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From CD to MP3: Compression in the New Age of Technology (Overlooked Infringement or Fair Use?)

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Sydney Aaron Beckman*

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“[W]e have distributed over 200 million copies of iTunes now in the world, and those are only the copies we know about.”

Steve Jobs
Keynote Address “*One More Thing . . .*”

I. INTRODUCTION

iPods,¹ MP3 players, and other portable media devices are hot sellers.² Apple Computers, Inc. (“Apple”) claims to have sold 42 million iPods since their introduction in 2001.³ This does not include manufacturers or branders of other portable music or media devices.⁴ It is not uncommon to see people using such devices during their commutes to work, at work, while exercising, at leisure time, et cetera. However, most users are not aware that transferring music⁵ from Compact Discs (“CD’s”) and then compressing the songs into MP3⁶ or another format⁷ is a violation of the United States Copyright Act.⁸

1. iPod is a registered trademark of Apple Computer, Inc.

2. “According to research by Ipsos, one in five Americans over the age of 12 owns a digital-music device while one in 20 has more than one player. The poll showed that ownership of iPods and similar devices has increased by 15 percent since last year, and has nearly doubled since 2003.” Walaika Haskins, *MP3 Player Ownership on the Rise*, NEWSFACTOR MAGAZINE ONLINE, June 3, 2006, http://www.newsfactor.com/story.xhtml?story_id=1300046LBTE0.

3. Mike Musgrove, *Big Hit of the Holidays: 14 Million iPods Sold*, WASHINGTON POST, Jan. 11, 2006 available at http://www.washingtonpost.com/wp-dyn/content/article/2006/01/10/A122006011001675_pf.html.

4. *Id.*

5. For purposes of this article, the terms “music” and “songs” are used interchangeably although they are not synonymous.

6. “MP3,” short for MPEG-1/MPEG-2 Layer 3, is a format for storing digital audio. It uses an advanced type of audio compression, which reduces the file size with little reduction in audio quality. MP3 is used in software applications, digital audio players, home stereo devices and music distribution over the Internet, [and] it is also used for other purposes such as real-time digital audio transmissions over ISDN.” mp3licensing.com, About MP3, <http://www.mp3licensing.com/mp3/index.html> (last visited Jan. 12, 2007).

7. There are numerous forms of compression. A non-exclusive list includes MP3 and MP3Pro (Note 3), Advanced Audio Coding (AAC), Atrac3 (OMG, OMA), Liquid Audio (LAT, LQT, LSL), OGG Vorbis (OGG), Quicktime Audio (MOV), Real Audio Media (RA, RM, RMA) and Windows Media Audio (WMA), Apple Lossless Audio Codec (ALAC), Free Lossless Codec

As technology progresses and the use of these devices rapidly grows, so does the audio and video content available. Music, in particular, has come far from its beginnings in live performances, to the listening tubes invented by Thomas Edison in 1877, to phonographic records, to current-day digital recordings. While technology has advanced at sometimes breakneck speeds, the laws that protect artists have not been as quick to adapt. As a result, courts have been faced with the challenge of interpreting the laws in light of this changing technology. The question arises as to where and by what means users of these devices procure the content and whether that procurement is legal.

From the invention of what we now know as the video recorder (also known as “VCR”⁹ or “VTR”¹⁰), to Tivo®¹¹ Digital Video Recorders (“DVRs”¹²), lawsuits and claims have always challenged the newest technology. As a result, legal concepts known as “Time-Shifting”¹³ and “Space-Shifting”¹⁴ have developed, and the intersection between computers and digital content has created additional challenges for the courts. Specifically, courts are often faced with ongoing challenges of interpreting outdated laws, such as the Copyright Act, in light of incessant changes in technology. The courts also face legal challenges with regard to the transfer and storage of digital content. Regardless of the means by which it is stored, digital expression cannot be accessed without being copied into a computer’s memory.¹⁵ This copying “necessarily violates the exclusive right of reproduction that [the]

(FLAC), Monkey’s Audio (APE) [No, I’m not making these up], Windows Media Audio Lossless (WMA), Wavepack (WV, WVC). See Michael Miller, *Understanding Digital Audio Formats*, SAMS, Mar. 4, 2005, [http://www.sampublishing.com/articles/printerfriendly.asp?p37009\\$r1-1](http://www.sampublishing.com/articles/printerfriendly.asp?p37009$r1-1).

8. 17 U.S.C. § 106 (2000). While this theory may apply to other forms of content such as video, a discussion of other formats is beyond the scope of this article.

9. Abbreviation for Videocassette Recorder, AMERICAN HERITAGE COLLEGE DICTIONARY 1528 (4th ed. 2002).

10. Abbreviation for Videotape Recorder, OXFORD ENGLISH DICTIONARY 615 (2nd Ed. 1989).

11. Tivo and the Tivo logo are registered trademarks of Tivo, Inc. or its subsidiaries.

12. A DVR operates substantially similar to a VCR except that it uses a hard drive instead of video tapes. It can be used to record, save, and play back television programs. Unlike a VCR, however, a DVR can also pause live TV by recording the current show in real time. The user can choose to fast forward (often during commercials) to return to live television. Techterms.org, Computer Dictionary, <http://www.techterms.org/print.php?dvr> (last visited Jan. 16, 2007).

13. “The practice of recording a broadcast for viewing at a later time.” BLACK’S LAW DICTIONARY 1521 (8th ed. 2004).

14. “The act of copying digital content for use on a device other than that for which it was originally intended, such as copying music from a compact disc to [a file] for use on a portable [player]. . .” Webopedia, Space Shifting, http://drmwatcwatch.webopedia.com/TERMS/S/space_shifting.html (last visited Jan. 11, 2007).

15. Fred H. Cate, *The Technological Transformation of Copyright Law*, 81 IOWA L. REV. 1395, 1397 (1996).

copyright law grants copyright holders.”¹⁶ Thus, the questions that arise are: Where and by what means users of these devices procure the content?; and Is that procurement legal?

This article examines the application of the current copyright law to the practice of transferring music into different formats.¹⁷ The term “Shape-Shifting” shall be used to refer to the act of compressing music from its original format (typically found on a commercial Compact Disc) to a different, more condensed, format regardless of the compression format used.¹⁸ Conversion of a music title from its digital format on a Compact Disc to the format known as MP3¹⁹ would be an example of Shape-Shifting.²⁰ Part II of this article examines courts’ applications of the Copyright Act to technological advances and illustrates how those applications have historically dealt with these advances. Part III discusses the transformation of music into a compressed state and analyzes the applicability or inapplicability of laws which were designed to protect the copyright holder. Part IV discusses Shape-Shifting as it applies to prerecorded music and to the relevant federal statutes, and it assesses whether Shape-Shifting would be a violation of these statutes. Finally, the article concludes that Shape-Shifting of music is a violation of the protections provided by the Copyright Act to copyright holders.²¹

II. BACKGROUND: ALTERED STATES

The United States Constitution serves as the basis of protection for artists’ work.²² This clause, often known as the Patent and Copyright Clause,²³ requires the government to carefully tailor rights afforded to an artist in an effort not to overextend protections.²⁴ The first copyright act protected, among other things, maps, charts, and books.²⁵ Since its original enactment, the Copyright Act²⁶ (the Act) has been

16. *Id.*

17. This article focuses specifically on prerecorded music that is offered for sale commercially. Discussion of copyright laws with regard to video files, live performances, sheet music, and the like is beyond the scope of this article.

18. The author has coined the term “Shape-Shifting” to indicate this practice of altering a content’s format. Conversion of a music title from its digital format on a Compact Disc to the format known as MP3 would be an example of Shape-Shifting.

19. *See* Haskins, *supra* note 2.

20. *See supra*, note 18.

21. 17 U.S.C. §§ 102 (2000).

22. “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” U.S. CONST. art. I, § 8, cl. 8.

23. Maria Termini, *Time-Shifting in the Internet Age: Peer-to-Peer Sharing of Television Content*, 38 COLUM. J.L. & SOC. PROBS. 415, 418 (2005).

24. Cate, *supra* note 15, at 1396.

25. Act of July 8, 1870, ch. 230.386, 41st Cong., 2d Sess. (1870).

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modified²⁷ and expanded²⁸ to its most recent iteration which has been interpreted to include digital audio and video works. Under the Act, the owners of a copyright have certain enumerated exclusive rights with regard to their works.²⁹ These rights include copying, distributing, and performing.³⁰ Since 1972, the Copyright Act has recognized recordings as a distinct form of expression deserving separate copyright protection.³¹

Musical works,³² such as those found on a Compact Disc ("CD") or in a downloadable file, (including the lyrics of a song,) qualify as a "work of authorship"³³ and therefore, qualify for copyright protection³⁴ as long as they are both "original" and "fixed in a tangible medium of expression."³⁵ In order for a work to be fixed in a tangible medium of expression, "its embodiment in a copy or phonorecord³⁶ . . . [must be] sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration."³⁷ Thus, a copyright clearly attaches to any original song,

26. See 17 U.S.C. §§ 101-1332 (2000).

27. "Since 1976 Title 17 has had 49 amendments or statutory enactments." JOHN GANTZ & JACK B. ROCHESTER, *PIRATES OF THE DIGITAL MILLENNIUM* 117 (2005).

28. Cate, *supra* note 15, at 1399 ("The 1976 Act substantially broadened and extended federal copyright protection. Rather than protecting only specified categories of works, Congress applied copyright law to all works of authorship, provided they were 'fixed' and 'original,' regardless of whether they were published.").

29. 17 U.S.C. § 106 (2000).

30. *Id.*

31. See 17 U.S.C. § 102(a)(7) (2000) (granting copyright protection to sound recordings); Sound Recording Act of 1971, Pub. L. No. 92-140, 85 Stat. 391 (1974) (amending the Copyright Act to provide for the creation of a limited copyright in sound recordings for various purposes, including protecting against unauthorized duplication and piracy of sound recordings).

32. See 17 U.S.C. § 102(a)(2) (2000) (indicating that the subject matter of a copyright can be "musical works, including any accompanying words."). The specific term "song" is not actually defined in the Act. Compositions consist of words and music or sometimes, just music.

33. 17 U.S.C. § 102(a) (2000).

34. John A. Fedock, *The RIAA v. The People: The Recording Industry's Misguided Attempt to Use The Legal System to Save Their Business Model*, 32 PEPP. L. REV. 947, 957 n.74 (2005) ("A copyright automatically attaches to a qualifying work the instant it is created; no paperwork has to be filed in order for the copyright to attach However, most artists register their works with the United States Copyright Office because doing so is a prerequisite for bringing an action for infringement."). See 17 U.S.C. § 411(a) (2000) (stating that "no action for infringement of the copyright in any United States work shall be instituted until registration of the copyright claim has been made in accordance with this title.").

35. 17 U.S.C. § 102(a) (2000).

36. A "phonorecord" is a material object "in which sounds, other than those accompanying a motion picture or other audiovisual work, are *fixed by any method now known or later developed*, and from which the sounds can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. § 101 (2000) (emphasis added).

37. *Id.*

whether stored on CD, or stored as a digital audio file on a computer or portable multi-media player.³⁸

A. Copyright Infringement

Though seemingly an easy question, what constitutes infringement is often litigated and difficult to determine objectively.³⁹ The Act affords the owners of a copyright certain exclusive “rights.”⁴⁰ Those rights include the right to “reproduce the copyrighted work” and to “distribute copies . . . of the copyrighted work.”⁴¹ Copyright infringement occurs whenever an individual or business entity violates one of these exclusive rights.⁴² Three types of copyright infringement have been recognized: direct, contributory, and vicarious.⁴³

1. Direct Infringement

Direct infringement occurs whenever someone personally “violates any of the exclusive rights of the copyright owner.”⁴⁴ An example of such infringement would be the duplication of a music CD.⁴⁵ The unauthorized copying of music from the CD to a hard drive would also be an infringing use, although it may be subject to a fair use defense.⁴⁶ An additional copy is created when that music is transferred from the

38. *See, e.g.*, *Recording Indus. Ass'n of Am. v. Verizon Internet Servs., Inc.*, 351 F.3d 1229, 1231 (D.C. Cir. 2003) (stating that Verizon customers were suspected of infringing copyrights by sharing MP3 files); *In re Aimster Copyright Litig.*, 334 F.3d 643, 645 (7th Cir. 2003) (finding that Aimster users directly infringed copyrights by sharing MP3 files); *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1013-14 (9th Cir. 2001) (finding that Napster users directly infringed copyrights by sharing MP3 files).

39. Smith Q. Hopen, *How to I protect my ISP business from copyright infringement claims?*, http://www.bypatents.com/DMCA_safe_harbor_.asp (last visited Jan. 1, 2007).

40. 17 U.S.C. § 106(a) (2000).

41. 17 U.S.C. §§ 106(a)(1), (3).

42. Fedock, *supra* note 34, at 958. *But see id.* at 958 n.81. (“There are several limitations on these exclusive rights, the most important of which is the doctrine of ‘fair use.’”). *See also* 17 U.S.C. § 107 (2000). The other limitations are codified at 17 U.S.C. §§ 108– 112 (2000).

43. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 434-35 (1984).

44. 17 U.S.C. § 501(a) (2003). *See also Sony Corp. of Am.*, 464 U.S. at 434-35.

45. *Arista Records, Inc. v. Flea World, Inc.*, No. 03-2670, 2006 WL 842883, at *1 (D.N.J. Mar. 31, 2006).

46. *Cate, supra* note 15, at 1416-17 (“[A] work copied onto a hard drive . . . is certainly fixed. A user can view, copy, print, and otherwise communicate it with the aid of a computer. The work is present on the hard drive . . . until erased; turning the computer off or disconnecting power from the system will not affect the copy. Therefore, unauthorized reproduction of a work onto a hard drive . . . violates the exclusive right of the copyright holder. This was the clear intent of Congress and is the consistent view of modern courts.”).

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hard drive into the computer's memory.⁴⁷ It has been argued that "it is impossible to . . . listen to . . . digital information without violating the exclusive right to reproduce."⁴⁸

Individuals who own the commercially produced CD ("Users"), likely do not anticipate that these actions are infringing. However, intent is not required for violation of the Copyright Act.⁴⁹ Therefore, duplication of a commercially produced music CD by the owner of the CD may constitute infringement regardless of the user's intent.⁵⁰

2. Contributory Infringement

Contributory infringement is a cause of action available which permits a person or business entity to be held liable for an infringement committed by a third party.⁵¹ A user may be liable for contributory infringement if the user had either actual or constructive knowledge of the infringing activity,⁵² and facilitated, encouraged, assisted, or otherwise materially contributed to the infringing activity.⁵³

47. MAI Sys. Corp. v. Peak Computer, Inc., No. CV 92-1654-R, 1992 WL 159803, at *13 (C.D. Cal. Apr. 14, 1992), *appeal dismissed in part, aff'd in part*, 991 F.2d 511 (1992). The district court stated: "[T]he loading of copyrighted computer software from a storage medium (hard disk, floppy disk, or read only memory) into the memory of a central processing unit ("CPU") causes a copy to be made. In the absence of ownership of the copyright or express permission by license, such acts constitute copyright infringement."

48. Cate, *supra* note 15, at 1421 (referencing the Clinton Administration's Information Infrastructure Task Force Working Group on Intellectual Property Right's report (Sept. 1995) [hereinafter *ITTF Report*]).

49. See *Buck v. Jewell-LaSalle Realty Co.*, 283 U.S. 191, 198 (1931) ("Intention to infringe is not essential under the act."); *Playboy Enters. v. Frena*, 839 F. Supp. 1552, 1559 (M.D. Fla. 1993) ("Intent or knowledge is not an element of infringement, and thus even an innocent infringer is liable for infringement.").

50. Whether an owner of music CDs may duplicate those CDs for personal use, (i.e., archival reasons,) is beyond the scope of this article.

51. *Sony Corp. of Am. v. Universal city Studios, Inc.*, 464 U.S. 417, 434-35 (1984) (Although the "Copyright Act does not expressly render anyone liable for infringement committed by another," the Sony Court noted that "[t]he absence of such express language in the copyright statute does not preclude the imposition of liability for copyright infringements on certain parties who have not themselves engaged in the infringing activity.").

52. *Id.* at 487 (Blackmun, J., dissenting) (stating that "a finding of contributory infringement has never depended on actual knowledge of particular instances of infringement; it is sufficient that the defendant have reason to know that infringement is taking place"). See also *A&M Records, Inc., v. Napster, Inc.*, 239 F.3d 1004, 1020 (9th Cir. 2001) (noting that "[c]ontributory liability requires that the secondary infringer 'know or have reason to know' of direct infringement").

53. *A&M Records, Inc.*, 239 F.3d at 1019. See also *Fonovisa, Inc. v. Cherry Auction, Inc.*, 76 F.3d 259, 264 (9th Cir. 1996) (holding that defendants "materially contributed to the infringing activity" where "it would [have been] difficult for the infringing activity to take place in the massive quantities alleged without the support services provided by" them).

Certain software programs are designed for the primary purpose of compressing music for transfer onto portable media devices. One such program is iTunes,⁵⁴ published by Apple Computer.⁵⁵ One primary purpose of iTunes is to convert a user's music library to a compressed format readable by Apple's iPod media players.⁵⁶ If compressing commercial musical works from a CD into a compressed format such as MP3 is a violation of the Act, and if one of iTunes' primary purposes is to facilitate such compression, then the publisher, Apple Computer, may be liable for contributory infringement.⁵⁷

The Supreme Court has held that "one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties."⁵⁸ The actions of Apple Computer through the distribution of iTunes are substantially similar to the actions of Grokster that led to the Supreme Court's decision finding infringement.⁵⁹ Although Apple does not specifically promote infringement, the action it promotes—the conversion of musical works from CD to MP3 or AAC—is conceptually the same and, as such, is an infringing activity.⁶⁰

3. Vicarious Infringement

Vicarious copyright liability is derived from the principal of "respondeat superior."⁶¹ Vicarious liability, in the context of copyright law, extends to cases in which a defendant "has the right and ability to supervise the infringing activity and also has a direct financial interest in such activities."⁶² A successful claimant of vicarious infringement must prove three elements: (1) that there was direct infringement by a primary party, (2) a direct financial benefit was obtained by the defendant, and (3) the defendant had the right and ability to supervise the infringer.⁶³ It has been suggested that, unlike contributory infringement, a defendant may be held

54. See Miller, *supra* note 7.

55. *Id.*

56. "When first downloaded, the original purpose of iTunes becomes evident. Import your existing CD's/MP3's and watch iTunes organize your music." Opus: Creative, *iTunes Sharing 101*, June 1, 2005, <http://blog.opuscreative.com/2005/06/>

57. An analysis of contributory infringement as applied to software capable of compressing music or other digital files exceeds the scope of this paper.

58. *MGM Studios, Inc., v. Grokster, Ltd.*, 125 S. Ct. 2764, 2770 (2005).

59. In *Grokster*, the court found that the defendants Grokster and Streamcast both distributed their software free of charge and encouraged users to download copyrighted works. *Id.* at 2772. The court further found that the defendants took active steps to promote this infringement. *Id.*

60. *Id.*

61. *A&M Records, Inc. v. Napster, Inc.*, 239 F.3d 1004, 1022 (9th Cir. 2001).

62. *Id.*

63. *MGM Studios, Inc. v. Grokster, Ltd.*, 380 F.3d 1154, 1164 (9th Cir. 2004).

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liable for vicarious infringement even if the defendant was unaware of the infringing activity.⁶⁴ This cause of action would encompass employers as potential defendants when the infringing party is an employee.

B. Fair Use

Regardless of the form of a violation, claims of copyright infringement may be subject to certain statutory exceptions.⁶⁵ The Act provides a mechanism for assessing whether or not certain uses are exempt from being considered infringement.⁶⁶ Specifically, “fair use of a copyrighted work . . . is not an infringement of copyright.”⁶⁷ This doctrine recognizes that the exercise of a copyright owner’s exclusive rights, without permission, is allowed in certain situations.⁶⁸ The Act sets forth a presumably non-exclusive list⁶⁹ of acceptable uses: “criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research.”⁷⁰ The Act further delineates a non-exclusive list⁷¹ of four factors to consider in performing a fair use evaluation:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for non-profit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.⁷²

Standing alone, none of these factors is dispositive of whether a particular use will be considered a fair use.⁷³ These factors must be balanced in light of the objectives of the copyright law, as opposed to using them as definitive or

64. *Fedock*, *supra* note 34, at 960.

65. *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 817 (9th Cir. 2003).

66. 17 U.S.C. § 107 (2000).

67. *Id.*

68. 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.05 (2006).

69. By use of the phrase “such as” when delineating permissible uses which would not violate the Act, Congress presumably made the list non-exclusive. Use of terms “only” or omission of the phrase “such as” would have made the list an exclusive one. *See* 17 U.S.C. § 107.

70. *Id.*

71. *Termini*, *supra* note 23, at 420.

72. 17 U.S.C. § 107.

73. *Termini*, *supra* note 23, at 420.

determinative tests.⁷⁴ Thus, each analysis must be performed on a case-by-case basis.⁷⁵ Understandably, determining what constitutes fair use has become increasingly difficult for the courts as technology has developed.

Although the courts have considered and ruled upon the fair use doctrine on many occasions, no real definition of the concept has ever emerged.⁷⁶ Indeed, “since the doctrine is an equitable rule of reason, no generally applicable definition is possible, and each case raising the question must be decided on its own facts.”⁷⁷ Typically, a defendant’s first line of defense is the claim that one’s acts are a fair use rather than an infringement. This defense has been raised in copyright infringement actions over the years. Therefore, “[t]here is ample case law recognizing the existence of the doctrine and applying it to various fact patterns.”⁷⁸

1. Time-Shifting

In 1984, the Supreme Court faced the challenge of examining new technology capable of recording television programming captured from airwaves.⁷⁹ The Court analyzed the issue of this unauthorized activity, which became known as “Time-Shifting,” by users of a Video Tape Recorder (“VTR”)⁸⁰ manufactured by Sony and known as the Betamax.⁸¹ The Court’s analysis looked at three of the four factors enumerated in the Act:

[T]he first factor requires that “the commercial or nonprofit character of an activity” be weighed in any fair use decision. If the Betamax⁸² were used to make copies for a commercial or profit-making purpose, such use would presumptively be unfair. The contrary presumption is appropriate here, however, because the District Court’s findings plainly establish that time-shifting for private home use must be characterized as a noncommercial, nonprofit activity. Moreover, when one considers the nature of a televised copyrighted audiovisual work (the second factor), and that time-shifting merely enables a viewer to see such a work which he had been invited to witness in its entirety free of charge,

74. Kelly v. Arriba Soft Corp., 336 F.3d 811, 818 (9th Cir. 2003).

75. H.R. REP. No. 94-1476, at 65 (1976), *as reprinted in* 1976 U.S.C.C.A.N. 5659, 5679.

76. *Id.*

77. *Id.*

78. *Id.*

79. Sony Corp. of Am. v. Universal City studios, Inc., 464 U.S. 417, 417 (1984).

80. *Id.* at 447-55.

81. *Id.* at 422.

82. Betamax is a registered trademark of Sony Corp. or its affiliates. This is the proper name Sony gave to its Video Tape Recorder.

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the fact that the entire work is reproduced (the third factor), does not have its ordinary effect of militating against a finding of fair use.⁸³

The Court noted that the “Senate Report endorsed the view that ‘off-the-air recording for convenience’ could be considered ‘fair use’ under some circumstances, although it then made it clear that it did not intend to suggest that off-the-air recording for convenience should be deemed fair use under *any* circumstances imaginable.”⁸⁴

The Court then analyzed the fourth enumerated factor by reviewing the District Court’s finding that:

[h]arm from time-shifting is speculative and, at best, minimal. The audience benefits from the time-shifting capability have already been discussed. It is not implausible that benefits could also accrue to plaintiffs, broadcasters, and advertisers, as the Betamax makes it possible for more persons to view their broadcasts. No likelihood of harm was shown at trial, and plaintiffs admitted that there had been no actual harm to date.⁸⁵

When the *Sony* case was argued, video cassettes were expensive, the Betamax units were expensive, and there were not large numbers of individuals taping and keeping copies.⁸⁶ No commercial market had yet been developed either. Retail stores and establishments did not sell prerecorded movies and the rental market did not exist.

The court noted these facts:

[t]he respondents and Sony both conducted surveys of the way the Betamax machine was used by several hundred owners during a sample period in 1978. Although there were some differences in the surveys, they both showed that *the primary use of the machine for most owners was ‘time-shifting,’* the practice of recording a program to view it once at a later time, and thereafter erasing it. Time-shifting enables viewers to see programs they otherwise would miss

83. *Sony Corp. of Am.*, 464 U.S. at 448-50.

84. *Id.* at 448 n.31 (emphasis added). To the contrary, one court has held that such archival storage was not fair use. *See* *Am. Geophysical Union v. Texaco, Inc.*, 60 F.3d 913, 914 (2nd. Cir. 1994) (holding that a commercial researcher’s archival storage of scientific journal articles was not “fair use”).

85. *Sony Corp. of Am.*, 464 U.S. at 454 (internal citations omitted).

86. As evidence of how a VTR may be used, respondents offered the testimony of William Griffiths. Griffiths, although named as an individual defendant, was a client of plaintiffs’ law firm. The District Court summarized his testimony as follows: He owns approximately 100 tapes. When Griffiths bought his Betamax, he intended not only to time-shift (record, play-back and then erase) but also to build a library of cassettes. Maintaining a library, however, proved too expensive, and he is now erasing some earlier tapes and reusing them.

Id. at 423 n.8.

because they are not at home, are occupied with other tasks, or are viewing a program on another station at the time of a broadcast that they desire to watch.⁸⁷

In the years since the *Sony* case, Time-Shifting has been considered a fair use.⁸⁸ No court has reexamined the specific issue addressed in *Sony*. The cases that have followed *Sony* and examined new technologies simply referenced *Sony*'s finding that Time-Shifting was fair use without further analysis.⁸⁹ Whether the consumers' use of technology such as VCRs would still be considered Time-Shifting under the *Sony* analysis and whether such use would be considered *fair use* is thus up for debate.

Since the Court's holding in *Sony*, advances in technology have led to the development of faster and more compact means by which to store any type of data files, including video and audio. These technologies remove a primary barrier addressed in *Sony*—that of cost. In today's dollars an entire movie can be copied for less than fifty cents. If an opportunity were to arise permitting the Court to revisit the issue, this reduction in cost may give rise to a change in the court's holding.⁹⁰

2. Space-Shifting

As technology progressed, in addition to the concept of Time-Shifting, courts had to wrestle with a concept which has become known as Space-Shifting. To Space-Shift⁹¹ is to move files (such as a music file) from one location to another.⁹² Historically, users Space-Shift a musical work to be able to store and listen to that work on a device such as a tape deck, thus transferring the music which was originally contained on a phonographic record. The legality of this action by certain devices⁹³ appears to be authorized under particular circumstances by the Audio Home

87. *Id.* (emphasis added).

88. Since *Sony*, no court has re-examined the issue of Time-Shifting, relying on the precedent established by the Supreme Court. Given the advances in technology and the inexpensive cost associated with recordable media, the Court examining the issue now may come to a different conclusion. Citing a survey conducted by the parties, the Supreme Court referenced a summary of the findings which demonstrated that "[a]ccording to the Plaintiff's survey, 75.4% of the VTR owners use their machines to record for Time-Shifting purposes half or most of the time. Defendants' survey showed that 96% of the Betamax owners had used the machine to record programs they otherwise would have missed." *Id.* at 424 n.4.

89. See, e.g., *MGM Studios, Inc., v. Grokster*, 124 S. Ct. 2764, 2777 (2005).

90. An analysis of this current technological situation in light of the holding in *Sony Corp. of Am.* exceeds the scope of this paper.

91. *Recording Indus. Ass'n of Am. v. Diamond Multimedia Sys., Inc.* 180 F.3d 1072, 1079 (9th Cir. 1999) (finding that a portable music player that merely made copies of music files already on a user's hard drive was "space-shift[ing]").

92. In fact, when music is "transferred" from a hard-drive to a portable music device, a copy is made. It is impossible to actually move the file from the hard drive to the player. Nonetheless, this transfer, or "space-shift" is considered fair use. *Id.* at 1076.

93. "A 'digital audio recording device' is any machine or device of a type commonly

Recording Act (“AHRA”).⁹⁴ The act does not include computers in the definition of devices and, as such, they do not fall within the scope of the AHRA.⁹⁵ Neither the AHRA nor the current case law provides any basis for an exemption from impermissible infringement through changing a songs format.⁹⁶

The argument that conversion from a music CD format to an MP3 format is “Space-Shifting” has been rejected.⁹⁷ In examining the Act’s fair use factors, the court in *UMG Recordings, Inc. v. MP3.Com, Inc.* inquired into whether the new use essentially repeats the old or whether it “transforms” it by infusing it with new meaning or new understandings.⁹⁸ The Defendant in *UMG Recordings* argued conversion to MP3 format “provid[ed] a transformative ‘space shift’ by which subscribers can enjoy the sound recordings contained on their CDs without lugging around the physical discs themselves.”⁹⁹ The court held that such conversion was “simply another way of saying that the unauthorized copies are being retransmitted in another medium—an insufficient basis for any legitimate claim of transformation.”¹⁰⁰ Conversions to formats such as MP3 merely permit transmission through another medium¹⁰¹ such as a computer or portable media player or reduce the amount of space required by the original source.¹⁰²

Conversion necessarily also includes Space-Shifting. That is, when a source such as a music file is compressed, it is also moved to a different space. The Space-Shifting aspect of the conversion is not violative of the Act. On the other hand, Space-Shifting does not necessarily involve a conversion to another format. Thus, the Space-Shifting aspect of the actions are permissible while the conversion aspects, as discussed below, are impermissible.

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) (2000).

94. No action may be brought under this title alleging infringement of copyright based on the manufacture, importation, or distribution of a digital audio recording device, a digital audio recording medium, an analog recording device, or an analog recording medium, or *based on the noncommercial use by a consumer of such a device or medium for making digital musical recordings or analog musical recordings.*

17 U.S.C. § 1008 (2000) (emphasis added).

95. *Recording Indus. Ass'n of Am.*, 180 F.3d at 1079. (“[T]he [AHRA] seems designed to allow files to be ‘laundered’ by passage through a computer. . .”).

96. *Id.*

97. *UMG Recordings, Inc., v. MP3.Com, Inc.*, 92 F. Supp. 2d 349, 351 (S.D.N.Y. 2000).

98. *Id.* (citing *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994)).

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

3. Archiving

The Copyright Act includes a specific provision which permits “the owner of a copy of a computer program to make or authorize the making of another copy” for *archival* purposes.¹⁰³ Because of this provision, users may argue that Shape-Shifting is merely a form of “archiving,” and therefore, is legally permitted under the Act. However, there is no recognized First Amendment right to make back-up copies of electronic works.¹⁰⁴ Nor is there a “generally recognized right to make a copy of a protected work, regardless of its format, for personal noncommercial use.”¹⁰⁵

Moreover, the relevant portion of the act applies specifically to “computer programs” only.¹⁰⁶ It may appear that a music CD is a “computer program” and falls under the Act’s protection because digital audio is a series of zeros and ones—raw data that must ultimately be converted into “music” to be heard.¹⁰⁷ However, the Act does not afford music such protection and would not survive a court’s scrutiny under the Act’s “computer program” definition. Specifically, the Act provides protection to computer programs that have a statement or instruction.¹⁰⁸ Music clearly does not fall within that definition under the Act, and is not afforded protection under this specific provision.¹⁰⁹

Thus, any argument that Shape-Shifting is a legally permitted form of archiving will not pass muster, as there is no basis in common law and little support under the archiving exception with regard to computer programs.

C. Infringing Uses as Applied to Music

“Thou Shalt Not Steal” is both a well-known Commandment and the introduction to a decision in a copyright infringement case.¹¹⁰ The ways in which copyrighted works are used or copied must be strictly scrutinized under the Act to assess whether infringement has occurred.¹¹¹ If the use of the copyrighted work adversely affects the value of the rights in the copyrighted work then the use will not

103. 17 U.S.C. § 117 (2000).

104. *United States v. Elcom Ltd.*, 203 F. Supp. 2d 1111, 1134 (N.D. Cal. 2002).

105. *Id.* at 1135.

106. *Id.*

107. 17 U.S.C. § 101 (2000) (defines a “computer program” as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.”).

108. *Id.*

109. *Id.*

110. *Grand Upright Music Ltd. v. Warner Bros. Records, Inc.*, 780 F. Supp. 182, 183 (S.D.N.Y. 1991).

111. *Id.*

be considered fair.¹¹² Potentially, if a particular use is harmful to the market for the original work, then it will be considered outside of the fair use defense.¹¹³

The music industry receives a large part of its revenue from the sale of new music.¹¹⁴ The sale of new music can be accomplished in a number of ways. These would include the purchase of Compact Discs or cassette tapes and the purchase of songs from legitimate websites permitting the download of songs or entire albums. Music purchased and downloaded from websites is virtually always purchased in a format which is compressed as opposed to the format found on a music CD.¹¹⁵

By transforming music from commercial music CDs to a compressed format, the user has no need to purchase the music in a compressed format.¹¹⁶ Courts have generally not found the fair use defense applicable “when an original work is merely retransmitted in a different medium.”¹¹⁷ The Ninth Circuit correctly held that “reproducing music CDs in computer MP3 format does not change the fact that both formats are used for entertainment purposes.”¹¹⁸ When compressing a musical work, no transformation takes place that alters the audio properties to the human ear, therefore, “[w]hile wholesale copying does not preclude fair use per se, copying an entire work militates against a finding of fair use.”¹¹⁹ The same court held when the infringing party has copied the work for “the same intrinsic purpose for which the copyright owner intended it to be used is strong indicia of no fair use.”¹²⁰ The Supreme Court held that when the copy duplicates the “entirety of an original, it

112. Harper & Row, Publishers, Inc., v. Nation Enters., 471 U.S. 539, 568 (1985).

113. *Id.* at 566.

114. Lawrence J. Glusman, *It's My Copy, Right? Music Industry Power to Control Growing Resale Markets in Used Digital Audio Recordings*, 1995 WIS. L. REV. 709, 710 n.2 (1995). (“‘New Music’ refers to the sale of a particular copy . . . of a sound recording. The term is not restricted to brand new releases, but merely connotes the first consumer transaction in any factory-sealed copy of a work.”) (internal citations omitted).

115. *Id.*

116. It is difficult to estimate how many songs are compressed from their original format as found on an album. It is possible, however, to look at reported sales figures. In 2005 “album sales dropped 7.2 percent from 2004 to 2005, with a grand total of 618.9 million albums being sold in '05, versus 666.7 million in '04, in formats including CDs, cassettes, LPs and digital albums. The numbers are tallied by Nielsen Soundscan. . . . Of the 618.9 million albums sold in 2005 . . . 16.2 million of them were sold digitally. . . [and] in 2005 352.7 million individual tracks were purchased while in 2004, that number was 140.9 million.” Dan Nailen, *Tale of the Tape 2005*, SALT LAKE TRIBUNE, Jan. 9, 2006, <http://blogs.sltrib.com/nightlife/2006/01/tale-of-tape-2005.htm>.

117. *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 819 (9th Cir. 2003).

118. *Id.*

119. *Worldwide Church of God v. Philadelphia Church of God*, 227 F.3d 1110, 1118 (9th Cir. 2000) (internal quotation marks omitted). Although the properties are technically different because some loss is experienced, the human ear generally cannot tell the difference between the musical piece prior to the compression and the musical piece after compression.

120. *Id.*

clearly ‘supersedes the objects’ . . . of the original and serves as a market replacement for it, making it likely that cognizable market harm to the original will occur.’¹²¹

Compressing music merely changes the properties of the underlying data in an effort to reduce the amount of storage required by the content in its original form. Music is compressed to permit the storage of a greater number of songs into a designated space. Generally, this space is a computer’s hard drive with the music subsequently being transferred to a portable media player. This Shape-Shifting is not transformative in that it is not taking someone else’s original expression and changing (transforming) the work into something new.

III. SHAPE-SHIFTING

Computer software designed for digitizing and manipulating music has been around for decades.¹²² It has been noted that

[w]hile software for personal computers has been available for digitizing sound (and copying digital sound files) since the mid-1980s, the entertainment industry initially had few concerns. Employing those digitizing methods yielded extremely large files. The size of a file containing a single four-minute song almost exceeded the capacity of the average hard-drive on a computer of that era.¹²³

The introduction of the World Wide Web (soon thereafter to be called the Internet) posed no threat to the recording industry because the enormous size of music files made exchange between users impracticable.¹²⁴ However, software that would facilitate the recording industry’s unwanted revolution had been developed in Germany.¹²⁵ MPEG-1 Audio Layer 3 (known as “MP3”), developed by the Fraunhofer Institute, employs a coding technique that compresses high-quality digital sound images without significantly reducing the audio quality.¹²⁶ When Internet connection speeds became faster and readily available, a user could exchange a single song in less than one minute.¹²⁷ “Because MP3 music files do not contain codes identifying the source, it is impossible to tell whether the file is an original, a legal copy, or an illegal copy.”¹²⁸ Altering the form of music to MP3 reduces both the

121. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 591 (1994).

122. Jeff Sharp, *Coming Soon to Pay-per-view: How the Digital Millennium Copyright Act Enables Digital Content Owners to Circumvent Educational Fair Use*, 40 AM. BUS. L.J. 1, 23 (2002).

123. *Id.*

124. *Id.*

125. *Id.*

126. See mp3licensing.com, *supra* note 6.

127. Sharp, *supra* note 122, at 23-24.

128. *Id.*

transfer speeds and the storage requirements for the music. The average music CD will hold ten to twelve songs. Specifically, it will hold 700 megabytes¹²⁹ of data, which equates to roughly 80 minutes of music.¹³⁰ In MP3 format, that same 700 megabytes could hold an estimated 150 songs or 600 minutes of music.¹³¹

A. *Defined*

Changing music from its form on a CD to a compressed format such as MP3 changes the properties of the music.¹³² Regardless of the method of compression,¹³³ the resulting digital product is different from the original product. The data which are removed in the compression process cannot be replaced.¹³⁴ To the human ear there is little, if any, difference.¹³⁵ However, to the storage device upon which the music is held, the transformation is significant. For example, a portable media player has a

129. One megabyte is equal to 1,048,576 bytes of data. (2 to the power of 20). See Dictionary.com, Megabyte, <http://www.dictionary.reference.com/browse/megabyte/> (last visited Jan. 16, 2007). Therefore, 700 megabytes equals 734,003,200 bytes of data.

130. The actual amount of music depends on factors which are not relevant to this article.

131. A number of factors affect the amount of music that can be stored on a CD, including the compression format, bit rate of the recording, and the actual length of each song.

In storing information on a CD, the information (e.g., music) is first converted from an analog signal into a digital representation . . . A binary system of 'bits' (i.e., 1s and 0s) is one technique of representing an analog signal in a digital format. In a binary system, 'code blocks' (i.e., a combination of bits) represent the analog signal . . . The number of bits in a code block determines the total number of code block variations in a particular binary system. The digital representation of the analog signal results in a 'bit' stream (i.e., a sequence of code blocks).

Discovision Assocs. v. Disc Mfg., 25 F. Supp. 2d 301, 329 (D. Del. 1998).

132. As a form of compression, MP3 is based on a psycho-acoustic model which recognizes that the human ear cannot hear all the audio frequencies on a recording. The human hearing range is between 20Hz to 20Khz and it is most sensitive between 2 to 4 KHz. When sound is compressed into an MP3 file, an attempt is made to get rid of the frequencies that can't be heard. As such, this is known as 'destructive' compression. After a file is compressed, the data that is eliminated in the creation of the MP3 cannot be replaced. When encoding a file into MP3, a variety of compression levels can be set. For instance, an MP3 created with 128 Kbit compression will be of a greater quality and larger file size than that of a 56 Kbit compression. The more the compression level decreases, the lesser the sound quality. Ultimately, the benefits of MP3 compression mean that people can back up their music collection onto hard disc or burn their own music selections onto CDs which hold over 100 songs.

Geoff Nichelson, *MP3 Explained: A Beginner's Guide*, HITSQUAD MUSIC NETWORK, Mar. 18, 1999, http://www.hitsquad.com/smm/news/9903_109/.

133. There are many methods of compression. See Miller, *supra* note 7.

134. *Id.*

135. Kimberly D. Richard, *The Music Industry and its Digital Future: Introducing MP3 Technology*, 40 IDEA 427, 433 (2000).

capacity limited by its internal storage.¹³⁶ A media player that has 4 gigabytes¹³⁷ of memory could hold more than 1000 songs compressed into MP3 format.¹³⁸ This same player is not much larger than a pack of gum.¹³⁹ Without compression, this same player might only hold 100 songs. With many portable media players having significantly less than 4 gigabytes of internal storage,¹⁴⁰ the usefulness of these devices would not have arisen significantly without their contents being compressed. As media players with larger storage capacities have been developed, the features of the devices to play additional content, such as videos, has been incorporated.¹⁴¹ The tremendous usefulness these devices have is due, in large part, to the ability to compress the content prior to it being loaded onto the device. This compression, regardless of the format, is what the author has deemed “Shape-Shifting.”

B. *Music and the Fourth Factor*

Few would argue that the identical copying of an original work would not constitute infringement. Such infringement would only be defensible with a finding of fair use.¹⁴² Courts have been reluctant to find fair use when an original work is merely retransmitted into a different medium . . . because the resulting use of the copyrighted work in those cases was the same as the original use.”¹⁴³ As the court noted in *Kelly v. Arriba Soft Corp.*, “reproducing music CDs in computer MP3 format does not change the fact that both formats are used for entertainment purposes. Likewise, reproducing news footage into a different format does not change the ultimate purpose of informing the public about current affairs.”¹⁴⁴

136. Some media players permit expansion through an internal card slot, but use of these slots is not the norm.

137. One gigabyte a “measure of storage capacity equal to one billion (1,073,741,824) bytes” of data. Dictionary.com, Gigabyte, www.dictionary.reference.com/browse/gigabyte (last visited on Jan. 17, 2007). Therefore, four gigabytes would equal 4,294,967,296 bytes of data.

138. As an example, Apple claims that the 4 Gigabyte version of the iPod nano will hold 1000 songs. Apple.com, iPod nano, <http://www.apple.com/ipodnano/specs.html> (last visited on Jan. 27, 2007).

139. The Apple iPod Nano measures 3.5 x 1.6 x 0.26 inches. *Id.*

140. Rio’s flash players, for example, have storage capacities ranging from 128 Megabytes (1/4 of a gigabyte) to 512 Megabytes (1/2 of a gigabyte). See Digitalnetworksna.com, Rio Audio: Flash Players, http://www.digitalnetworksna.com/shop/_templates/cat_list_Rio.asp?cat=73 (last visited on Jan. 21, 2007).

141. The Apple iPod Video has storage capacities ranging from 30 gigabytes to 80 gigabytes and advertises capacities of 20,000 songs, 25,000 photos, or 100 hours of video; the estimates are for the 80 gigabyte device using a compressed format. See Apple.com, iPod, <http://www.apple.com/ipod/ipod.html> (last visited Jan. 27, 2007).

142. See 17 U.S.C. § 107 (2000).

143. *Kelly v. Arriba Soft Corp.*, 336 F. 811, 819 (9th Cir. 2003).

144. *Id.*

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In assessing what would be a fair use and thus a defensible position with regard to Shape-Shifting, it would be prudent to examine what courts have looked at in similar contexts. Specifically, “[c]ourts often focus on the fourth [fair-use] factor: ‘the effect of the use upon the potential market for or value of the copyrighted work.’”¹⁴⁵ The Supreme Court has held that unauthorized use of copyrighted work is unfair if it materially impairs the marketability of the copied work.¹⁴⁶ The last factor in “the Act focuses on ‘the effect of the use upon the potential market for or value of the copyrighted work.’ This last factor is undoubtedly the single most important element of fair use.”¹⁴⁷ The Court goes on to hold that “[f]air use, when properly applied, is limited to copying by others which does not materially impair the marketability of the work which is copied.”¹⁴⁸ Shape-Shifting clearly has an impact on the market. With Apple’s recognition that it has sold over a billion songs through its iTunes store, there is an empirically demonstrated market for songs to be purchased in a compressed format.¹⁴⁹

As an example, Apple distributes iTunes software, which shape-shifts music by simply inserting a CD into the user’s computer.¹⁵⁰ According to Apple’s website:

To import songs into iTunes, just insert a CD into your computer and click Import CD. Or set up iTunes to automatically add music when you insert a CD. Either way, iTunes imports music in a snap. iTunes *saves music from your CDs as high-quality AAC files*—a format that builds upon state-of-the-art audio technology from Dolby Labs. But *you can choose different audio formats*, too. *iTunes lets you convert music to MP3s at high bit-rate at no extra charge*. Using AAC or MP3, you can store more than 100 songs in the same amount of space as a single CD. *iTunes also supports the Apple Lossless format*, which gives you CD-quality audio in about half the storage space.¹⁵¹

Apple Computer, Inc. is not the only publisher of software packages that shape-shift songs into different formats.¹⁵² Although their use need not necessarily involve

145. Cate, *supra* note 15, at 1406 (internal citations omitted).

146. Harper & Row, Publishers, Inc., v. Nation Enters., 471 U.S. 539, 566 (1985).

147. *Id.* While the Court has since noted that this element is not to be deemed more important than the other elements, in practice it remains the most significant element. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 590 (1994) (giving this factor no special weight). *But see*, Sandoval v. New Line Cinema Corp., 973 F. Supp. 409, 414 (S.D.N.Y. 1997) (stating, “[t]his factor is arguably the most important of the four enumerated factors of the fair use analysis.”).

148. Harper & Row, Publishers, Inc., 471 U.S. at 566-67.

149. Songs purchased from Apple’s iTunes store are in AAC format. See Apple.com, iTunes, <http://www.apple.com/itunes/music/> (last visited Jan. 27, 2007).

150. *Id.*

151. *Id.* (emphasis added).

152. A search of the popular site www.download.com for the phrase “MP3 conversion” yielded over 200 results. Download.com, Search Results for MP3 Conversion, http://www.download.com/3120-20_4-0.html?tg=01-20&qt=MP3%20conversion&tag=srch (last

activities which are infringing, the common use appears to be the same as advertised by Apple Computer, Inc.—that of converting music CD's into a compressed format.

C. *The Audio Home Recording Act*

The Audio Home Recording Act of 1992 (“AHRA”) legalized the practice of audio taping for private, non-commercial gain.¹⁵³ This legislation was a response to the industry’s concern over digital recording technology falling into the hands of the consumer.¹⁵⁴ The AHRA provides a level of protection to copyright owners “without depriving consumers and proponents of digital technology of the benefits of digital recording.”¹⁵⁵ The AHRA does not, however, govern computers or their components.¹⁵⁶ Computers are specifically left out of the legislation.¹⁵⁷

1. Applicability

Under the AHRA, royalty payments must be paid by all those who import and distribute or manufacture and distribute digital audio recording devices.¹⁵⁸ The issue of the applicability of the AHRA to computers and their components was analyzed in *Recording Industry Association of America, Inc. v. Diamond Multimedia Systems, Inc.*¹⁵⁹ The AHRA defines a “digital audio recording device” as “any machine or device of a type commonly distributed to individuals for use by individuals, whether

visited July 27, 2006). To be fair, not all hits were for conversion software. *Id.*

153. 17 U.S.C. §§ 1001-1010 (2000).

154. See Gary S. Lutzker, *DAT's All Folks: Cahn v. Sony and the Audio Home Recording Act of 1991—Merrie Melodies or Loony Tunes?*, 11 CARDOZO ARTS & ENT. L.J. 145, 174-75 (1992).

155. Elizabeth R. Gosse, *Recording Industry Association of America v. Diamond Multimedia Systems, Inc.: The RIAA Could Not Stop the Rio – MP3 Files and the Audio Home Recording Act*, 34 U.S.F. L. REV. 575, 580 (1999-2000).

156. 17 U.S.C. §§ 1001-1010.

157. *Id.*

158. Marcy R. Wagman & Rachel E. Kopp, *The Digital Revolution is Being Downloaded: Why and How the Copyright Act Must Change to Accomodate an Ever-Evolving Music Industry*, 13 VILL. SPORTS & ENT. L.J. 271, 308 (2006). The Audio Home Recording Act of 1992, defines a “digital audio recording device” as:

[A]ny 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, except for –

(A) professional model products, and

(B) dictation machines, answering machines, and other audio recording equipment that is designed and marketed primarily for the creation of sound recordings resulting from the fixation of nonmusical sounds.

17 U.S.C. § 1001(3).

159. 180 F.3d 1072 (9th Cir. 1999).

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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”¹⁶⁰ The *Diamond* case held that computers and their hard drives are not digital audio recording devices governed by the AHRA because their primary purpose was not to make copies of digital audio recordings.¹⁶¹

The AHRA also defines a “digital music recording” and exempted hard drives from the definition.¹⁶² The district court in *Diamond Multimedia Systems* concluded that the exemption of hard drives from the definition of digital music recording, and the exemption of computers generally from the Act’s ambit, “would effectively eviscerate the [Act]” because “[a]ny recording device could evade AHRA regulation simply by passing the music through a computer and ensuring that the MP3 file resided momentarily on the hard drive.”¹⁶³ The Court of Appeals concluded that “the Act seems to have been expressly designed to create this loophole.”¹⁶⁴ The court held that “the plain meaning of the Act’s definition of digital audio recording devices” excluded computers (and their hard drives) as not being within the definition of “digital audio recording devices because their ‘primary purpose’ is not to make digital audio copied recordings.”¹⁶⁵ The court held that:

Unlike digital audio tape machines, for example, whose primary purpose is to make digital audio copied recordings, the primary purpose of a computer is to run various programs and to record the data necessary to run those programs and perform various tasks. The legislative history is consistent with this

160. 17 U.S.C. 1001(3) (emphasis added).

161. *Diamond Multimedia Systems*, 180 F. 3d at 1078; Wagman & Kopp, *supra* note 158, at 309.

162. 17 U.S.C. 1001(5)(A), (B)(A).

A “digital musical recording” is a material object (i) in which are fixed, in a digital recording format, only sounds, and material, statements, or instructions incidental to those fixed sounds, if any, and (ii) from which the sounds and material can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. (B) A “digital musical recording” does not include a material object-- (i) in which the fixed sounds consist entirely of spoken word recordings, or (ii) in which one or more computer programs are fixed, except that a digital musical recording may contain statements or instructions constituting the fixed sounds and incidental material, and statements or instructions to be used directly or indirectly in order to bring about the perception, reproduction, or communication of the fixed sounds and incidental material.

Id.

163. *Recording Indus. Ass’n of Am. v. Diamond Multimedia Sys., Inc.*, 29 F. Supp. 2d 624, 630 (C.D. Cal. 1998).

164. *Diamond Multimedia Systems*, 180 F. 3d at 1078.

165. *Id.*

interpretation of the Act's provisions, stating that the typical personal computer would not fall within the definition of "digital audio recording device."¹⁶⁶

2. Exclusions

Congress specifically excluded computers from the AHRA.¹⁶⁷ Although the AHRA specifically permits first-generation copies, the analysis of copies generated by a computer is precluded by the computer's exclusion under the Act.¹⁶⁸ The Act was tested in the Ninth Circuit in *Diamond Multimedia Systems*. With regard to a portable music device known as the "Rio," the court looked at the intent behind the Act when evaluating the infringement claim and found, "[a]s the Senate Report explains, '[t]he purpose of [the Act] is to ensure the right of consumers to make analog or digital audio recordings of copyrighted music for their *private, noncommercial use*.'"¹⁶⁹ The Act does so through its home taping exemption,¹⁷⁰ which "protects all noncommercial copying by consumers of digital and analog musical recordings."¹⁷¹ "The Rio merely makes copies in order to render portable, or '[S]pace-[S]hift,' those files that already reside on a user's hard drive."¹⁷² The *Diamond Multimedia Systems* case gave us the term known as Space-Shifting. Of significance with regard to application of the facts to the AHRA, was the fact that the "Rio MP3 player was not a Digital Audio Recording Device under the AHRA since computers, which were making the copies used by the Rio MP3 player, were exempted from the requirements of the AHRA."¹⁷³

The AHRA provides a clear legal mechanism for "the private, non-commercial taping of digital and analog material."¹⁷⁴ However, because computers are excluded from the act, no exemption is necessary for Shape-Shifting under the AHRA.

166. *Id.* (quoting S. REP. NO. 102-294, at 48 (1992)).

167. Termini, *supra* note 23, at 426.

168. 17 U.S.C. § 1002(5)(B) (2000).

169. *Diamond Multimedia Systems*, 180 F. 3d at 1079 (quoting S. REP. NO. 102-294, at 30 (1992)).

170. *See* 17 U.S.C. § 1008 (2000).

171. H.R. REP. NO. 102-873, pt. 1, at 24 (1992).

172. *Diamond Multimedia Systems*, 180 F. 3d at 1079.

173. Termini, *supra* note 23, at 427. The copies utilized by the Rio player provide a level of portability which was unique to both the court and their interpretation of the Copyright Act, and to users as well. As Termini writes, "The owners of MP3 players could leave their CDs at home and bring extra copies of their music files with them to enjoy away from home." *Id.* Whether these 'copies' are infringement under the Act are beyond the scope of this article.

174. Glusman, *supra* note 114, at 726.

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D. *Digital Millennium Copyright Act*

The Digital Millennium Copyright Act (“DMCA”) was enacted to address advances in technology which permitted the “ability to make near-perfect and inexpensive copies” of protected works.¹⁷⁵ This technology gives consumers in every home or office the ability to make copies “for themselves rather than pay[ing] for an authorized copy.”¹⁷⁶ The control provided by the DMCA is hoped to be more effective than the “traditional approach of direct legal action against [] individual infringer[s] [,which] would likely prove ineffective.”¹⁷⁷ The DMCA prohibits “others from possessing the decryption tools necessary to break the technological locks that the copyright industry places on its digital works”¹⁷⁸

1. Applicability

The DMCA uses “a triple-threat approach. First, circumventing the protection technology to gain access to the work is prohibited Second, the statute prohibits helping [another] circumvent the technology to acquire access to the work, whether by providing the tools or expertise.”¹⁷⁹ Third, the statute has a broader focus “than circumventing access.”¹⁸⁰ It states that “[n]o person shall manufacture, import, offer to the public, provide, or otherwise traffic in any technology, product, service, device, component, or part’ that is primarily designed or produced for the purpose of circumventing technology.”¹⁸¹

It has been suggested that “violations may occur under this subsection without attempting or accomplishing unauthorized access. The real effect of subsection 1201(b) will be that while it remains legal under the DMCA to make fair use of a lawfully accessed work, there probably will be no device available that is legally capable of making the copy.”¹⁸²

175. Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 818 (2001).

176. *Id.*

177. *Id.* at 818-19. (“Lawsuits against each individual private copier would become prohibitively expensive and politically unwise. Digital technology therefore presents a potentially serious, and otherwise unchecked, threat to the incentives thought necessary to ensure a continuing supply of creative works.”).

178. *Id.* at 819.

179. Sharp, *supra* note 122, at 33-34.; 17 U.S.C. §§ 1201(a)(1)(A), (a)(1)(E)(2).

180. Sharp, *supra* note 122, at 34

181. *Id.*

182. *Id.* at 35.

2. Exclusions

Through enactment of the DMCA, Congress has “embraced a strong encryption-based approach to preventing private copying and has thereby turned its responsibility for defining the proper scope of protection for creative works over to the copyright industries.”¹⁸³ The application of the DMCA however does not include Shape-Shifting. Compression of music typically does not involve the bypassing of any form of encryption. In some cases, the resulting musical work may be encrypted. Music purchased from Apple’s iTunes Music Store is encrypted with Apple’s proprietary encryption scheme.¹⁸⁴ In either case, application of the DMCA is not relevant to Shape-Shifting because the compression does not involve bypassing an existing encryption scheme.

IV. INFRINGEMENT OR FAIR USE: THE FAIR USE FACTORS AS APPLIED TO SHAPE-SHIFTING OF MUSIC

Evaluation of any use giving rise to potential copyright violations requires an examination of the purpose for which the Copyright Act was promulgated.

The legislative history of early United States copyright statutes underscores the fact that copyright has historically been viewed primarily in terms of its compensatory features as an economic right that enables authors to receive compensation for their creations. The use of copyright as a tool to secure the ‘fruits of intellectual labor’ is a clear focus of the legislative report for the 1831 Copyright Act, which clearly envisions such fruits in economic terms. The 1909 House Report similarly notes that ‘[t]he main objective to be desired in expanding the copyright protection accorded to music has been to give the composer an adequate return for the value of his composition.’¹⁸⁵

A. Overlooked Infringement

Much has been written about copyright, infringement, and infringement as related to music. The advent of peer-to-peer sharing, as well as highly publicized cases,¹⁸⁶ has led to the proliferation of scholarship and commentary regarding infringement and music. While discussions of infringing uses often address peer-to-

183. Lunney, Jr., *supra* note 175, at 919.

184. Jonathan L. Zittrain, *The Generative Internet*, 119 HARV. L. REV., 1974, 2000 (2006).

185. Olufunmilayo B. Arewa, *From J.C. Bach to Hip Hop: Musical Borrowing, Copyright and Cultural Context*, 84 N.C. L. REV. 547, 632 (2006) (quoting H.R. REP. NO. 60-2222, at 7 (1909), reprinted in 6 LEGISLATIVE HISTORY OF THE 1909 COPYRIGHT ACT Part S (E. Fulton Brylawski ed., 1976)).

186. See, e.g., *A&M Records, Inc. v. Napster*, 239 F.3d 1004 (9th Cir. 2001); *MGM Studios Inc., v. Grokster, Ltd.*, 125 S. Ct. 2764 (2005).

peer sharing and analyze copying in view of the Copyright Act and the *Sony* case (for Time-Shifting discussions);¹⁸⁷ no scholarly paper has ever addressed the application of the Act to Shape-Shifting. Because the Shape-Shifting addressed in this article utilizes the musical work in its entirety,¹⁸⁸ the issue for discussion revolves around whether or not such action is subject to a fair use defense.

B. Fair Use Applications

The Copyright Act provides a legal defense to infringement in the form of “fair use.”¹⁸⁹ The fair use defense was enacted in an effort to “continue the common law tradition” from which it originated.¹⁹⁰ This portion of the statute “permits and requires courts to avoid rigid application of the copyright statute, when on occasion, it would stifle the very creativity which that law is designed to foster.”¹⁹¹ It has been noted that any fair use analysis must occur on a case-by-case basis.¹⁹² A thorough analysis would examine a particular use in light of the four factors set out in the statute.¹⁹³

C. Shape-Shifting: The Act of Compression

The ultimate question is whether or not Shape-Shifting, the action of compressing music, constitutes infringement under the Copyright Act. As previously discussed, the act of Shape-Shifting necessarily requires making a copy.¹⁹⁴ The making of a copy of a musical work without permission from the copyright holder is infringement.¹⁹⁵ Because this form of infringement directly impacts the market for the copyright holder, such infringement cannot be considered a fair use.

187. See, e.g., Julie Zankel, *A Little Help With Sharing: A Mandatory Licensing Proposal to Resolve the Unanswered Questions Surrounding Peer-to-Peer Liability for Contributory Copyright Infringement in the Wake of Grokster*, 80 S. CAL. L. REV. 189, 189-90 (2006).

188. As opposed to sampling or transforming the work through a creative process. Whether or not those constitute infringement exceed the scope of this article.

189. 17 U.S.C. § 107 (2000).

190. *Castle Rock Entm't v. Carol Publ'g Group*, 150 F.3d 132, 141 (2nd Cir. 1998).

191. *Id.* (quoting *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994)).

192. *Id.*

193. “The fair use examples provided in § 107 are illustrative and not limitative and provide only general guidance about the sorts of copying that courts and Congress most commonly had found to be fair uses.” *Id.* (internal quotations omitted).

194. See *supra* at Part III.

195. 17 U.S.C. § 106 (2000).

1. Purpose/Character of Use

The first factor delineated in the statute used to evaluate a fair use exception requires examination of “the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.”¹⁹⁶ The issue of whether a use is commercial is not to be given great weight;¹⁹⁷ therefore, the fact that songs that are compressed are not copied for a commercial purpose is not determinative of the issue. Accordingly,

[t]he more critical inquiry under the first factor and in fair use analysis generally is whether the allegedly infringing work merely supersedes the original work or instead adds something new, with a further purpose or different character, altering the first with new . . . meaning [] or message, in other words whether and to what extent the new work is transformative.¹⁹⁸

The purpose of this factor is to permit creativity without hindrance of possible copyright infringement. This factor promotes the “goal of copyright, to promote science and the arts, [which] is generally furthered by the creation of transformative¹⁹⁹ works. Such works thus lie at the heart of the fair use doctrine’s guarantee of breathing space within the confines of copyright”²⁰⁰ Changing the form of the music from its original form to a compressed form is in no way transformative. Although the work is technically altered, such alteration is generally not perceptible to the human ear²⁰¹ and no new or creative quality is added to the work.

Shape-Shifting alone does not lend credence to any argument that the act of compressing the music is done to educate, critique, parody, comment, report upon, or research the particular piece of the compressed music. “Although a secondary work need not necessarily transform the original work’s expression to have a transformative purpose,”²⁰² no transformation can be found, without any alteration of the ultimate expression.

For a work to be transformative to a degree which would be infringing on the original work, the expression of the work would need to be substantially different

196. 17 U.S.C. § 107(1) (2000).

197. *Castle Rock Entm’t*, 150 F.3d at 142.

198. *Id.* (internal quotations omitted).

199. Although derivative works that are subject to the author’s copyright transform an original work into a new mode of presentation, such works—unlike works of fair use—take expression for purposes that are not transformative. *Id.* at 140.

200. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994).

201. Richard, *supra* note 135, at 433.

202. *Castle Rock Entm’t*, 150 F.3d at 143.

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from the original work.²⁰³ Because Shape-Shifting is not transformative, the fair-use factor would weigh against the infringing user.²⁰⁴

2. Nature of the Copyrighted Work

The second fair use statutory factor requires consideration of “the nature of the copyrighted work.”²⁰⁵ This factor “calls for recognition that some works are closer to the core of intended copyright protection than others, with the consequence that fair use is more difficult to establish when the former works are copied.”²⁰⁶ The “scope of fair use is somewhat narrower with respect to fictional works . . . than to factual works.”²⁰⁷ Again, the use of the identical compressed musical work is in no manner transformative. Therefore, the Shape-Shifting would favor a finding of infringement.²⁰⁸

3. Amount and Substantiality of the Portion Used in Relation to the Copyrighted Work as a Whole

The fair use defense must be invoked when “there is a substantial similarity between the copyrighted work and the allegedly infringing works.”²⁰⁹ The third statutory factor requires consideration of “the amount and substantiality of the portion used in relation to the copyrighted work as a whole.”²¹⁰ This factor “must be examined in context.”²¹¹ An examination of the work in context, that is, to assess the amount of the original work copied *and* the purpose for which the copy was made, permits the court to ascertain whether a demonstrable fair use purpose is furthered by use of the amount of the source copied.²¹²

203. “[I]f the secondary work sufficiently transforms the expression of the original work such that the two works cease to be substantially similar, then the secondary work is not a derivative work and, for that matter, does not infringe the copyright of the original work.” *Id.* at 143 n.9.

204. *Id.* at 143.

205. 17 U.S.C. § 107(2) (2000).

206. *Castle Rock Entm’t*, 150 F. 3d at 143 (quoting *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 586 (1994)).

207. *Id.* at 143 (citing *Stewart v. Abend*, 495 U.S. 207, 237 (1990) (“In general, fair use is more likely to be found in factual works than in fictional works.”)).

208. *Id.* at 144.

209. *Id.*

210. 17 U.S.C. § 107(3).

211. *Castle Rock Entm’t*, 150 F. 3d at 144.

212. *Id.* “[B]y focussing (sic) on the amount and substantiality of the original work used by the secondary user, we gain insight into the purpose and character of the use as we consider whether the quantity of the material used was reasonable in relation to the purpose of the copying.” *Am. Geophysical Union v. Texaco, Inc.*, 60 F.3d 913, 926 (2nd. Cir. 1994) (internal quotations omitted).

Because compression of music does not serve a critical or otherwise transformative purpose, the third factor would weigh against the user.²¹³

4. Effect of Use Upon Potential Market for or Value of Copyrighted Work

“The fourth fair use factor is the effect of the use upon the potential market for or value of the copyrighted work It requires courts to consider not only the extent of market harm caused by the particular actions of the alleged infringer, but also ‘whether unrestricted and wide-spread conduct of the sort engaged in by the defendant . . . would result in a substantially adverse impact on the potential market’ for the original.”²¹⁴ This factor is “concerned with secondary uses that, by offering a substitute for the original, usurp a market that properly belongs to the copyright-holder.”²¹⁵

Historically, the fourth factor was seen as central to fair use analysis.²¹⁶ More recently, this factor has not been considered the primary factor but rather one of four, all of which require consideration.²¹⁷ Nevertheless, this factor remains important; as one court articulated, the fourth factor “is at least *primus inter pares*, figuratively speaking”²¹⁸ Regardless of the weight given to this factor, in the case of Shape-Shifting, the impact on the market is significant.

One report indicates that over 50 million iPods, as well as countless other players, have been sold,²¹⁹ and the number of total media players sold by other manufacturers is difficult to estimate. These players can be filled with music from many sources including the user’s CDs.²²⁰ It is estimated that “most of the song files on most of the world’s iPods weren’t purchased from Apple, or anyone else. That’s

213. *Castle Rock Entm’t*, 150 F.3d at 144.

214. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 590 (1994) (internal citations omitted).

215. *Infinity Broad. Corp. v. Kirkwood*, 150 F.3d 104, 110 (2nd Cir. 1998).

216. *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 566 (1985) (stating that “This last factor is undoubtedly the single most important element of fair use.”).

217. *Am. Geophysical Union v. Texaco, Inc.*, 60 F.3d 913, 926 (2d Cir. 1995) (observing that the Supreme Court in *Campbell* omitted mention of the fourth factor’s primacy and instructed that all factors are to be explored.); *Castle Rock Entm’t*, 150 F.3d at 145-46 (finding that the “Supreme Court has recently retreated . . . : from [the] suggest[ion] that the fourth factor is the most important.”); *Leibovitz v. Paramount Pictures Corp.*, 137 F.3d 109, 113 (2nd Cir. 1998).

218. *Princeton Univ. Press v. Mich. Document Servs.*, 99 F.3d 1381, 1385 (6th Cir. 1996).

219. Walter S. Mossberg & Katherine Boehret, *Digital Music: A Primer*, THE MOSSBERG SOLUTION, July 5, 2006 <http://ptech.wsj.com/archive/solution-20060705.html>.

220. “You don’t have to buy a single song from Apple. You can fill an iPod entirely with music you convert from your own CDs, or which you get from unauthorized download services, or from friends.” *Id.*

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because the iPod, and iTunes, can play back files in the open MP3 format, and in other non-copy-protected formats.”²²¹

One might argue that this particular use may have a positive impact on the copyright holder’s market.²²² Regardless, such impact does not permit a user to eliminate the market for compressed music because such action would “usurp a further market [derived] from reproduction of the plaintiffs’ copyrighted works.”²²³ In reviewing this argument, an analysis of the commercial market for DVDs versus downloading or copying movies has been compared to the same circumstances with regard to music CDs. It has been pointed out that

the commercial market for DVDs . . . may not speak as strongly against a finding of fair use due to differences between users’ conceptions of CDs on the one hand and DVDs . . . on the other. Commercially packaged DVDs . . . have features that distinguish them from those recorded by viewers. Commercial DVDs . . . are packaged without commercials.²²⁴

Examples of differences include a lack of commercials on commercial DVDs and special features such as deleted scenes, extended versions, director’s commentary, movie trailers, and games based on the movie’s theme. CDs, by contrast, usually have few if any features in addition to mere content.²²⁵ Aside from the differing physical attributes, songs from a CD “are identical to what an individual can create at home by downloading the individual songs . . . and burning the songs onto a blank CD.”²²⁶

An analysis under this factor requires the court to “consider not only the extent of market harm caused by the particular actions of the alleged infringer, but also whether unrestricted and widespread conduct of the sort engaged in by the [infringer] . . . would result in a substantially adverse impact on the potential market for the original.”²²⁷ Indeed, this “fourth factor must also take [into] account . . . [] harm to the market for derivative works” which has been defined “as those *markets* that

221. *Id.*

222. Even as such, the result would not constitute fair use. The court noted in *Castle Rock Entm’t* that “[b]y the same token, because a film producer’s appropriation of a composer’s previously unknown song that turns the song into a commercial success is a market substitute, that use is not made fair because it *increases* the market for the original work.” *Castle Rock Entm’t*, 150 F.3d at 145 n.10 (internal quotations omitted).

223. *UMG Recordings, Inc., v. MP3.com, Inc.*, 92 F. Supp. 2d 349, 352 (S.D.N.Y. 2000).

224. *Termini*, *supra* note 23, at 436.

225. *Id.*

226. *Id.* at 436-37 & n. 157 (citing Lou Carlozo, *If Web Music is Going to Click with a Mass Audience, It Needs Better Sound Quality*, CHI. TRIB., Nov. 29, 2000, at C1. (“MP3 is not CD-quality sound, and in a sense, a lot of this is overreacting”)).

227. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 590 (1994) (internal quotations omitted).

creators of original works would in general develop or license others to develop.”²²⁸ In the case of Shape-Shifting, the market is directly impacted as the user need not purchase the compressed music. Instead, the software accomplishes the compression of music from the CDs. As the court in *Castle Rock* held, this action “usurps” or acts as a substitution for the original work.²²⁹

The publishing of software that permits a user to compress music into a form to be used on a portable media player, in effect, replaces the need of the user to purchase music already in the compressed format. This replacement is “precisely the kind of harm the fourth factor aims to prevent.”²³⁰ Therefore, the fourth factor would weigh against Shape-Shifting.

5. Other Factors

Although the four statutory factors are non-exclusive, neither case law nor commentary have provided much guidance as to what other factors may affect a determination as to whether fair use should apply to Shape-Shifting. Other factors which have been discussed in other contexts include denial or permission from copyright holders²³¹ and “free speech and public interest considerations.”²³²

D. *Weight Against Fair Use*

In the final analysis, there is little argument that Shape-Shifting constitutes a fair use. All four statutory factors weigh against a finding of fair use for the act of compressing music. The fact that the user owns the original CD does not obviate the necessity of compliance with the Copyright Act. It is implicit in the Act’s reservation of those delineated rights that the holder of the right has the sole power to permit copying in the form of compression. The Act “grants creators only those rights necessary to exploit the market potential of their works. Copyright holders *alone* may reproduce, *adapt*, distribute, and publicly perform and display their expression.”²³³

228. *Castle Rock Entm’t v. Carol Publ’g Group, Inc.*, 150 F.3d 132, 145 (2nd Cir. 1998) (internal quotations omitted) (emphasis added).

229. *Id.*

230. *Infinity Broadcast Corp. v. Kirkwood*, 150 F. 3d 104, 110 (2nd Cir. 1998).

231. *Wright v. Warner Books, Inc.*, 953 F.2d 731, 737 (2nd Cir. 1991).

232. *Castle Rock Entm’t*, 150 F. 3d at 146.

233. *Cate*, *supra* note 15, at 1412 (emphasis added).

V. CONSEQUENCES OF INFRINGEMENT

The Copyright Act provides numerous potential consequences for violation of its provisions. Infringement could result in temporary and permanent injunctions,²³⁴ impoundment and destruction of all copies made in violation of the act,²³⁵ actual damages and profits made by the infringer,²³⁶ statutory damages,²³⁷ and costs and attorneys fees.²³⁸ Willful infringement may also lead to criminal prosecution under the Act.²³⁹

As of this writing, there are no reported cases of infringement suits brought against individual users for infringement in the form of Shape-Shifting. However, given the state of the law for contributory and vicarious infringement, software developers who have developed software which compresses or otherwise alters the format of music may be subject to civil and criminal penalties.

The Supreme Court in *Sony* noted that the “District Court found, [t]hat the [Plaintiffs] failed to prove any likelihood of future harm from the use of VTR’s for time-shifting.”²⁴⁰ On the other side of the spectrum, the success of iTunes explicitly demonstrates the potential harm to the online music market. By users Shape-Shifting music from their personal music collections, thereby preempting the need to download the same song or songs on a format suitable for a portable music player, users save money and artists and music publishers lose money. How much is not known. What is known is that the market being utilized is close to a billion dollars, as was demonstrated when iTunes sold its two billionth song.²⁴¹ The unknown damage

234. 17 U.S.C. 502(a) (2000).

235. 17 U.S.C. § 503 (2000).

236. 17 U.S.C. § 504(b) (2000).

237. 17 U.S.C. § 504(c). Statutory damage may be selected by the Plaintiff in lieu of actual damages and profits. Statutory damages can range from \$200 for innocent infringement to \$150,000 for willful infringement.

238. 17 U.S.C. § 505 (2000).

239. 17 U.S.C. § 506 (2000). Criminal infringement occurs where

Any person who willfully infringes a copyright shall be punished as provided under section 2319 of title 18, if the infringement was committed--

(A) for purposes of commercial advantage or private financial gain;

(B) by the reproduction or distribution, including by electronic means, during any 180-day period, of 1 or more copies or phonorecords of 1 or more copyrighted works, which have a total retail value of more than \$1,000; or

(C) by the distribution of a work being prepared for commercial distribution, by making it available on a computer network accessible to members of the public, if such person knew or should have known that the work was intended for commercial distribution.

Id.

240. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 425 (1984).

241. Apple, iTunes Store Tops Two Billion Songs, Jan. 9, 2007, <http://www.apple.com/pr/library/2007/01/09itunes.html> (last visited Jan. 26, 2007). Songs on iTunes

to the market is likely a multiple of this number. In *Sony*, the Supreme Court relied on the district court's findings of fair use even when an entire copyrighted work was recorded "because there is no accompanying reduction in the market for plaintiff's original work."²⁴² The holding is significant because it relied upon the fact that the VTR, which was the subject of the suit, recorded material that was "broadcast on the public airwaves."²⁴³ However, unlike *Sony*, music which is transformed through Shape-Shifting directly impacts the market. But for the transformation, the user could not listen to the song on the portable music player.

VI. CONCLUSION

The application of Shape-Shifting to music CD's owned by individuals is an infringing use which violates the United States Copyright Act. As recognized by the Supreme Court, one must "look to the nature and objects of the selections made, the quantity and value of the materials used, and the degree in which the use may prejudice the sale, or diminish the profits, or supersede the objects, of the original work."²⁴⁴ Shape-Shifting takes the musical work in its entirety and substitutes the newly formed work in place of the old, thereby eliminating the need of a user to purchase a new copy in compressed form. Songs created in a newly compressed format eliminate the need to purchase the music in a compressed format thereby depriving the copyright holders of their opportunity to profit from the sale of compressed music. As one retailer of compressed music has demonstrated, a market for compressed music clearly exists as more than two billion songs have been purchased and downloaded.²⁴⁵ The market is certainly impacted by users compressing music from CDs they own. This use, Shape-Shifting, impacts and infringes upon the copyright holder's rights.

are sold for .99 each. Apple iTunes Store, <http://www.apple.com/itunes/store> (last visited Jan. 26, 2007). A billion songs would equate to \$990,000,000.00.

242. *Sony Corp. of Am.*, 464 U.S. at 426 (internal quotations omitted).

243. *Id.*

244. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 576 (1994) (quoting Justice Story's opinion in *Folsom v. Marsh*, 9 F.Cas. 342 (No. 4,901) (C.C.D. Mass. 1841)).

245. *See supra* note 241.