Consequently, although the current battle between the RIAA and Diamond Multimedia over the Rio may be nearing a conclusion, the long term policy question of how music files and related intellectual property on the Internet should be regulated remains and will be discussed later in this article.

III. LEGAL ANALYSIS

A. *The Audio Home Recording Act of 1992 and the Rio Case*

1. History and Original Purpose of the Audio Home

85. See *Diamond Multimedia*, 29 F. Supp.2d at 632.

86. *Id.* at 633.

87. See *RIAA Appeals Denial of Injunction Against Internet Music Device*, INTELL. PROP. LITIG. REP., Jan. 13, 1999, at 6.

88. See *Diamond Multimedia*, 180 F.3d 1072.

89. See Garfinkel, *supra* note 60.

Recording Act of 1992 (“AHRA”)

Manufacturers first introduced digital audio tapes (DATs) in 1986.⁹⁰ Many music industry observers at that time assumed that the DAT would eventually replace the traditional audio cassette.⁹¹ The DAT was essentially a cassette tape capable of delivering the music quality of a CD.⁹² Interestingly, the recording industry’s resistance to the DAT in the late 1980’s and early 1990’s bears a striking resemblance to the current opposition to portable MP3 players. As with the present debate over Rio-type devices, the record industry expressed concerns regarding the DAT recorder’s ability to make perfect copies of commercial music products.⁹³ Again, paralleling today’s debate, the music industry threatened that there would be a decrease in demand for commercial music due to the increased amount of perfect illegal copies of the same material as a result of DATs.⁹⁴ However, one significant difference between the current battle over portable MP3 players and the previous battle over DAT players is that the recording industry was able to successfully delay the introduction of DAT recorders into the United States market through threats of legal action.⁹⁵ With the current Rio situation, on the other hand, the RIAA failed in its initial attempt to prevent the introduction of the Rio.

At the same time they threatened legal action against potential marketers and distributors of DAT recorders in the United States market, the members of the recording industry sought legislation that would protect their copyrights in the face of the emerging technology.⁹⁶ Congress finally addressed the copyright issues that devices such as DAT players presented by passing the Audio Home Recording Act of 1992.⁹⁷ Congress’s express purpose in enacting the AHRA was “to create the necessary legal environment

90. See H.R. REP. NO. 102-873(II) (1992), reprinted in 1992 U.S.C.A.N.N. 3600.

91. See Wayne Thompson, *Audio Cassette Recorder Market Thrives*, SAN DIEGO UNION-TRIB., Feb. 2, 1995, at E2.

92. See Wayne Bledsoe, *Consumer Graveyard Filled with Fossils of Technology*, SAN DIEGO UNION-TRIB., Nov. 17, 1998, at 5.

93. See H.R. REP. NO. 102-873(II).

94. See *id.*

95. See *id.*

96. See *id.*

97. See Audio Home Recording Act of 1992, 17 U.S.C. § 1001 (1994).

for the digital audio tape (DAT) technology to be introduced into the commercial marketplace in the United States.”⁹⁸ When President George Bush signed the AHRA, he hoped that the legislation would ensure that consumers would have access to the new digital audio recording technology while at the same time protecting the legitimate rights of the recording industry through a royalty scheme and a system to prevent uninhibited recording of digital audio tapes.⁹⁹

2. Despite the Failure of DATs, the Goals Underlying the AHRA are Still Applicable to the New Digital Playback Devices

Ironically, the DAT never became the success that most music industry observers assumed that it would.¹⁰⁰ While the DAT became the standard for professional recording studios, the mainstream consumer public never really accepted the technology.¹⁰¹ Factors that possibly contributed to the unpopularity of the DAT include the relatively high cost of the equipment and tapes and a general reluctance by consumers to replace their old audio cassette tapes.¹⁰² The DAT, the motivating factor behind the passage of the AHRA, no longer poses an imminent threat to copyright protection. Nevertheless, the AHRA could still possibly provide a means of protecting copyrights in the face of the new technology presented by the portable MP3 players. This is because Congress drafted the AHRA to encompass “digital audio recording devices.”¹⁰³ More specifically, Congress did not expressly limit the AHRA’s jurisdiction to DATs.¹⁰⁴

98. H.R. REP. NO. 102-873(II).

99. *See Statement by President George Bush upon Signing S. 1623*, 28 Weekly Comp. Pres. Doc. 2188, reprinted in 1992 U.S.C.C.A.N. 3609 (Oct. 28, 1992). *See also* discussion *infra* Parts III.A.3, III.A.4.

100. *See* Thompson, *supra* note 91.

101. *See* Bledsoe, *supra* note 92.

102. *See id.*

103. 17 U.S.C. § 1001(3) (1994).

104. *See id.*

3. The AHRA Requires Copying Controls for Digital Audio Recording Devices

To prevent consumers from making digital copies of musical works, Congress banned the importation, manufacture, or distribution of any digital audio recording device that does not conform to a serial copy¹⁰⁵ management system.¹⁰⁶ Congress defined a “digital audio recording device” as a device that has a digital recording function primarily designed for making a digital audio copied recording.¹⁰⁷ A “digital audio copied recording” is a reproduction made from a digital musical recording or from a transmission.¹⁰⁸

a. Does the AHRA Encompass the Rio Device?

For the AHRA’s requirements regarding the implementation of copying controls to apply to Rio-type devices, these new devices must fit within Congress’s definition of a “digital audio recording device.” If read literally, it is not readily apparent that the Rio qualifies as a “digital audio recording device” under the AHRA.

105. Section 1001(11) defines “serial copying” as:

the duplication in a digital format of a copyrighted musical work or sound recording from a digital reproduction of a digital musical recording. The term “digital reproduction of a digital musical recording” does not include a digital musical recording as distributed, by authority of the copyright owner, for ultimate sale to consumers.

17 U.S.C. § 1001(11) (1994).

106. Section 1002(a) states:

No person shall import, manufacture, or distribute any digital audio recording device . . . that does not conform to - (1) the Serial Copy Management System; (2) a system that has the same functional characteristics as the Serial Copy Management System . . . ; or (3) any other system certified by the Secretary of Commerce as prohibiting unauthorized serial copying.

17 U.S.C. § 1002(a) (1994).

107. Section 1001(3) states:

A “digital audio recording device” is 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. . . .

17 U.S.C. § 1001(3) (1994).

108. Section 1001(1) states, “A ‘digital audio copied recording’ is a reproduction in a digital recording format of a digital musical recording, whether that reproduction is made directly from another digital musical recording or indirectly from a transmission.”

17 U.S.C. § 1001(1) (1994).

The Rio does not have any type of recording function in the traditional sense. For instance, it does not contain any mechanism to make physical copies of a recording in the manner that a DAT or an audio cassette deck makes copied tapes. The AHRA, however, specifically defines a “digital audio recording device” as having a recording function.¹⁰⁹ Consequently, if both the AHRA and portable MP3 players are interpreted at face value, the MP3 players would probably not fit under the purview of the AHRA since they are more properly characterized as digital playback devices rather than digital recording devices.

Nevertheless, a creative litigator could argue that the AHRA’s definition of a “digital audio recording device” encompasses portable MP3 players. Although portable MP3 players do not have the ability to record onto physical media such as tapes, they store copies of the music files that will eventually be played back onto memory chips. For example, the Rio stores copies of music files on flash memory that is either contained in the device itself or on flash memory cards that a consumer can purchase as an accessory.¹¹⁰ An advocate could argue that, by storing a copy of an MP3 file in flash memory, a Rio player is a digital recording device since it is, in a sense, recording a file onto memory. Support for this line of argument is evidenced in cases in which the courts held that a computer program loaded into memory is actually a copy of the original program for copyright purposes.¹¹¹ Also, Congress arguably accepted this rationale since it passed an amendment to the Copyright Act in 1997 that specifically authorized computer users to make these RAM copies in certain circumstances without violating the copyright laws.¹¹² Section 117 of the Copyright Act authorizes a computer user to load copies of programs into memory, in order to execute the programs, without being subject to copyright infringement.¹¹³ By enacting this excep-

109. 17 U.S.C. § 1001(3) (1994).

110. See *Diamond Multimedia - Rio PMP 300* (visited Nov. 14, 1999) <<http://www.diamondmm.com/products/in-depth/rio-id.html>>.

111. See, e.g., *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993) (loading a computer program into random access memory involved making a copy of the program for purposes of 17 U.S.C. § 106).

112. See 17 U.S.C. § 117 (1994).

113. Under section 117, it is not copyright infringement for “the owner of a copy of

tion to copyright infringement, Congress arguably acknowledged that making copies of copyrighted works on memory chips could constitute copyright infringement. Therefore, an argument could be made that by loading a MP3 file, a portable MP3 player is actually “recording” that file into memory. If this process is considered to represent a portable MP3 player’s recording function, then the AHRA would apply to the device.

Upon reflection, based on the portable MP3 players’ lack of a *true* recording function, it would appear that the best interpretation of the AHRA is to *not* include portable MP3 players within the statutory definition of “digital audio recording device.” Although MP3 players make copies of audio files onto memory chips, Congress did not intend to include memory chips in its definition of recording media for purposes of liability under the AHRA. Rather, definitions in the AHRA seemingly indicate that Congress meant to address recording devices that actually recorded onto a medium. The AHRA defines a “digital audio recording medium” as “any material object in a form commonly distributed for use by individuals, that is primarily marketed or most commonly used by consumers for the purpose of making . . . recordings.”¹¹⁴ This definition apparently includes items such as tapes but does not appear to encompass the flash memory that the Rio arguably uses to record. The primary or most common use for the flash memory of the Rio, both onboard and add-on cards, is not to make digital audio copied recordings. Rather, the flash memory is essential to the operation of the Rio and is used to store a temporary copy of a MP3 file for the Rio to read during playback. Diamond Multimedia also intended the add-on cards to increase the amount of music that the Rio could playback at any one time. Moreover, other portions of the AHRA’s definition of “digital audio recording device” also indicate that Congress meant to target machines with traditional recording functions. For example, Congress specifically excluded dictation machines and answering machines from the definition of

a computer program to make . . . another copy . . . of that computer program” when the new copy is “created as an essential step in the utilization of the computer program . . .” *See id.* Since programs must be loaded into memory before a computer can execute them, this section authorizes RAM copies to be made in those instances.

114. 17 U.S.C. § 1001(4) (1994).

“digital audio recording device.”¹¹⁵ This is further evidence that Congress targeted devices with specific recording operations since Congress felt that it was necessary to provide exemptions for certain machines that contained true recording functions. Consequently, while an argument could be made that the storage of a MP3 file in the Rio’s flash memory is a recording function, it is more likely that Congress actually envisioned a recording function in the traditional sense, such as writing data onto a tape, when it defined a “digital audio recording device.”

Another theory to bring portable MP3 players within the purview of the AHRA is witnessed in a recent case involving Rio players. In *Recording Industry Ass’n of America, Inc. v. Diamond Multimedia Systems*, the District Court decided that the Rio MP3 player was covered by the AHRA based partly on the legislative history of the Act.¹¹⁶ Judge Collins reasoned that the legislature did not intend to remove a device from the purview of the AHRA merely because it lacked a completely independent recording function.¹¹⁷ First, Judge Collins noted that the phrase “recording function” was included in the definition of a digital recording device only to ensure that just the audio recording function of a device capable of both audio and video recording was scrutinized under the AHRA.¹¹⁸ Additionally, allowing a device capable of making digital audio reproductions to escape the requirements of the AHRA merely because it was not capable of truly independent recording would “undermine the entire statutory scheme.”¹¹⁹ Consequently, Judge Collins’s interpretation of the legislative history of the AHRA would place portable MP3 players within the jurisdiction of the AHRA.

Judge Collins dismissed as insignificant a reference in the legislative history regarding devices with independent recording functions.¹²⁰ However, it is not completely clear that the reference should be disregarded in light of the previous discussion of the

115. See 17 U.S.C. § 1001(3)(B) (1994).

116. See *Diamond Multimedia*, 29 F. Supp. 2d at 629.

117. See *id.* at 631.

118. See *id.*

119. *Id.*

120. See *id.*

plain wording of the statute. The legislative history at issue reads:

Although the typical computer would not fall within the definition of “digital audio recording device”, a separate peripheral device *with an independent recording function* would be a “digital audio recording device” if the recording function was designed or marketed for the primary purpose of making digital audio copied recordings for private use.¹²¹

Based on the preceding passage, it would appear that the legislators would only consider peripherals such as the Rio to be digital audio recording devices if they contained independent recording functions and were designed or marketed to make copied recordings. Portable MP3 players contain neither independent recording functions nor are designed to make copied recordings. Rather, as previously discussed, Rio devices are designed merely to playback files that are downloaded into their memory from a computer. When this passage is viewed in conjunction with definitions from the AHRA that seem to indicate that the legislators drafted the Act to target machines that recorded onto some type of media, it would appear that Judge Collins may not have been entirely justified in dismissing this part of the legislative history. Although Judge Collins argues to the contrary, the legislative history of the AHRA provides evidence that Congress meant to address only those devices that contained a true independent recording function such as the DAT recorders that were the initial catalysts for the Act.

In fact, the Court of Appeals for the Ninth Circuit, although affirming the District Court’s denial of the RIAA’s motion for preliminary injunction, ruled that Rio devices are not encompassed by the AHRA.¹²² The Court of Appeals noted that Rio players were not “digital audio recording devices” as defined by Congress in the AHRA since they are not able to reproduce a digital music recording either directly or from a transmission.¹²³ According to the Court of Appeals, the AHRA extends protection only to direct

121. *Diamond Multimedia*, 29 F. Supp. 2d at 631 (quoting S. REP. NO. 102-94, at 53 (1992)) (emphasis added).

122. *See Diamond Multimedia*, 180 F.3d 1072.

123. *See id.* at 1081.

copying of digital music and to indirect copying from transmissions of digital music.¹²⁴ Since Rio players can do neither, the Court of Appeals for the Ninth Circuit declined to extend the AHRA to cover Rio devices.¹²⁵

b. A Copy Protection Scheme Would be Ineffective in Any Event

Even if, for argument's sake, Rio-type players are included within the jurisdiction of the AHRA, it is debatable whether the copy protection scheme mandated by the AHRA would be effective when applied to these devices. As previously discussed in Part III.A.3, the AHRA mandates that digital audio recording devices contain some type of copy management system to restrict serial copying of digital music recordings.¹²⁶ However, devices such as the Rio merely download files from a computer into its memory. Consequently, the Rio is only capable of loading and playing files that consumers already copied and placed onto their computers' hard drives. These portable MP3 players do not contain any sort of mechanism by which they could independently make copies of the downloaded files for use in other player devices. Accordingly, even if the Rio contained a serial copy management system, the system would be the equivalent of the human vestigial tail: the copy management system would be present in the device but would serve no useful function. The Rio already prevents unfettered serial copying of digital audio recordings since it is inherently unable to serially record files. In the *Diamond Multimedia* case, the District Court based part of its denial of RIAA's request for injunctive relief on these facts.¹²⁷ The AHRA's requirement of a serial copy management system would prove useless on a portable MP3 player such as the Rio. As such, it would appear that the AHRA would be ineffective in preventing consumers from making unauthorized copies of digital audio files and in controlling the use of portable MP3 players.

124. *See id.* at 1076.

125. *See id.* at 1081.

126. *See* 17 U.S.C. § 1002(a) (1994).

127. *See Diamond Multimedia*, 29 F. Supp. 2d at 631-32.

4. The Fair Use Exception and the Royalty Scheme in the AHRA

Notwithstanding the problems regarding whether the AHRA applies to Rio-like devices and the ubiquitous nature of a copy management system if Rio devices were required to include such a system, the AHRA, as currently written, will never eliminate the Rio devices from the market. The Act contains a fair use provision that limits liability in two key respects.¹²⁸ First, a court may not hold a party liable for copyright infringement merely by that party's manufacturing or distributing of a digital audio recording device.¹²⁹ The civil remedies available are limited to the damages that Congress specified in the AHRA.¹³⁰ Moreover, the Act apparently precludes contributory infringement actions against the digital audio recorder manufacturers.

Additionally, the Act permits a consumer to make digital recordings using a covered device so long as the recordings are for noncommercial use.¹³¹ The statute also does not specify that the recordings must be made from a legally obtained copy of the original work.¹³² As a consequence, web surfers could arguably download a MP3 file from the Internet, whether or not it is an authorized copy, and play it back on their Rio players without violating the AHRA. Although the person who originally posts an unauthorized MP3 violates the copyright laws, it would appear that users who download files for personal use on their Rio players would fall under the AHRA's exemption for noncommercial fair use.

Congress apparently included this fair use provision as a trade off for a royalty scheme imposed by Congress in the AHRA.¹³³ Under the AHRA, a royalty is imposed on the sale of both digital

128. Under section 1008, "[n]o action may be brought under this title alleging infringement of copyright based on the manufacture, importation, or distribution of a digital audio recording device . . . or based on the noncommercial use by a consumer of such a device . . . for making digital musical recordings." 17 U.S.C. § 1008 (1994).

129. *See id.*

130. *See* 17 U.S.C. § 1009 (1994).

131. *See* 17 U.S.C. § 1008 (1994).

132. *See id.*

133. *See* Huffstutter, *supra* note 58.

audio recording devices and the recording media used in those devices.¹³⁴ These royalties are deposited into funds that are set up by the Act.¹³⁵ The Act also provides a procedure for distributing the royalty payments to the interested copyright parties.¹³⁶ As a result of the AHRA's royalty scheme, the recording industry is not left without compensation, notwithstanding the fair use exceptions for noncommercial use. In the case of the Rio players, however, the royalty compensation to the music industry would not be as substantial as with traditional recording devices due to the fact that Rio users do not need to purchase any type of recording medium to use their Rio players. For example, MP3 files are downloaded into the player's internal memory by default. The record industry would probably only collect royalties from the sales of the Rio devices rather than from the sales of both the devices and media. Therefore, if the current provisions of the AHRA are applied to portable MP3 players, the fair use exemptions would severely limit copyright infringement liability for both the manufacturers and the users of the devices while the music industry would not receive the full benefits of the royalty provisions of the Act.

5. An Act in Need of Repair

In its current state, the AHRA is not an entirely effective means of protecting the copyrights of the record industry from portable MP3 devices. Congress drafted the AHRA in a manner that could leave the new portable MP3 players outside of its jurisdiction. Even if the AHRA is interpreted to encompass the portable MP3 devices, the copy protection scheme mandated by the Act would not be effective given the nature of the portable MP3 players. The fair use and royalty provisions of the AHRA further limit its effectiveness when applied to Rio-like players. Therefore, it would seem that the new portable MP3 players render the AHRA obsolete although the Act is still appropriate legislation to address the concerns raised by the DAT and devices similar to the DAT. Technology seems to have made the AHRA obsolete or, at the very least,

134. See 17 U.S.C. §§ 1003-1007 (1994).

135. See 17 U.S.C. § 1006 (1994).

136. See 17 U.S.C. § 1007 (1994).

in need of serious amendment and improvement.

In addition, a recent development in cyberspace underscores the need to either modify the AHRA or to institute a different method of protecting copyrights from devices such as the Rio. The Rio, as it is manufactured and distributed by Diamond Multimedia Systems, is incapable of transferring the files stored in its internal memory to another computer or device because it is shipped with no digital output capability.¹³⁷ However, computer programmers recently reverse-engineered the application that Diamond Multimedia includes with the Rio for downloading files into the device and modified the code to enable the program to upload files to a PC.¹³⁸ This modified program theoretically allows consumers to download MP3 files into their Rios, connect their Rios to a different computer, upload the files into that computer, and use that computer to make CD copies of the MP3 through the use of a CD recorder. The modified program, in effect, allows the Rio to produce digital output notwithstanding the fact that the Rio, as shipped by Diamond Multimedia, is unable to function in that manner. Consequently, it would appear that a device that is not clearly within the jurisdiction of the AHRA may now be modified to act, in conjunction with another computer with a CD recorder, in the very manner that Congress hoped to control through the AHRA.

B. *A New Hope: The Digital Millennium Copyright Act*

1. Background and Purpose of the Digital Millennium Copyright Act

The AHRA is probably not the solution for the copyright problems that the recording industry faces when it comes to on-line music and devices such as the Rio. However, President Clinton recently signed into law a new act that promises to balance the interests of both copyright owners and consumers with regards to the

137. See *Diamond Multimedia*, 29 F. Supp. 2d at 631.

138. See Robert Lemos, *ZDNet News: Hacked Rio to Pose Legal Problems?*, (Jan. 27, 1999) <<http://www.zdnet.com/zdnn/stories.html>>.

Internet.¹³⁹ For the purposes of this discussion regarding the threat of Rio-type devices on copyright rights, the two most important aspects of the Digital Millennium Copyright Act of 1998 (“DMCA”)¹⁴⁰ are the implementation of two World Intellectual Property Organization (WIPO) treaties regarding copyright protection measures and the establishment of provisions limiting copyright infringement liability for Internet service providers (ISPs).¹⁴¹ Congress did not draft the DMCA with the express purpose of directly limiting the use of Rio-type devices for playing unauthorized music files. However, the DMCA may ultimately discourage piracy on the Internet.

2. Liability for Circumventing Copy Protection Schemes

Title I of the DMCA, titled the “WIPO Treaties Implementation”, protects technological measures used by copyright owners to protect their works on the Internet.¹⁴² The Act prohibits users from circumventing “a technological measure that effectively controls access” to copyrighted material.¹⁴³

The DMCA’s prohibition on circumventing technological measures designed to protect copyrighted material will probably have little practical effect on a device such as the Rio. As previously discussed in the analysis of the AHRA,¹⁴⁴ the nature of the Rio is such that copy management systems are ineffective to control any unauthorized reproduction of copyrighted works. The Rio is designed to download files from a computer into its onboard memory for playback. It is not designed to make copies of these

139. See H.R. REP. NO. 105-551(II), at 20-21 (1998).

140. See Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998).

141. See H.R. REP. NO. 105-551(II), at 21. Other provisions of the DMCA which are not relevant to this discussion, address ephemeral recordings, exemptions for libraries and archives, exemptions for computer maintenance servicers, and curiously, a section regarding protection for original vessel hull designs in the marine industry.

142. See Digital Millennium Copyright Act §§ 1201-1205, 112 Stat. 2860 at 2863-76.

143. See Digital Millennium Copyright § 1201(a), 112 Stat. at 2863. It should be noted that this prohibition does not take effect for two years after the enactment of the Act. See *id.*

144. *Supra* Part III.A.3.b.

works and, accordingly, has no independent recording function. Therefore, it is unlikely that the manufacturers of Rio-like devices will equip them with copy management systems. If there are no copy management systems on these machines, there will obviously be no way for a user to violate the DMCA's prohibition on the circumvention of such systems.

Moreover, the Rio does not fit under the Act's definition of devices that are prohibited by the anti-circumvention provisions. Under section 1201, the DMCA defines these devices as those which are primarily designed to circumvent technological control measures or which have little use outside of circumventing copyright controls.¹⁴⁵ In fact, Congress acknowledged that they did not intend this section to apply to products such as the Rio that are capable of commercially significant noninfringing uses.¹⁴⁶ Examples of the products that Congress did not intend to include under the anti-circumvention provisions are videocassette recorders, telecommunications switches, personal computers, servers, and other consumer electronics and computer products used for perfectly legitimate purposes.¹⁴⁷ The Rio seemingly fits within these categories of devices. Additionally, Congress intended for this section to outlaw "so-called 'black boxes' that are expressly intended to facilitate circumvention of technological protection measures for purposes of gaining access to a work." Again, the Rio and related portable MP3 playback devices are more akin to mainstream consumer products than to "black box" machines designed to pirate protected works. Based on an evaluation of the legislative reports regarding the passage of the DMCA, it is unlikely that Congress

145. According to section 1201(a)(2):

No person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part thereof, that—

(A) is primarily designed or produced for the purpose of circumventing a technological measure that effectively controls access to a work protected under this title;

(B) has only limited commercially significant purpose or use other than to circumvent a technological measure that effectively controls access to a work protected under this title;. . .

Digital Millennium Copyright Act § 1201(a)(2)(A)-(B), 112 Stat. at 2864.

146. See H.R. REP. NO. 105-551(II), at 38.

147. See *id.*

would have considered portable MP3 playback machines as devices that would be prohibited by the Act.¹⁴⁸

3. Limitations on Internet Service Provider Liability Safe Harbors for End-Users' Transmissions and Caching Incident to Those Transmissions

While the anti-circumvention provisions of the DMCA will probably not prevent Rio users from listening to unauthorized MP3 files, the DMCA's limitations on Internet service provider (ISP) liability for copyright infringement appear much more promising as safeguards against on-line piracy. Title II of the DMCA, titled the "Online Copyright Infringement Liability Limitation", addresses the concerns of ISPs regarding their possible liability for infringing material that consumers transmit using the ISPs' services.¹⁴⁹ The Act provides a safe harbor for ISPs from copyright infringement liability when a user transmits unauthorized materials over their networks if certain conditions are met by the ISP. To receive the benefit of this safe harbor, an ISP must ensure that: the suspect transmission is initiated by the user and not the ISP; the ISP does not select the transmitted material; the ISP does not select the recipients of the material; the material is not stored by the ISP for a period longer than necessary for the transmission of the material; and the ISP does not modify the content of the material.¹⁵⁰

148. *Id.*

149. *See* Digital Millennium Copyright Act § 512, 112 Stat. 2877-86.

150. Section 512(a) states, in pertinent part:

A service provider shall not be liable for . . . infringement of copyright by reason of the provider's transmitting . . . material . . . or by reason of the transient storage of that material . . . if—

- (1) the transmission of the material was initiated by . . . a person other than the service provider;
- (2) the transmission . . . is carried out . . . without selection of the material by the service provider;
- (3) the service provider does not select the recipients of the material. . . ;
- (4) no copy of the material . . . is maintained on the system . . . in a manner ordinarily accessible to anyone other than anticipated recipients, and no such copy is maintained . . . for a longer period than is reasonably necessary for the transmission . . . ; and
- (5) the material is transmitted through the system . . . without modification of its content.

Digital Millennium Copyright Act § 513(a), 112 Stat. 2877-78.

Furthermore, the Act provides ISPs with another safe harbor for the intermediate or temporary storage of infringing material on their networks by an end-user incident to the transmission of these infringing materials.¹⁵¹ To properly invoke this “caching” safe harbor, the ISP must meet the same general conditions as those concerning the transmission safe harbor.¹⁵² The practical result of these two limitations on liability is that qualifying ISPs cannot be liable for copyright infringement when one of their subscribers transmit infringing materials over their networks as long as the ISP meets the statutory requirements.

4. Limitations on Internet Service Provider Liability: Safe Harbor for the Storage of Infringing Materials on ISPs’ Networks

If viewed in isolation, the safe harbors for the transmission and caching incident to the transmission of unauthorized materials may seem counterproductive to the protection of copyrights. However, the DMCA balances these safe harbors with another limitation on liability regarding the actual storage of the infringing materials on the ISPs’ networks. These safe harbors taken together have the potential to ultimately reduce Internet piracy.

Under the DMCA, an ISP cannot be liable for copyright infringement due to one of its users storing unauthorized works on its network as long as it does not have actual or constructive knowledge of the material.¹⁵³ Once an ISP becomes aware of any

151. See Digital Millennium Copyright Act § 512(b), 112 Stat. at 2878-79.

152. See *id.*

153. Section 512(c)(1) states, in pertinent part:

A service provider shall not be liable . . . for infringement of copyright by reason of the storage at the direction of a user of material . . . on a system . . . if the service provider—

(A)(i) does not have actual knowledge that the material . . . is infringing; (ii) in the absence of such actual knowledge, is not aware of facts or circumstances from which infringing activity is apparent; or (iii) upon obtaining such knowledge. . . , acts expeditiously to remove . . . the material;

(B) does not receive a financial benefit directly attributable to the infringing activity. . . ; and

(C) upon notification of claimed infringement . . . responds expeditiously to remove . . . the material. . . .

Digital Millennium Copyright Act § 512(c)(1), 112 Stat. at 2879-80.

infringing materials stored on its network, it must act expeditiously to remove the files in order to qualify for this safe harbor.¹⁵⁴ The Act also requires that an ISP designate an agent to receive notification of the storage of infringing files on its service from the copyright owners and details the procedures that copyright owners must follow in notifying the ISP about any unauthorized material.¹⁵⁵ This safe harbor provides an incentive for ISPs to eliminate unauthorized material from their networks once copyright owners inform them of the presence of any illegal files.

In effect, if copyright owners wish to maintain and protect their rights, they are forced into actively policing cyberspace for potential infringers. This may prove a daunting task for some copyright owners who lack the resources to effectively monitor Internet activity. However, the record industry, which is spearheading the current movement to regulate Rio-type devices, seemingly has the resources to adequately search the Internet for unauthorized files. For example, a spokesman for the RIAA recently revealed that, in just one afternoon, they discovered 80 pirate sites offering 20,000 MP3 files.¹⁵⁶ The anti-piracy unit of the RIAA is currently the largest department in the association.¹⁵⁷ The RIAA currently has the infrastructure in place to battle Internet piracy. The industry group already trains FBI agents on copyright issues, attends congressional hearings, presents on-line piracy lectures on college campuses, and employs college graduates to surf for illegal MP3s.¹⁵⁸ Since the record industry will directly benefit from eliminating unauthorized MP3 files from the Net, it does not seem overly burdensome to shift the responsibility for tracking down the pirate sites to the record business.

The reason why the DMCA may succeed where past copyright statutes have failed is that the DMCA is a legislative attempt to

154. See Digital Millennium Copyright Act § 512(c)(1)(A)(iii), (c)(1)(C), 112 Stat. at 2880.

155. See Digital Millennium Copyright Act § 512(c)(2)-(3), 112 Stat. at 2880-81.

156. See Eric Boehm, *Download Dastards: RIAA Goes After Music Pirates at Midem*, DAILY VARIETY, Jan. 26, 1999 at 10.

157. To place some perspective on the size of the RIAA, the RIAA currently boasts an annual budget of \$20 million. See Geoff Edgers, *Knocking Boots: On the Front Lines of the Ever-Nastier Bootleg and MP3 War*, SPIN, Mar. 1999, at 56.

158. See *id.*

regulate information rather than devices. It is not the same type of act as the AHRA. The AHRA was an attempt by Congress to control particular types of devices, not necessarily the information that the devices processed and used. As the current battle over the Rio demonstrates, device oriented statutes such as the AHRA run the risk of becoming obsolete due to technological innovations. This risk is less pronounced when a statute concentrates its provisions on regulating information. The DMCA promises to reduce the available forums for MP3 pirates to post their files. As a result of the safe harbors contained in the DMCA, Congress gave ISPs substantial incentives to shut down pirate sites once the ISPs receive notification of their existence on the ISPs' networks. There will probably be very few ISPs that would risk potential copyright infringement liability when they merely have to pull the plug on any pirate users on their systems. Moreover, the cost of policing the Internet is shifted to an entity that has a strong incentive to monitor cyberspace for infringers and the resources to effectively do so – the record industry. The record industry stands to gain from a reduction in on-line pirated works since it will directly benefit via increased sales of authorized recordings. These incentives that both the ISPs and the record industry have to act as gatekeepers of the information superhighway in regards to copyrighted material will not diminish with the introduction of new devices. The focus of the DMCA on the regulation of information is not dependent on the control of any particular device. Regardless of any technical innovations that may be introduced, the DMCA safe harbors will likely keep both the record industry and the ISPs actively involved in preventing Internet users from making unauthorized files available on-line. As a result, the DMCA will probably provide copyright protections for a longer period of time than a device related act such as the AHRA. The DMCA is more adaptable to current technological innovations and is less likely to be rendered obsolete by new inventions.

5. Protection of Copyright Management Information

To aid copyright owners in identifying authorized and unauthorized copies of their works, the DMCA makes it illegal for a person to remove or alter any information used by a copyright

owner to identify the work, the owner, or a permissible use of the work.¹⁵⁹ This section of the DMCA will protect copyright owners' efforts to mark their original works, in a manner that is transparent to a consumer, and enable the copyright owners to distinguish between authorized recordings and pirated copies. In order for this section to aid the record industry's cyberspace policing efforts, record companies will need to mark their musical works with some sort of digital watermark as a matter of procedure. If digital watermarking of music becomes common, it is highly probable that this provision of the DMCA will enable the music industry to more easily distinguish between authorized and unauthorized music files. As a result, this portion of the Act has the potential to help the efforts of copyright owners to detect pirated materials on the Internet.

6. A Step in the Right Direction

The DMCA represents significant progress in the legislature's efforts to ensure that copyrighted material such as musical works are protected in cyberspace. The DMCA provides an incentive for ISPs to act as copyright gatekeepers to the information superhighway and does not require the ISPs to actively police the Internet. Congress made several safe harbors to copyright infringement liability available to ISPs on the condition that the ISPs act diligently after receiving notice of illicit activity by their users. Since ISPs are not required to act unless they are aware of piracy, the record industry has an incentive to actively monitor the Internet in order to identify infringers. The DMCA also makes monitoring efforts by copyright owners easier by prohibiting persons from altering identification information, such as digital watermarks, that the owners place on their works.

The DMCA focuses its protective measures on the monitoring of information rather than devices. This shift of focus reduces the possibility that emerging technologies will render the measures in the DMCA obsolete. The DMCA also includes a provision that targets devices by prohibiting the circumvention of copy protection measures. This provision, however, will not prove effective in

159. See Digital Millennium Copyright Act § 1202, 112 Stat. at 2872-74.

protecting copyright owners from devices such as the Rio because the Rio does not currently ship with any manner of copy protection. As discussed in connection with the AHRA, such a copy protection scheme on a Rio would be ineffective to protect copyrights. The DMCA will not prevent on-line pirates from initially violating a musician's copyright if they are so inclined. Nevertheless, the DMCA provides an adequate framework for eliminating unauthorized postings. The Act facilitates copyright owners' efforts to monitor the Internet for illegal postings and provides incentives for ISPs to eliminate the postings once the copyright owners detect them. Consequently, the DMCA should ultimately discourage copyright piracy in cyberspace.

IV. THE NEXT STEP - PROPOSALS AND POLICY

Although the DMCA is a step in the right direction in ensuring that copyrights are protected on the information superhighway, there is always room for improvement to our current system. The recording industry recently formed a coalition to develop security measures in order to confront unauthorized music files on the Internet.¹⁶⁰ Dubbed the Secure Digital Music Initiative (SDMI), the coalition hopes to create a method of delivering music over the Internet while still maintaining copyright control over the works.¹⁶¹ The SDMI boasts a powerful group of members including Sony, Warner Brothers, IBM, Microsoft, America On-Line, and even Diamond Multimedia, the makers of the Rio.¹⁶² The following are several proposals that Congress and the SDMI could consider implementing in their efforts to ensure that musicians are properly compensated for their copyrighted material.

A. *Imposition of Royalties on Manufacturers of Portable MP3 Devices*

One possible way to guarantee that the record industry will receive some economic compensation for their copyrighted materials

160. See David Segal, *Music Piracy Online Targeted; Recording Industry Plans Technology to Protect Copyright*, WASH. POST, Dec. 16, 1998, at C19.

161. See *id.*

162. See Melvin, *supra* note 48.

is to impose a royalty scheme on portable MP3 players. This would not be a novel concept. The AHRA already contains a royalty scheme that is targeted at DAT devices.¹⁶³ Although its current incarnation does not necessarily encompass portable MP3 players such as the Rio, the legislature could easily amend the Act to provide such coverage. For example, the legislature could update the definition of “digital audio recording device” to specifically include devices without an independent recording function such as the Rio. Interestingly, Diamond Multimedia has already allegedly set aside a percentage of their sales of the Rio in anticipation that either the courts or the legislature will require them to pay royalties sometime in the future.¹⁶⁴

If the legislature amends the AHRA to include Rio devices within its jurisdiction, it would ensure that music artists and the record industry are compensated in some manner with respect to the use of portable devices to playback MP3 copies of their work. However, the inclusion of Rio devices within the AHRA’s royalty scheme would not produce the same level of compensation as with devices such as DATs. This expansion of the AHRA royalty provisions would not include all users of MP3 files. For instance, computer users do not need to purchase portable MP3 players to be able to listen to MP3 files. They could still download files off the Internet and play them through the speakers of their computers with the use of MP3 programs.¹⁶⁵ Additionally, since the AHRA imposes royalties on both the recording/playback devices and the media used with those machines, there would only be one source of income with Rio-type devices as opposed to a traditional digital audio recorder. As a result, imposing royalties on the Rio would not be a complete answer to Internet piracy of music files. However, it would ensure that the recording industry received some measure of compensation as far as portable MP3 players are concerned. If the portable MP3 players become a commercial success, unlike the DAT players, then the resultant royalties could add up to

163. See *Supra* Part III.A.4.

164. See Dickerson M. Downing & Brendan P. McFeely, *MP3 Gets Music Industry’s Ear; Will Digital Audio Format Mean On-Line Boom in Pirated Tunes?*, N.Y. L.J., Feb. 16, 1999, at S3.

165. See Huffstutter, *supra* note 3.

substantial amounts.

B. *Digital Watermarking*

One initiative that the SDMI is likely to adopt is to mandate digital watermarking of authorized music files sold or distributed through the Web. Liquid Audio recently introduced technology that enables artists to embed digital watermarks within music files including MP3s.¹⁶⁶ This digital mark, called the Genuine Music Mark, is designed to prevent copying by consumers.¹⁶⁷ However, the presence or absence of the mark will not affect the functioning of any MP3 player because the players will still be able to playback MP3 files without the watermarking.¹⁶⁸ For example, Diamond Multimedia recently announced that they would include a “digital rights management” system on the Rio that would enable the devices to recognize one particular type of watermark.¹⁶⁹ Nevertheless, the new Rios would still be able to play unauthorized, unmarked MP3 files. The digital watermark introduced by Liquid Audio has already gained the support of a coalition of interested parties that include record labels, portable MP3 player manufacturers, software firms that make MP3 player software, and commercial MP3 web sites.¹⁷⁰

It would be foolish for the record industry not to adopt some form of digital watermarking. The watermarking is transparent to consumers and will not affect the playback of the MP3s. Also, the DMCA contains measures that attempt to prevent any modification or deletion of copyright identification such as watermarks.¹⁷¹ Although the record industry presumably knows which Internet sites contain authorized files, the presence of a watermark would aid the industry in policing the Internet by providing ways to distinguish between authentic and unauthorized MP3 files. This is important

166. See *Liquid Audio Extends Leading Internet Music Delivery System to Support New ‘Genuine Music’ Open Standard and MP3 Format*, BUS. WIRE, Jan. 25, 1999.

167. See Evangelista, *supra* note 50.

168. See *id.*

169. See *InterTrust and Diamond Multimedia’s RioPort Division Partner in Digital Rights Management for MP3 Music Portables*, BUS. WIRE, April 26, 1999.

170. See Evangelista, *supra* note 53.

171. See *supra* Part III.B.5.

because the DMCA shifts the burden of monitoring the Internet to the copyright owners. Of course, watermarking will not prevent technophiles from creating unauthorized copies of MP3s.

Additionally, the legal remedy provided by the DMCA for copyright owners to use against people who tamper with watermarks, will probably not deter pirates from tampering with the watermarks. On the other hand, since a digital watermark will not hamper the ability of a user to playback the file, pirates may be less inclined to remove or tamper with the mark since they will already accomplish their goal of distributing an unauthorized copy of a file by merely making it available on-line. While not foolproof, digital watermarks have the potential of facilitating copyright owners' efforts to notify ISPs of infringers.

C. Encode Original Recordings to Prevent Copying

The record industry may choose to take an aggressive posture towards unauthorized MP3s and attempt to stop users from making the initial MP3 copies of the original works. For example, the industry may attempt to encode CDs in a manner that would prevent users from producing copies of the original CDs. Alternatively, the industry could stop manufacturing CDs and switch to DVDs, which already allow for special encoding.¹⁷² Current DVDs ship with settings for different regions around the world in order to restrict the geographical regions within which a DVD consumer can use a particular disc.¹⁷³ Additionally, a partnership between Circuit City and a Los Angeles law firm already markets a DVD hybrid, called Divx, that includes an additional layer of encryption on top of the normal DVD encoding, that restricts the number of times a consumer is able to watch a disc.¹⁷⁴ The DVD players them-

172. See Peter Lewis, *ABCs of DVDs - A Codebook for Video Technologies*, SEATTLE TIMES, Nov. 1, 1998, at C1 (discussing DVD technology). Although DVDs are currently marketed as video products, there appears to be no reason why a record company would not be able to release music DVDs that contain only audio data. Using DVDs would also allow record companies the option of including video data as a bonus for consumers that own DVD players. It should be noted that current DVD players are capable of playing both CDs and DVDs.

173. See *id.* For example, DVDs sold in the United States are encoded "Region 1" and are only operable in DVD players that are able to read "Region 1" discs.

174. See *id.* Divx as an alternative to conventional movie rentals. See *id.*

selves already contain anti-copying technology designed to prevent consumers from making copies of DVD movies.¹⁷⁵ If the record industry produced music DVDs rather than music CDs, the industry would be able to encrypt the discs to prevent copying fairly easily since DVD technology already is capable of various types of encryption.

Although this sort of encryption would probably take away the average consumer's ability to make MP3 copies of copyrighted work, it is not guaranteed to completely succeed in stopping determined pirates. If the past is any indicator of future developments, diligent hackers and pirates will ultimately circumvent anti-copying technology.¹⁷⁶ The DMCA already prohibits the sale of "black boxes" designed to circumvent copy-prevention technology. Consequently, copyright owners have a legal recourse available in order to prevent the distribution of physical devices. However, it is conceivable that a sophisticated hacker could invent around a copy protection measure and distribute the music on-line in the same manner that is occurring today with unauthorized MP3s. Physical deterrents to unauthorized copying of original recordings will prevent the average consumer from distributing unauthorized copies of original works. Unfortunately, the encoding of original discs will likely fail to prevent determined pirates from continuing to illegally distribute music files.

D. Don't Fight the Future: Allow MP3 Distribution to Maintain It's Current Course

Another recommended course of action for the recording industry may be to take no action at all. For instance, the record industry has expressed concern that the technological innovation of the day would undermine its business and result in mass copyright infringement. Two notable examples of this are the audio cassette tape and the DAT. With the benefit of hindsight being twenty-twenty, today we know that neither the audio cassette tape nor the DAT caused irreparable harm to the record industry. The CD is

175. See Michael J. Meurer, *Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works*, 45 *BUFF. L. REV.* 845, 883 (1997).

176. See generally *id.*

slowly replacing audio cassette tapes and the DAT is widely acknowledged as a commercial failure.

While some consumers make unauthorized copies of music and refuse to purchase original copies, many consumers seem to prefer purchasing original musical works. Consumers may want to own an authorized recording because they come packaged with artwork that is unavailable elsewhere. Moreover, fans of certain musical artists will usually show their support for these artists by purchasing copies of their works. For example, "tape traders" and bootleggers staunchly oppose distributing copies of music available at retail.¹⁷⁷ These fans generally only copy and trade songs and versions of songs that are unavailable through commercial channels as a result of the artist or the record label not releasing the work.¹⁷⁸ The record industry should consider that by allowing people to sample individual songs via MP3 files, the industry would promote the artists and possibly increase the artists' fan bases.¹⁷⁹ It is possible that some consumers would never listen to a certain artist if they were unable to sample their work at no charge. With the worldwide audience available via the Internet, recording artists, notably those that are not well established or only have local followings, would gain exposure to consumers to which they would not otherwise have access. The net result could be an eventual increase, rather than a decrease, in sales. As a result of the enormous audience that the Internet provides for the record industry, and the past failures of recording advancements to supplant retail sales, the record industry may want to consider a plan of no action and let the MP3 revolution take off unhindered by any resistance on their part.

177. Tape traders will not trade music that they can buy in regular nation-wide chain music stores. See Jeff Kuhn, *Official Frequently Asked Questions [FAQ] for alt.music.bootlegs* (last modified Mar. 20, 1998) <ftp://ftp.visi.com/users/astanley/ambfaq.txt>.

178. According to the alt.music.bootlegs FAQ, "There are very few people who would not buy a legitimate release by an artist because they have a bootleg tape." *Id.*

179. Several bands have already successfully utilized free MP3 files as an effective promotional "loss leader." For example, punk-pop band Poster Children posted one free MP3 song on the web in advance of its release of its latest album. Three thousand people downloaded the song during the first week that the file was available. See Jonathan Vankin, *Downloading the Future: The MP3 Revolution - The End of the Industry as We Know It*, L.A. WEEKLY, Mar. 26 - April 1, 1999.

E. If You Can't Beat 'Em, Join 'Em: Provide Industry Supported Alternatives to Unauthorized Distribution of Music Files

Irrespective of whether the record industry chooses to use encryption methods to prevent piracy or to tolerate piracy given the failure of past technology to supplant commercial record sales, the industry should implement its own distribution channels in order to make authorized copies of music files available to on-line consumers. In devising their Internet distribution plans, the record industry should consider two suggestions: (1) set up industry authorized web sites or (2) adopt a shareware distribution system.

1. Set Up Industry-Owned Web Sites

In lieu of fighting the Net music/MP3 revolution, the music industry could take a progressive stance and join the party. For instance, the SDMI could set up a site wherein they would offer authorized MP3 files from artists represented by the coalition members. There are several means the coalition could implement to control access to these files. In return for unlimited free downloading of any available titles, the web masters could limit access to the site through a membership fee. Alternatively, the industry could adopt a system such as IBM's recently announced Madison Project¹⁸⁰ that allow record companies to sell songs one at a time to consumers.¹⁸¹

Maintaining sites to control the distribution of music over the Internet could help the record industry ensure that the artists re-

180. See Chuck Philips, *The Cutting Edge: IBM Aims to Unplug Online Music Pirates*, L.A. TIMES, Feb. 8, 1999, at C1. IBM's Madison Project system allows consumers to download recordings in a proprietary format through high-speed cable lines. The Madison Project also enables customers to download album artwork and could be expanded to allow customers to burn CDs of music they download. Interestingly, IBM's system is not compatible with MP3. As a result, users who currently use MP3 formats may lack the desire or motivation to switch to the Madison Project. See *id.*

181. See *id.* Additionally, IBM designed the Madison Project to operate on high-speed cable lines. Since the installed base of cable modem users is not as large as traditional phone line users, this also may potentially limit the technology's success. See *id.* This concern may not prove to be as serious because the use of cable lines to connect to the Internet is increasing as more users seek faster connections than are possible over traditional phone lines.

ceive some compensation for the downloading of their works. However, a membership fee to access an MP3 web site or a charge to download a song may not be well received by the on-line community that currently trades in unauthorized MP3s. With the proliferation of unauthorized MP3 files, users of the Internet have already shown a preference for free materials and may be reluctant to pay for downloading songs that they may not like.

2. Adopt a Shareware Approach to Distribute On-Line Music

Perhaps a better tactic for recording artists, in terms of having some manner to control the distribution of Internet music, would be to adopt a shareware system. Computer programmers who wish to distribute their programs without having to use traditional retail channels have used shareware for years. Typically, the programmers make fully or mostly functional versions of their works available for free downloading.¹⁸² If the end-user enjoys the program and wishes to keep it, the programmers ask the users to register the program by sending the programmer some sort of consideration.¹⁸³ In return for registration, the author of the program will normally send the user supplemental materials that could include a copy of the latest version, a printed manual, technical support, additional data files for the program, or other programs by that author.¹⁸⁴

In regards to MP3 files, musical artists could adopt a shareware system and allow users to download MP3 files at will and with no initial charge. The artists could then request that users send in some manner of consideration if they enjoy the music. To entice consumers to register the work, artists could provide promotional materials, such as stickers or photographs, or grant membership to a fan club after a consumer registers their copy. The end result of this arrangement would be that consumers would still be able to download music for no charge in order to sample a certain artist's work. If consumers become fans of the artist, they may feel compelled to support the artist's efforts by registering the file.

182. See STEVEN HUDGIK, *WRITING AND MARKETING SHAREWARE 1* (2nd ed. 1992).

183. See *id.*

184. See *id.*

Admittedly, the use of a shareware distribution system has its disadvantages. One possible deficiency of a shareware distribution system is that it is a grass-roots method of reaching an audience. Basically, artists who use shareware would depend, in large part, on word of mouth to encourage consumers to download their songs and to eventually register them if the consumers become fans. Since there would be no obligation for consumers to register the files, the artists run the risk of giving their music away free of charge if the return rate on registrations is small or nonexistent.

In reality, the risk of lack of compensation may not be as significant as it appears at first glance. Registration fees would go directly to the artists. Therefore, the artist's level of compensation would likely be greater than the corresponding royalties they would have received from record labels. For example, small or independent acts generally do not receive much compensation in the way of royalties in the first place.¹⁸⁵ The other factor that may mitigate the chance of artists essentially giving their music away is that, if the history of shareware in regards to computer software is any indicator, although initial registration returns may be slow, consumers tend to register the work in increasing numbers the longer the work is available.¹⁸⁶ As previously discussed, converted fans of a musician may register the file either out of guilt or to receive any materials the artist may offer in return for the registration.

Another possible disadvantage of a shareware system is that the artists will not have a record label actively promoting their efforts. Traditional distribution in the music industry generally involves a record label expending significant resources on promoting and marketing the artist. This often results in wide exposure via airplay on popular radio stations and a resultant increase in commercial sales. Of course, the whole idea behind using shareware is

185. See Goldstein, *supra* note 16 (quoting a local Dallas-area band member who claims that most musicians earn more from live performances than from their records if they are not a big name act). See also Sarah Luck Pearson, *For the Record: The Life and Premature Death of Mary's Danish*, L.A. WEEKLY, Mar. 26 - April 1, 1999 (discussing Mary's Danish, an up and coming alternative band of the late 1980's that received virtually no compensation from their record sales).

186. See HUDGIK, *supra* note 182 at 18.

to circumvent traditional commercial channels of distribution. Consequently, should certain recording artists desire to adopt a shareware system to distribute their MP3 or other music files over the Internet, they should be willing to forego the promotional muscle that a record label could provide to them. In return, these artists would be able to take advantage of the vast distribution potential of the Internet, possibly receive higher compensation for their works since they would circumvent the record label middle-man, and have the opportunity to communicate with and sell directly to their fans.

In a related aspect, the record industry is unlikely to welcome the prospect of a large portion of music artists distributing their works through a shareware plan. Recent accounts indicate that the record industry currently generates over \$7 billion in annual sales domestically.¹⁸⁷ If a significant portion of artists market and distribute their works over the Internet as shareware, the industry will lose the ability to profit off those sales because the artist would directly receive the proceeds of any shareware registrations. It is also possible that the acts willing to self-promote over the Internet will not be limited to garage bands or local acts. As previously discussed in Part I.A, popular artists such as the Beastie Boys and Public Enemy already display a willingness to market their music directly to consumers through a web site while bypassing the record labels in the process. It should not be forgotten that the ultimate goal of copyright protection is to “promote the [p]rogress of . . . useful [a]rts,”¹⁸⁸ and not necessarily to protect the profit margins of the recording industry. A shareware system has the potential to promote the goals underlying the copyright protections, assuming that the participating artists receive a sufficient return on their investment by way of registrations, even though the record industry’s sales volume may suffer.

187. Calculation based on the facts that albums wholesale for about \$10 each and domestic album sales for 1998 totaled 711,000,000 units, resulting in a dollar volume of \$7.11 billion. See Huffstutter, *supra* note 3.

188. U.S. CONST. Art. I, §8, cl. 8.

3. Shareware May Prove More Beneficial Than Industry Web Sites

Neither of the aforementioned proposals, distribution via copyright owners' sites or via shareware, will eliminate on-line piracy of MP3 files. However, both schemes will allow the record industry and musical artists to exert some control over the distribution of music files over the Internet. Of the two plans, a shareware system would likely be more successful. Computer literate users are already familiar with shareware since programmers have used the system for years to distribute software. By adopting shareware, recording artists could actually take advantage of the widespread copying of music files that is currently taking place in cyberspace. For example, if a shareware registration notice is appended to the original authorized copy of the file, it would appear on successive copies (assuming that an end-user does not tamper with the code). As such, every user of a shareware version of an MP3 file would have the opportunity to register their copy. The artist could also entice consumers to register copies that they enjoy by providing registered owners with materials not otherwise available such as exclusive photos, stickers, or album art. Through the use of shareware, users would still be able to sample a wide variety of music available on-line at no cost, at least initially. If users enjoy a certain song, they would hopefully show their support for the artist by registering their copy of the song.

CONCLUSION

The Internet presents the record industry and musical artists with the ability to reach and easily distribute their music to a vast audience. Unfortunately, cyberspace also presents the same opportunities to unethical users intent on distributing pirated and unauthorized copies of music. Piracy is a very serious problem that threatens copyright owners' rights and it may be impossible to completely end the piracy of music over the Internet because the boundaries of cyberspace are virtually limitless. However, the recently enacted DMCA is smartly oriented around the regulation of information rather than controlling devices. As a result, technological breakthroughs are less likely to render the DMCA obsolete, unlike previous device oriented laws such as the AHRA.

The Rio device and the current popularity of MP3 music files, both authorized and unauthorized, provide vivid examples of how technological advances and new inventions have the potential to eviscerate copyright laws geared towards regulating devices. The Court of Appeals in *Recording Industry Ass'n of America v. Diamond Multimedia Systems, Inc.*, ruled that the Rio players were not encompassed by the AHRA.¹⁸⁹ As such, The Audio Home Recording Act provides an example of an act that is virtually obsolete, notwithstanding the fact that it is only seven years old, as a result of advances such as the MP3 format and the Rio.

The DMCA provides the proper incentives for copyright owners and ISPs to act as copyright gatekeepers to the information superhighway. The DMCA contains provisions that may ultimately aid the record industry to search for on-line pirates by protecting digital watermarking and by specifying procedures that copyright owners may use to notify ISPs of copyright violations. Additionally, Congress encourages ISPs to shut down sites that infringe copyright owners' works by implementing safe harbors for copyright infringement. As more ISPs shut down increasing numbers of pirate sites in order to maintain their safe harbors against copyright infringement, on-line pirates should discover that their available forums are diminishing in number.

To ensure that their copyrights are protected, the music industry must take a proactive approach in dealing with Internet piracy of musical works. While the industry will probably be tempted to implement physical copy protection safeguards, the copyright owners would probably find greater success in either diligently enforcing their rights through active monitoring of piracy or by adopting its own distribution scheme as a legal alternative to unauthorized files. As part of its monitoring efforts, the record industry should adopt some form of digital watermarking for its musical works. Alternatively, instead of policing cyberspace, the record industry may choose to join the on-line distribution of music by setting up their own sites. Perhaps the most effective way for individual artists to exploit the Internet would be to adopt a shareware system of marketing and distributing their recordings on-line.

189. 180 F.3d 1072, (9th Cir. 1999).

Through the use of shareware distribution, these artists would allow a vast number of people to legally sample their work. Hopefully, some of these users would become fans of the acts and register their copies of the music. Rather than attempting to prevent consumers from fully enjoying the benefits of MP3 and portable MP3 players such as the Rio, the music industry should concentrate its efforts on monitoring cyberspace and on developing methods to effectively deliver their works on-line.