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## Don't Worry, Be Happy! Music Performance and Distribution on the Internet is Protected after the Digital Performance Rights in Sound Recordings Act Of 1995

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**DON'T WORRY, BE HAPPY!  
MUSIC PERFORMANCE AND DISTRIBUTION ON THE  
INTERNET IS PROTECTED AFTER THE DIGITAL  
PERFORMANCE RIGHTS IN SOUND RECORDINGS ACT  
OF 1995**

*Andrew Hartman\**

INTRODUCTION ..... 38

I. THE RELEVANT TECHNOLOGICAL ADVANCES ..... 41

    A. *The Information Superhighway* ..... 41

    B. *Digital Technology* ..... 45

    C. *Applications of Digital Technology* ..... 46

    D. *Mixing Interactive Networks with Digital Technology* ..... 48

    E. *Legal v. Illegal Activity* ..... 50

II. THE COPYRIGHT ACT MEETS THE DEMANDS OF COPYRIGHT HOLDERS  
IN MUSICAL WORKS DESPITE TECHNOLOGICAL CHANGE ..... 52

    A. *The Audio Home Recording Act of 1992 and Frank Music:  
    Copyright Protection Expands in the Digital Age* ..... 54

    B. *The Digital Performance Rights In Sound Recordings Act of 1995* ... 57

        1. *The Difference Between Musical Works and Sound Recordings* .. 58

        2. *The Sound Recording Gets a Performance Right* ..... 59

        3. *Creating a Right to Distribute Music by Digital Transmission* ... 61

    C. *The National Information Infrastructure Copyright Protection Act of  
    1995* ..... 63

III. MARKET AND INDUSTRY SOLUTIONS ..... 66

    A. *Licensing Organizations* ..... 66

    B. *Technological Solutions* ..... 69

        1. *Encoding Works of Authorship: The Serial Copy Management  
        System and Copyright Protection Technology* ..... 69

        2. *Technology Will Provide the Means of Performing and Distributing  
        Music Over the Internet* ..... 71

CONCLUSION ..... 73

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## INTRODUCTION

No one would consider Steve<sup>1</sup> to be a computer genius. Steve is like any other Internet<sup>2</sup> junkie who surfs the Net every day looking for something new and useful. Point and click, point and click, Steve has another Pearl Jam album for free. A trip to Mega's Jukebox,<sup>3</sup> a small stop on the Information Superhighway, will save Steve the record store hassles and those nasty price tags. His new recordings are all digital, free and illegal.

Making personal copies of sound recordings may seem harmless to those familiar only with radio, given its traditionally analog sound and the inherent unpredictability of when a particular song will be played.<sup>5</sup> It is also commonplace,

1. "Steve" is fictional. This scenario, however, is accurate and just as easy as it sounds, given the right equipment. To be certain that it could actually be done, an experiment was conducted with the help of John Obermann, Director of Computer Services at Valparaiso University School Of Law. During this experiment, Mr. Obermann and I sought out music on the Internet (and discovered Mega's Jukebox), downloaded a Pearl Jam song, and listened to it in its entirety. We then made a copy of the song from the computer to a cassette tape. During the experiment we also uploaded a song onto the Valparaiso University School of Law web site, called the song up, listened to it, and made a copy of this song as well. This experiment was purely for educational purposes, of course, and all copies were immediately deleted. For a more detailed description of this process, *see infra* note 52 and accompanying text.

2. Short for "interactive network." The Internet is really a network of many separate computer networks, with each one constructed to allow complete accessibility by the others, thereby creating a "seamless" network of networks. These networks are interactive because users can send and receive data both to and from other network users.

3. *Mega's Jukebox*, (last modified Oct. 15, 1996) <<http://www.sirius.com/~mega/metal/music.html>>. (This site offers at least 39 songs, each in their entirety. The site offers two to four songs by each of the following artists: AC/DC, Alice In Chains, Deep Purple, Jimi Hendrix, Led Zeppelin, Megadeth, Nine Inch Nails, Pearl Jam, Ratt, The Red Hot Chili Peppers, Sepultura, Testament and Whitesnake. Each song is an (.au) file which enables the site "visitor" to hear any song by clicking on the name of the song. A computer equipped with sound equipment reads an .au file and automatically plays the song.)

4. "Information Superhighway" is another phrase coined to describe the Internet and other interactive services that will come. The origins of the various pet names for the Internet are unknown, but "Information Superhighway" closely resembles the "National Information Infrastructure" envisioned by the Clinton Administration. *See infra* note 24.

5. While radio listeners can easily copy a song off of the radio, the listener could not make a perfect copy of the original because, even if a radio station plays music from compact discs, traditional recording devices were not sophisticated enough to make digital copies of the broadcast. In addition, it is normally not possible to predict when a given song would be broadcast, thereby making compilation of an album of one particular artist time consuming and choppy. Despite radio broadcasts of musical works, most listeners would still need to purchase a work to enjoy the best quality available. With billions lost in record company revenues each year, public attitudes toward home taping have been the subject of many studies. *See* Recording Industry Association of America, *Home Taping in America: 1983 Extent and Impact* (1983); and CBS Records, *Blank Tape Buyers: Their Attitudes and Impact on Pre-recorded Music Sales* (1979-80).

and perfectly legal, to make a copy of a CD onto a cassette to use in your walkman,<sup>6</sup> but technology is changing the parameters of the copying game. The past few years have witnessed the advent of music-on-demand,<sup>7</sup> digital audio technology,<sup>8</sup> and an unchartable explosion in the use of interactive networks like the Internet. Digital technology is fast becoming *the* medium for transferring data. This technology is an advance readily appreciated by the discerning ears of the music fan.

Just as technology has posed new challenges for copyright owners, recent history has witnessed a substantial boom in the amount of intellectual property needing protection. The copyright industry is one of the largest and fastest growing segments of the United States economy.<sup>9</sup> The copyright industry includes computer software, motion pictures, videos, music recording and publishing.<sup>10</sup> In terms of value added to the Gross Domestic Product ("GDP"), the copyright industry contributes more to the U.S. economy than most industrial sectors, and more than any manufacturing sector including aircraft, metals, electronic equipment and industrial machinery.<sup>11</sup>

Technologically, we are perhaps in the early stages of what may someday be called the digital age. Nearly every substance of copyright ownership can be

6. The Audio Home Recording Act mandates that it is not a violation of copyright for a consumer to make either a digital or analog recording of a musical recording for non-commercial private use. 17 U.S.C. § 1008 (1992). (stating that "No action may be brought under this title alleging infringement of copyright based on . . . the noncommercial use by a consumer of such a device or medium for making digital music recordings or analog music recordings.")

7. Music-on-demand is a recently developed service whereby subscribers may order songs to be played via cable connection into the subscriber's stereo. MCI Communications Corp. has moved to sell recorded music by a toll-free number and the Internet under the label 1-800-MUSIC NOW. Customers will be able to sample up to 20,000 songs and purchase them online at a discount using a credit card. The move will cost very little to MCI, leveraging its existing telephone network and customer service infrastructure. *See MCI Moves to Online, On-Phone Music Sales*, INTERNET BUS. NEWS, Dec. 1, 1995. *See also* Ralph Oman, REGISTER OF COPYRIGHTS, REPORT ON COPYRIGHT IMPLICATIONS OF DIGITAL AUDIO TRANSMISSION SERVICES, (October 1991). The digital audio transmission services will transmit over cable systems or by way of satellite, offering 24-hour, commercial free digital music. Some services will be interactive, enabling subscribers to pick and choose individual sound recordings. *Id.*

8. The DAT, or "digital audio tape," was developed in 1987. DATs record and play music digitally and, unlike CDs, they enable the average consumer to record music both to and from the DAT. The subsequent recordings are in digitized format and several generations of DAT recordings can be produced from one DAT with no loss in sound quality (although this is illegal --see *infra* note 81 and accompanying text). In early 1996, recordable compact discs hit the market, thereby keeping pace with the advances in recording technology provided by the DAT. One CD recording device, manufactured by Pioneer, sells for \$1499. The blank CDs cost about \$18.

9. Report Summary, *Copyright Industries in the U.S. Economy: 1993 Perspective*, INT'L INTELL. PROP. ALLIANCE, Oct. 1993, at 1.

10. *Id.*

11. Statistical Abstract of the United States, 115th Ed. 1995, U.S. Dept. of Commerce, Table No. 1246, at 749.

transformed to digital bits and transmitted and copied with ease.<sup>12</sup> Some commentators envision digital bookstores and a “celestial jukebox.”<sup>13</sup> Digital art galleries already exist.<sup>14</sup> Many radio stations already transmit broadcasts in digital form, and eventually all radio stations will convert from analog to digital transmission.<sup>15</sup>

The purpose of this essay is not only to highlight the relevant legislative changes to the Copyright Act as they relate to music recordings, but also to familiarize the reader with interactive networks and digital technology and explain how these two groundbreaking advances will effect the future of the intellectual property owner. Section I of this essay outlines the relevant technologies involved and explains how each interacts with the other to form an easy, cheap method of copying music without paying copyright holders the royalties to which they are entitled.

Section II considers this new activity in light of the Copyright Act<sup>16</sup> as amended by the Digital Performance Rights in Sound Recordings Act of 1995 (“1995 Act”).<sup>17</sup> This analysis applies the new act to the Internet and suggests that Congress has filled the loopholes in the Copyright Act through which Internet copyright infringers were slipping. Sound recording copyright holders<sup>18</sup> need not worry that they lack judicial and legislative support for the protection of their works. The 1995 Act was crafted broadly enough to encompass interactive networks like the Internet and those that will follow. Digital and technological advances need not be feared by the copyright owner; all that is sacred to copyright owners is safe in cyberspace.

Section II also addresses the pending National Information Infrastructure

12. See *infra* note 47 and accompanying text.

13. The “celestial jukebox” could conceivably replace records stores as they exist today. The celestial jukebox would compete directly against traditional record stores by providing in-home, on-demand, direct digital delivery of various entertainment content. Users would simply browse selections from a vast database larger than the largest record store, make a demand, and the selection would be downloaded in minutes, for a fee. Bookstores would operate in the same fashion – the book would be stored in your computer or you could download the text and take it with you. See generally BILL GATES, *THE ROAD AHEAD* 21 (1995).

14. Virtual art galleries already exist on the Internet. Three full-color digitized impressionist works are available for downloading at Nicolas Pioch, *WebMuseum Paris* (visited March 3, 1996) <<http://sunsite.unc.edu/wm/paint/auth/monet/waterlilies>>.

15. Despite the advent of on-demand music services, radio will likely remain a healthy medium because of its enduring value as a promotional tool. C. Scott Fedewa, *Challenges and Implications of the On-line Age for the Music Business*, 13 ENT. & SPORTS LAW. 3 (Winter 1996). Radio’s unique format (including commercials, DJ patter, etc.) of constantly interrupted programming will provide little threat to the emerging on-line market for full-length, album style entertainment. *Id.*

16. 17 U.S.C. § 101 (1988).

17. Pub. L. No. 104-39, § 227, 109 Stat 336 (1995).

18. One recorded song or album represents the workmanship of several different parties. Traditionally, the rights of these parties with respect to copyright law has differed. See *infra* note 102 and accompanying text.

Copyright Protection Act of 1995 ("NII Act")<sup>19</sup> and the effect this bill will have, if enacted, on the interactive realm. While sound recordings are currently cloaked with adequate protection, this act extends the bundle of interactive rights to other works of authorship.

Section III will discuss the implications of Internet music copying on licensing organizations such as the American Society of Composers, Artists and Publishers ("ASCAP"), Broadcast Music, Inc. ("BMI"), the Society of European Stage Authors and Composers ("SESAC") and The Harry Fox Agency. This section includes a proposal suggesting that these organizations will prove vital in keeping copyright protection viable in the age of interactive technology. Finally, Section III includes several other solutions utilizing encryption and "policing" technology that is already available or will be available in the very near future.

## I. THE RELEVANT TECHNOLOGICAL ADVANCES

### A. *The Information Superhighway*

"Information superhighway" is a catch-all phrase which encompasses the massive interconnected web of computers used by corporations, educational institutions, government entities and private individuals to exchange any and all sorts of information imaginable. Universities and the military were the first to experiment with wide-range computer communication. While private use of interactive sources like the Internet appears to be a relatively new phenomena, the origins of this interconnected computer system trace back to the 1960s.<sup>20</sup> The earliest use of this system involved little more than text-only electronic mail, until 1993, when the system sprouted interactive, multimedia wings.<sup>21</sup> Special software was developed enabling users to travel this interconnected web of computers with pictures, sound and videos all with the click of a mouse.<sup>22</sup>

The Internet represents a primitive version of the information superhighway to

19. H.R. 2441, 104th Cong. (1995).

20. The development of an interconnected web of computers can be traced back to 1964 when Paul Baran, a Rand Corporation researcher, designed a system that consisted of a "communications network that had no hub, no central switching station, no governing authority." Kenneth D. Suzan, *Tapping to the Beat of a Digital Drummer: Fine Tuning U.S. Copyright Law for Music Distribution on the Internet* 59 ALB. L. REV. 789, 792 (1995) (citing Phillip Elmer-Dewitt, *First Nation in Cyberspace*, TIME, Dec. 6, 1993 at 62). Building on Baran's scheme, the United States Defense Department developed ARPAnet in 1969, "a computerized communications system capable of surviving a nuclear attack." *Id.*

21. Christopher Anderson, *The Accidental Superhighway*, THE ECONOMIST, July 1, 1995, at S3. Electronic mail, or "e-mail" is like sending a letter: one person sends the message to another via the use of a computer and modem. The message travels across phone lines to the recipient's e-mailaddress, anywhere in the world.

In 1994, NetScape Communications developed and sent to market a navigational browser which caused an explosion in Internet use. See Vic Sussman & Kenneth Pollack, *Gold Rush in Cyberspace*, U.S. NEWS & WORLD REPORT, Nov. 13, 1995, at 74.

22. *Id.*

come.<sup>23</sup> President Clinton's Working Group plans for a National Information Infrastructure which will enable people to access and to exchange a plethora of information.<sup>24</sup> For now, the Internet represents the embodiment of the massive, interactive information infrastructure to come, but the potential capabilities of this new resource barely have been tapped.<sup>25</sup>

Bill Gates, founder of Microsoft, predicts that the information superhighway will transform our culture as dramatically as Johann Gutenberg's printing press

23. See N. Jansen Calamita, *Coming to Terms With the Celestial Jukebox: Keeping the Sound Recording Copyright Viable in the Digital Age*, 74 B. U. L. REV. 505 (1994). (Telecommunications International (TCI), the largest United States cable company, plans to use data compression technology to increase the capacity of its coaxial lines, enabling them to carry the equivalent of 500 channels. TCI will spend \$2 billion to install over 7000 miles of fiber optic cable throughout the United States, which, when completed in 1996, will service nine million households. TCI [planned] to install one million digital TV converter boxes in 1994. The fiber optic lines will permit the on-demand delivery of information and entertainment -- including audio.)

24. The Administration's agenda for the National Information Infrastructure describes it as a "network of networks" and establishes the goal of promoting "seamless, interactive, user-driven operation". BRUCE A. LEHMAN, *INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE, REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS* \_\_\_ (Sept. 1995)(The White Paper). The proposed NII will grow to be a valuable resource for universities and scholars for educational and research purposes, who could enjoy virtually limitless amounts of information of any type and from any source in the world. See Kenneth D. Solomon & Michael J. Pierce, *Copyright Law and the Information Superhighway*, 96 WEST'S ED. L. RPT. 315 (1995). "Much as we view the airwaves as being publicly owned, educators seem to be adopting the position that the information superhighway should also be recognized and treated as a national resource". *Id.* Believing that wealth should not be a bar to Internet access, organizers of the EmpowerNet project, associated with Michigan State University, have received a grant from the city of Lansing, Michigan to set up computers, modems and Internet access for residents of three low-income housing developments. See *Internet to be Plugged into Low-income Housing Project*, INTERNET BUS. NEWS, Dec. 1, 1995.

25. A great number of companies are "jumping into the Net" for fear of being left behind. Many of the web pages available are little more than a one page color advertisement. Many television commercials now contain Internet addresses as well. An Internet user could type "http://www.[company name].com," filling in the name of any large advertiser at [company name], and would be likely to reach that company's home page. Law firms also benefit from interactive technology, in part for the purpose of advertising job openings. See *Law Journal Extra* (visited Nov. 13, 1996) <http://www.lawjobs.com/lawjoblistings.html>. Most larger law firms around the world also have web sites to advertise their services, particularly if their services relate to computer technology or intellectual property issues. By November 1995, there were more than 100,000 web sites. Researchers estimate that this number doubles every 2 and 1/2 months. Sussman & Pollack, *supra* note 21, at 73.

The International Data Corp., a technology research firm, recently predicted that in 1996 the Internet frenzy will become exhausting and that by January 20, 1997, 20 percent of Fortune 500 companies with existing Web sites will abandon them. The survey also predicts that many users will become "underwhelmed" by the Web and will disconnect. See Jennifer Tanaka & Brad Stone, *ODed?* NEWSWEEK, Jan. 15, 1996, at 9.

transformed the Middle Ages.<sup>26</sup> Citizens of the world will be connected to a wealth of entertainment, information services, products and each other, all from the home personal computer. Cultural, political, commercial and literary ideas from the other side of the world will be just a keystroke away.<sup>27</sup>

Businesses will likely form the backbone of content on the information superhighway. Whether a company's present markets are threatened or are already positioned to profit from new technology, all have been exploring strategic relationships to ensure participation no matter which technology succeeds and regardless of where market demand ultimately is found.<sup>28</sup> The first all-Internet bank has emerged as Security First Network Bank, as well as the first Virtual Law Firm, offering legal services from its home office on the Internet.<sup>29</sup> Interactive network users have access to thousands of shopping sources from which to choose, enabling consumers to window shop world markets from the home.<sup>30</sup>

Becoming a "netizen"<sup>31</sup> is simple. To gain access to the Internet, one first must

26. GATES, *supra* note 13, at 8. (Before Gutenberg, books had to be reproduced by hand. Life was communal and unchanging. Few individuals knew much more than what was happening in their village or what was told by a passer-by. The printed medium changed worldviews from inward looking to outward looking. Physical and intellectual horizons expanded dramatically. Before Gutenberg, there were only about 30,000 books on the entire continent of Europe, nearly all bibles or biblical commentary. By 1500, there were more than 9 million books on all sorts of topics ranging from politics to science to literature.)

27. For a sample of what the Internet offers, see Joseph O. Holmes, *Welcome to the Web: 101 Must-see Sites*, MACUSER March 1, 1996.

28. Michael M. Krieger, *Hype, Highways and Acronyms: An Introduction to Sorting it Out*, 28 BEV. HILLS B. ASS'N J. 109, 110 (1994).

29. Customers of Security First Network Bank get branch-like service and can also see whether checks have cleared. *Security First Network Bank*, (visited Nov. 13 1996) <<http://www.sfnb.com>>. The Virtual Law Firm, created by San Francisco-based attorney Mark Thierman, hopes to offer a wide range of legal services from lawyers stationed around the world, connected by the Internet. Thierman has thus far recruited 18 lawyers worldwide to join him. See Mark Thierman, *The Virtual Law Firm* (visited March 3, 1996) <<http://www.tvlf.com/tvlf/>>. For more on the Virtual Law Firm, see Jill Schachner Chanen, *The Virtual Law Firm*, A.B.A. J., July 1995, at 39.

30. Internet offerings to consumers are truly endless. Internet shoppers may browse and purchase items ranging from homes to used cars, with selections divided by regions of the world, by states within the U.S., or by counties within states. See Ralph Weeks, *Century 21* (last updated Nov. 11, 1996) <<http://members.aol.com/oneamminute/century21/>> (offering complete descriptions, list prices, and photos of homes currently for sale in Oceanside, Ca.) and *ALotOfCars.com* (visited Nov. 13, 1996) <<http://www.alotofcars.com/carsearch.html>> (Internet user types in the make, model, year and price range of desired vehicle at appropriate prompt, and the server searches its nationwide database for a match).

31. "Netizen" is a term used to describe a person who uses the Internet on a regular basis and has become proficient at using the network for educational, entertainment or other purposes. Internet publishers O'Reilly & Associates and Trish Information Services found that most netizens are men who make between \$25,000 and \$75,000 per year. The survey found that 5.8 million Americans had direct access to the Internet, while another 3.9 million subscribed to commercial online services like CompuServe and America Online. *OnLine Survey* (visited



have access to a personal computer and on-line server software.<sup>32</sup> An Internet visitor can become proficient at “Net Surfing” in less than a day.<sup>33</sup> The Internet is fast becoming an invaluable source for all kinds of information and entertainment, ranging from vacation planning to health care advice. It has also become a pirate’s paradise in terms of the ease of copying and downloading intellectual property.

Copyright law has a notable presence on the Internet, however. Countless sources exist for copyright articles, essays and self-help. An online magazine, Interactive Age, routinely publishes articles relating to copyright issues.<sup>34</sup> Additionally, the United States Patent and Trademark Office has a web site on the Internet.<sup>35</sup> One can find information on the procedures necessary to register different works of authorship for copyright protection.<sup>36</sup> There is a site that explains how to use the fair use defense.<sup>37</sup> There is even a rudimentary “Top Ten

March 3, 1996) <<http://www.excite.com/search.gw>>.

32. Online service providers like America Online, CompuServe, Netscape Communications (NETCOM), the Microsoft Network, Prodigy and others typically provide the subscriber with free software, after which the subscriber uses the service to access the Internet, for a monthly fee. See Mary Kathleen Flynn, *On the Net, Fast & Easy*, U.S. NEWS & WORLD REPORT, Apr. 29, 1996, at 71.

33. “Net Surfing” is a term used to describe the process of moving throughout the Internet, from web site to web site, much in the same fashion that one uses a remote control with a television to randomly move from channel to channel. “Surfing the Net” has become one of the more common metaphors for the process of exploring this new medium.

34. *Interactiv Age* (visited Nov. 13, 1996) <<http://techweb.cmp.com/techweb/iaa/current/default.html>>.

35. *United States Patent and Trademark Office Home Page* (visited March 3, 1996) <<http://www.uspto.gov/>>. The site includes links to other intellectual property-related sites and a handsome color photograph of PTO Commissioner Bruce Lehman.

A “web address” or “web site” is the location within the interactive realm of online services at which the computer user arrives when he or she types in an address line at the appropriate prompt. A “home page” serves as a starting point for the uploader’s web site. From the home page, users can “hyperlink” to different Internet locations by double-clicking the computer mouse on a highlighted word or picture. The World Wide Web, developed in 1989, is a global network which is part of the Internet. “Web” has entered the vernacular as a term synonymous with “Internet.”

A full Internet address is technically referred to as a “universal resource locator,” or URL. It consists of several separate identifying parts. “Http” stands for hypertext transport protocol; “www” stands for the World Wide Web. There are seven top level “domains” in the United States. Of these, “.edu” indicates an educational institution; “.com” denotes a commercial entity; “.org” denotes a non-commercial domestic organization; “.int” denotes a non-commercial international organization; “.net” denotes a network gateway; “.gov” denotes a government office; and “.mil” denotes a military site. “Html” stands for “hypertext markup language.” Richard Baum & Robert C. Cumbow, *First Use: Key Test in Internet Domain Disputes*, NAT’L L. J., Feb. 12, 1996, at C17.

36. United States Copyright Office, Library of Congress, *Copyright Registration* (last updated Feb. 8, 1996) <<http://www.loc.gov/copyright/reg.html>>.

37. *Fair Use* (last updated March 10, 1996) <<http://www.benedict.com/fair.htm#fair>>.

List of Legal Issues” relating to copyright law.<sup>38</sup>

Many of the musical web sites have felt the heat from lawyers and copyright holders and have either posted warnings on their sites or shut them down altogether. The “Disco Jukebox” closed down its illegal musical files, with its proprietor, stating that “making it available for free to anyone who wants to download it is just asking for trouble.”<sup>39</sup> Another site, originating in Norway, allows musicians or others to post music onto the site, but states that “if you have signed with ASCAP, TONO or similar, we’re not interested.”<sup>40</sup> Still other sites offer downloadable music with apparent disregard for the accompanying copyright implications.<sup>41</sup>

Internet technology is a mixed blessing for most serious users. During one visit, a netsurfer may be looking for something to take for free, and the next time he may want to post some protectable intellectual property. Publishing has become so easy for the masses that one user can wear many different hats in cyberspace. On-line technologies will bring massive reproduction and worldwide distribution capabilities to every desktop, eliminating the barriers that once prevented entry into the record business.<sup>42</sup> In this respect, a computer user who once used her equipment to download free music from the Internet may also be placing original works on the system and will demand protection afforded by the Copyright Act.

### B. Digital Technology

In the late 1930s, Claude Shannon demonstrated that a machine executing logical instructions could manipulate information.<sup>43</sup> In his masters thesis, Shannon detailed how computer circuits could perform logical operations, using the number 1 to represent “true,” a closed circuit, and 0 to represent “false,” an open circuit. This binary system is a code or the alphabet of electronic computers.<sup>44</sup> It is the

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38. Current Multimedia Content Rights, (visited March 3, 1996) <[http://www.dorsai.org/p-law/wong\\_dir/wongpap4.html](http://www.dorsai.org/p-law/wong_dir/wongpap4.html)>.

39. Doug Ingram, *Disco Jukebox* (visited March 3, 1996) <<http://www.astro.washington.edu/ingram/disco.html>>. The proprietor of this web site included a message explaining that his home page was only meant for the enjoyment of “local users who play music in our offices.” *Id.* His site included “Theme from Shaft” by Isaac Hayes and “Ladies Night” by Kool & the Gang. *Id.*

40. *NVG.NETTVERKSGRUPPA* (last updated April 21, 1996) <<http://sounds.nvg.unit.no/songs/>>. This site advises would-be downloaders that the site was found to be violating Norwegian copyright law, and that the few songs still available were by agreement with copyright holders. *Id.*

41. See *supra* note 3. (Mega’s Jukebox does not contain any warnings or evidence of admonishment from copyright holders or licensing organizations. The site offers full-length albums from 13 different prominent recording artists.)

42. See C. Scott Fedewa, *supra* note 15, at 4.

43. See GATES, *supra* note 13, at 23.

44. *Id.* Each 1 or 0 is known as a “bit”. Eight bits together form a “byte,” and a byte would represent a common character on the computer screen like the letter “A” or the number “6.” A complete string of numbers can be used to represent the image of almost anything. Digital audio

basis of the language into which all information is stored, translated and used within a computer. This seemingly simple process is vital to understanding the way computers work.<sup>45</sup>

The storage and transfer of information in digital form is a significant advance over analog recording. As the name suggests, an analog representation of information is merely an "analogy" -- it is an approximate, imprecise representation of the original information. Music recorded and reproduced in analog format is not a perfect representation of the original work.<sup>46</sup> Each reproduction is inferior in quality to the original. A digital recording of information, however, can be flawlessly reproduced, because the information is stored in specifically identifiable bits. Digital technology is eroding the barriers to large scale copying that once existed between professional music producers and the public. The average consumer can make perfect copies in mass quantities with no reduction in quality of sound.

The difference between the quality of a digital recording and an analog recording can be illustrated further. I can make 50 copies of this essay from my computer diskette, with each looking as clean as the original. The printer is copying the underlying information stored on the diskette and reproducing it in hard copy form. But if I print out only one copy from the diskette and make 49 copies on a photocopier, the subsequent copies will be inferior in quality. Instead of reproducing the underlying information from the computer diskette, I have reproduced an *analogy* of the original information.

### C. Applications of Digital Technology

Digital technology makes possible the higher quality sound of compact discs and digital audio tapes ("DATs").<sup>47</sup> Digitization is commonly applied to books, paintings and photographs in a variety of mediums. Newspaper and magazines are often completely composed in electronic form and printed on paper as a

uses numbers to represent the image of an audio waveform. With enough binary digits (bits), the image can have such great resolution that it would be impossible to tell it apart from the original analog signal. See University of Wisconsin, *DAT-Head FAQs [Frequently Asked Questions]* (visited March 4, 1996) <[http://www.wisc.edu/media/DAT\\_FAQ.html](http://www.wisc.edu/media/DAT_FAQ.html)>.

45. See GATES, *supra* note 13, at 23. To the nontechnical computer user, Gates offers perhaps the most comprehensible explanation of how computers operate.

46. See *infra* note 50.

47. "On a compact disc, music is stored as a series of binary numbers, each bit of which is represented by a microscopic pit on the surface of the disc. Today's CDs have more than 5 billion pits. The reflected laser light inside the CD player - a digital device - reads each of the pits to determine if it is switched to the 1 or 0 position, and then reassembles that information back into the original music by generating specified electrical signals that are converted by the speakers into sound waves. Each time the disc is played, the sounds are exactly the same." GATES, *supra* note 13, at 29. Digital Audio Tapes are technically similar to CDs, with the added feature of recording capabilities. Individuals can copy music from both digital and analog sources on to this digital medium.

convenience for distribution.<sup>48</sup> Finally, digital technology has been applied to enable musicians at different geographical locations to compose music together, through the use of MIDI (Musical Instrument Digital Interface) Technology.<sup>49</sup>

At the heart of the music industry's fear of digital technology is the ease with which digital recordings may be reproduced. Consumers with access to digital recording devices can make "perfect copies" of original works. No longer will a user be forced to settle for one "digital quality" recording for the home and a "taped copy" for the walkman or car stereo. Each subsequent recording will be as sharp as the original.

Prior to the proliferation of digitization of music, the only way music could be copied by the non-professional was through analog applications. This did not cause great fear in the music industry because duplicate copies were inherently inferior to the original.<sup>50</sup> Thus, music stores still had something more to offer than the consumer could never copy for himself -- the best possible recording of an album. Now, however, digital quality sound can be transmitted, downloaded and stored in the home computer. It can be copied and added to a music collection at minimal cost to the consumer and with no sacrifice in sound quality.

Because subsequent recordings and transmissions of digital music are perfect

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48. "Every year, better methods are being devised to quantify information and distill it into quadrillions of atomistic packs of data. What characterizes this point in history is the completely new ways in which information can be changed and manipulated, and the increasing speeds at which we can handle it." GATES, *supra* note 13, at 21.

49. MIDI Technology was developed to equate digital signals with electronic signals from musical instruments. Sound is converted into 1s and 0s based on musical gestures like pitch, velocity, and type of instrument. MIDI converts the musical signals into digital signals. The digital signals are then re-converted into musical signals by the computer so that they may be heard through the computer. Musical signals remaining in digital form can be transmitted through cable (in the same manner that computers "talk" to each other in other applications) to a second, third fourth, or infinite number of other computers. Any subsequent computer can faithfully convert the digital signals back into musical gestures, with no loss in the quality of the sound.

At present, there are many legal uncertainties associated with these MIDI devices and their use in connection with on-line computer services. For an extensive discussion of MIDI Technology and its relation to copyright law, see Christos P. Badavas, *MIDI Files: Copyright Protection for Computer Generated Works*, 35 WM. & MARY L. REV. 1135 (1994).

50. "A vinyl record is an analog representation of sound vibrations. It stores audio information in microscopic squiggles that line the record's long, spiral groove. When a turntable's needle travels down the groove, it vibrates in resonance with the tiny squiggles. This vibration, still an analog representation of the original sound, is amplified and sent to the loudspeakers as music. Each time the record is played, the needle wears away some of the subtleties of the squiggles and the reproduction of the music deteriorates. If the record is recorded onto a cassette tape, the record's imperfections will be permanently transferred onto the tape, and new imperfections will be added because conventional tape machines are themselves analog devices. The information loses quality with each generation of rerecording or retransmission." GATES, *supra* note 13, at 28. Yet on a compact disc, music is stored in a series of binary numbers which can be faithfully reproduced an infinite number of times without loss in quality.

duplications of the original, the potential for large-scale reproduction of high quality musical recordings could have a significant impact on the revenues of copyright holders in musical works. One could imagine a scheme whereby ten potential consumers pool funds to buy a compact disc, and then create nine copies to distribute between them for a fraction of the cost.<sup>51</sup> Imagine the addition of interactive technology to this scheme, one consumer could buy a compact disc and make it available to a limitless number of other potential consumers who could conceivably use digital recording equipment to create an exponential number of copies of the original recording.

#### *D. Mixing Interactive Networks with Digital Technology*

Digital technology is a landmark advance and will significantly impact the way humans communicate with each other, as will interactive networks like the Internet and those that follow. The merging of the two creates a system whereby intellectual property can be easily copied, distributed and manipulated in frustration of the standard system of enforcing the rights of copyright holders. The “Steve” scenario was a simplified example. What follows is a more detailed description of what one must do to upload, copy, and download music using the Internet.<sup>52</sup>

Today’s computers often come equipped with a CD-ROM<sup>53</sup> drive, or such a device can be added as a component. CDs can store any kind of information capable of being digitized. Not only can works of intellectual property be created in digital format, but pre-existing works from various mediums can be converted into digital format. With respect to musical compact discs, a music CD can be inserted into a computer’s CD-ROM drive. The computer is capable of reading the digital 1s and 0s that form the musical images on the CD. The music is then stored under a file name chosen by the user in just the same fashion as any other information entered into the computer. The music can then be played immediately through the computer’s speakers, saved in a file for later use, copied into “hard copy” format onto a cassette or DAT, or sent to another computer using an interactive network. Essentially, the digitized musical work can be changed, stored

51. Congress already addressed this concern in enacting the Audio Home Recording Act, which makes “serial copying” a violation of copyright law. *See infra* note 83. Additionally, royalties on digital copying devices flow back to the copyright holders, lessening the financial blow that legislators feared could result from large-scale copying of musical works via the use of digital recording equipment. *See* 17 U.S.C. § 1003-1007 (1996), and *infra* note 90 and accompanying text.

52. “Uploading” is the process of loading a song, via digital interface devices like a modem or CD-ROM, onto a computer and ultimately to an interactive network. “Downloading” is the process of calling up a particular file and transferring the file to the hard drive of the downloader’s personal computer. Downloading occurs even when the user is merely listening to a musical work or viewing anything captured via the computer. It is not necessary that a permanent copy be made to the computer’s memory.

53. “CD-ROM” stands for “Compact Disc-Read Only Memory.” The CD-ROM drive is the peripheral component of a computer capable of receiving information off of a compact disc. Most computer software, computer games and databases are now available in CD-ROM format.

and transferred in the same manner as a document that has been created in the computer.

To load the music onto the Internet, the uploader must have access to a server.<sup>54</sup> The music is then assigned to a web address (or a "home page" if the user has developed one). Suppose the CD chosen by the uploading user was the album "Ten" by Pearl Jam. The title of the music, or the web site itself, may include the words "Pearl Jam" somewhere within it. Imagine, then, that another netsurfer anywhere in the world is interested in seeing what sort of Pearl Jam information or material is available over the Internet. She could do a "Net Search"<sup>55</sup> by typing in "Pearl Jam," and among the information received would be the address of the Web site containing the Pearl Jam album in audio (.au) format. If her computer could read files in (.au) format, she could download the album to her computer and listen to it in its entirety.<sup>56</sup>

If this netsurfer owned a computer capable of connecting to an audio playback device,<sup>57</sup> like a cassette player or DAT machine, she could produce a "hard copy" of the Pearl Jam album for her own use away from the computer. She has just added an album to her collection with no payment whatsoever trickling back to the

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54. For a detailed description of how to place material on the Internet, see David P. Vandagriff, *Marketing in Cyberspace*, A.B.A. J., July 1995, at 84.

55. A Net Search is a command using Netscape server software. To do a Net Search, the user simply types in a key word or words and the network searches the entire Internet database until it finds a match. A "search result" then appears on the screen, in seconds, listing all of the sites that contain the information for which the user was searching. Search tools are more generically referred to as "browsers."

56. There are of course, several technical drawbacks that inhibit whole-album copying at this early stage. Without a high-baud server, it would take hours to copy an entire album onto a computer and enormous amounts of computer memory. Compression systems are already available, however, that increase both speed and memory. Streaming (continuous delivery) audio technology is available to enable a listener to hear a song in real time, as it is being downloaded into the computer, such as Internet Wave 1.0 from VocalTec (see <http://www.vocaltec.com>), RealAudio 2.0 from Progressive Networks (see <http://realaudio.com>), and StreamWorks from Xing Technology Corp (see <http://xingtech.com>).

Frustrating technological glitches are quickly being accounted for and in the near future large volume copying will be easy and efficient. While most home Internet users now dial up over sluggish analog telephone lines, phone and cable companies are starting to offer high-speed alternatives. Katie Hafner & N'Gai Croal, *Getting Up to Speed*, NEWSWEEK, March 4, 1996, at 46. For example, a copperwire phone line transmits 14.4 kilobits per second, which requires about 9.7 minutes to download a one-megabyte file. Coaxial cable, common to most television owners, can transmit 10,000 kilobits per second and can download a one-megabyte file in 0.8 seconds. *Id.* These dedicated cable lines will begin reaching homes in 1996, with an estimated 6.9 million homes being cable ready by the year 2000. *Id.* at 47.

57. The computer's "sound card" is equipped with audio in/out ports. Through these ports the computer may be attached to stereo line in/out ports and the audio transfer can be completed relatively cheaply. A company called Digital Audio Labs in Minnesota makes two cards that convert a personal computer into a digital recorder/player. The computer will interface directly with a DAT recorder. This is high-end hardware costing about \$1,200 for the total package. DAT decks, first available in the U.S. for around \$900, are now available for around \$650.

owners of the copyright to the album. She could, in fact, make endless (and perfect) copies of the album off of her computer and, theoretically, distribute them to as many other would-be paying consumers as she wished.

### *E. Legal v. Illegal Activity*

With respect to music recordings, copyright holders have the exclusive rights to reproduce the work, prepare derivative works, distribute the work to the public, perform the work publicly, and display the work.<sup>58</sup> The copyright holder also enjoys the exclusive right to authorize others to exercise one or all of these rights.<sup>59</sup> One of the most fundamental requirements of the Copyright Act is that the work of authorship must be “fixed in a tangible medium of expression.”<sup>60</sup> This has been a central concern with regard to copyrighted works being transmitted by computers and phone lines. Exactly what constitutes a “tangible medium” is not defined by the Copyright Act. Nevertheless, the most recent revisions to the Copyright Act have recognized the protectability of works being transmitted by computers -- despite this technical conundrum.

For the present time, it appears that most downloaders are doing so for their own uses.<sup>61</sup> Downloading music fans, like the individual described above, are more likely to copy music for their own use rather than bother trying to turn an illegal profit by selling copies to others. At this stage, the equipment investment is quite high<sup>62</sup> and the amount of music to copy from the Internet and sell is comparatively low. Home taping will likely be limited to personal use. Only the downloader’s conscience will determine whether she takes music off of the Internet for free. Music floating through phone lines may seem as free as the radio broadcasts flowing through the airwaves.

Uploading, however, is not so forgivable. Those individuals who upload music on the Internet do so not necessarily for economic gain, but because they are fascinated by the technology and are interested in communicating with individuals with common interests.<sup>63</sup> Nevertheless, even as the global community develops in cyberspace, this community will never bond to the intimate level of family or

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58. 17 U.S.C. § 106 (1994).

59. *Id.*

60. 17 U.S.C. § 102(a) (1994). (See BRUCE A. LEHMAN, *INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE, A PRELIMINARY DRAFT OF THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 11* (1994)(The Green Paper).)

61. No reported case to date has involved the illegal distribution of copyrighted music in which the infringer used an interactive network to acquire or distribute the copyrighted work.

62. *See supra* note 57.

63. *See* Donald K. Ghostlaw, *Intellectual Property Meets the Internet*, CONN. L. TRIB., Oct. 16, 1995, at S4. “The Internet community, comprised principally of people who are not IP experts and people from countries with different standards than those in the United States, have historically considered all property available on the Net to be free of charge and free to use.” *Id.*

friends.<sup>64</sup> It is still a small world, after all, and the Internet is still very much a public forum and posting full-length albums on a web site is an illegal public performance of the work.<sup>65</sup> Music could be transmitted via computers between social acquaintances and family if the transmission was restricted only to these persons.<sup>66</sup> This “gathering” is not so public that it implicates public display,<sup>67</sup> but once access is unrestricted, the Copyright Act has been violated. Only respective copyright owners and licensees may lawfully post music on an interactive network.<sup>68</sup>

Digital technology and interactive networks are already being employed legally by many copyright owners and licensees. Sony Music Corporation has a web site which offers clips of songs used to promote the new releases of its artists.<sup>69</sup> The Rolling Stones have a home page at which they offer band information and sound clips of new and previous releases.<sup>70</sup> It is thus very likely that the Internet or other interactive services will become common performance and distribution channels

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64. A work is performed “publicly” if it is performed or displayed “at a place open to the public or at any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered.” 17 U.S.C. § 101 (1994) (defining “to perform or display a work ‘publicly’”). The first category is self-evident; it is a place “open to the public.” The second category is determined by the size and composition of the audience. The legislative history indicates that this second category was added to expand the concept of public performance by including those places that, although not open to the public at large, are accessible to a significant number of people. *See* H.R. Rep. No. 1476 (1976), 94th Cong., at 64 reprinted in 1976 U.S.C.C.A.N. 5659, 5677. The Internet is a semi-public place that fits within the second category. As such, the size and composition of the audience aids in determining whether public performance has occurred. Because the Internet is used by millions of virtual strangers, an Internet music posting is clearly a public performance of the underlying work.

65. 17 U.S.C. § 101 (1994).

66. *Id.*

67. Similar situations involving the determination of what becomes a “public performance” were addressed in *Columbia Pictures Industries, Inc. v. Redd Home, Inc.*, 749 F.2d 154 (3d Cir. 1984) (court held that defendant movie rental business’ activities in exhibiting videocassettes of plaintiff’s films for a fee in private booths constituted public performances and were an infringement), and *Professional Real Estate Investors, Inc. v. Columbia Pictures Industries, Inc.*, 944 F.2d 1525 (9th Cir. 1991) (resort hotel operators transmitted copyrighted movies into private rooms of hotel guests, Ninth Circuit held that hotel room was private place akin to the home and thus no infringement of defendant’s copyright).

68. 17 U.S.C. § 106 (1994). Because § 106 grants the copyright owner the *exclusive* right to perform or distribute his work or to grant a license to others, only the owner or licensee may post music on the Internet because such activity constitutes both a performance and distribution of the work.

69. *Sony Online* (visited Nov. 12, 1996) <<http://sony.com>>. The site offers company information and interesting hyperlinks to every medium Sony touches, including music, games, motion pictures and electronics.

70. *Welcome to the Voodoo Lounge* (visited Nov. 12, 1996) <<http://www.stones.com>>.



for music in the future.<sup>71</sup> Indeed, the music stores of today may disappear altogether or at least remain attractive only to those without access to a computer or traditionalists who simply cannot forego the experience of walking into a store and touching the merchandise.

The ease with which budding musicians can take advantage of this technology is cause for concern among the holders of copyrights in musical works. Networks like the World Wide Web enable small record companies and unknown musicians to enter the music market against the giants in the industry.<sup>72</sup> Compared to television and other traditional media, establishing a web site is an inexpensive and simple means of exposing musical works to the public. Jeff Smith, a guitarist for the Washington, D.C. based band Action Figures, uses his web site to play song samples and offers the band's CDs through the mail; his site receives 200 "hits" from Net Surfers per day.<sup>73</sup>

In this respect, the Internet is becoming a marketing tool which could theoretically displace "middleman" services like ASCAP, BMI and other licensing organizations, at least insofar as these groups are viewed as the only way to mass market new music.<sup>74</sup> Likewise, the ability of recording artists to promote and distribute their works via digital technology and interactive networks could displace the need for record labels and conventional record promoters.

## II. THE COPYRIGHT ACT MEETS THE DEMANDS OF COPYRIGHT HOLDERS IN MUSICAL WORKS DESPITE TECHNOLOGICAL CHANGE

In the historical, traditional sense, property concerned ownership of tangible things like land, known as "real" property, and horses or plows or clothing, known

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71. These distribution channels are already forming. *CDNow* (visited March 3, 1996) <<http://cdnow.com>> offers customers 165,000 music selections from which to choose. Customers can order music in CD, vinyl disk or cassette form. The site offers artist reviews and biographies. CDNow receives over 10,000 visits per day and places 8,000 orders per month. Vic Sussman & Kenneth Pollack, *supra* note 20, at 79. A link to the CDNow site offers free song and full-album listening, which can presumably be downloaded by the consumer. *Interjoke* (visited November 13, 1996) <<http://interjoke.com>>. Tower Records has set up an Internet site to attract telephone customers. *Tower Records* (visited March 3, 1996) <<http://www.eshop.com/eplaza/merchants/tower.html>>. Tower Records is reported to be selling product worth \$4,000 to \$6,000 per day. *Lower MC Sales Bring Slower Growth in U.S. Soundcarrier Market*, MUSIC & COPYRIGHT, Sept. 7, 1995, at 8.

Eventually, the Internet will be used not only for marketing music to the consumer, but distributing the music as well, by enabling (and authorizing) the customer to download the music in digital format onto his computer or to hard copy format via conventional recording devices.

72. Vic Sussman & Kenneth Pollack, *supra* note 21, at 79.

73. *Id.* *Action Figures* (visited Nov. 13, 1996) <<http://www.eggbert.com/home/eggbert>>. A "hit" is the term for when a netsurfer visits a given site.

74. See *infra* note 151 and accompanying text.

as “personal” property. These things were easily conceptualized and concrete.<sup>75</sup> As industrialized nations developed, the notion of property grew to cover certain intangibles as well, namely patents, trademarks and copyrights. From the recognition of these forms of “intellectual property” developed a complex statutory framework to protect those who own them.<sup>76</sup>

Prior to Gutenberg’s printing press, copyright law was not necessary. The ability to mass produce copies of original works was simply too time consuming to be profitable to would-be infringers. “The ability to mass produce books via the printing press ushered in the need for copyright protection and an accompanying enforcement scheme.”<sup>77</sup> The construction of the Information Superhighway is the next great advance in communication that has prompted the need for yet another evaluation of the adequacy of protection available to copyright holders.

Congress began to update the law with the Audio Home Recording Act of 1992,<sup>78</sup> in light of recent advances in digital technology. Interactive technology was seriously considered for the first time when Congress enacted the Digital Performance Rights in Sound Recordings Act of 1995.<sup>79</sup> It is important to note, however, that while this Act addressed the concerns of copyright owners in sound recordings, other works of authorship may be left stranded on the Information Superhighway without legislative recognition. None of the amendments included in the Digital Performance Rights in Sound Recordings Act of 1995 appear to contemplate protecting the transmission or downloading of other protectable works, like motion pictures or software.<sup>80</sup> These concerns are addressed by the

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75. Don E. Tomlinson, *Journalism and Entertainment as Intellectual Property on the Information Superhighway: The Challenge of the Digital Domain*, 6 *STAN. L. & POL’Y REV.* 61 (1994).

76. The origins of federal protection for works of intellectual property are traceable to Article I, Section 8, Clause 8 of the United States Constitution: “Congress shall have the power . . . 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.” Clause 8 is the source of federal patent and copyright legislation.

77. Don E. Tomlinson, *supra* note 75, at 62.

78. Pub. L. No. 102-563, 106 Stat. 4237 (1992). *See infra* note 85 and accompanying text.

79. Pub. L. No. 104-39, 109 Stat. 336 (1995). *See infra* note 99 and accompanying text.

80. *See* Kenneth D. Solomon & Michael J. Pierce, *supra* note 24.

“The Copyright Act does not explicitly recognize that copyrighted works may be distributed via a digital network without a physical copy ever changing hands. For example, if an Internet subscriber downloads a piece of software onto a computer hard disk without permission, it is unclear whether or not a copy has been illegally “distributed.” More importantly, it is not clear that the owner of the software could avail himself or herself to the legal remedies under the Copyright Act if, in fact, the downloading was unauthorized. [S]imilarly, as writers, photographers and other authors become increasingly aware of their electronic rights, they will not readily sign away their publication rights ‘in perpetuity, for all media now known or hereafter devised.’” *Id.* These commentators advise that the Copyright Act will need to be revised to fully address all types of copyrighted works with respect to interactive networks.

*See also* 17 U.S.C. § 114(j)(3) (1995) (“‘Digital audio transmission’ . . . does not include the transmission of any audiovisual work.” *Id.* The relevance of this distinction is that while sound recordings are protected individually, the use of the sound recording as a part of a movie

pending National Information Infrastructure Copyright Protection Act of 1995.<sup>81</sup>

The Copyright Act has always lagged behind technology and copying trends since its enactment in 1909.<sup>82</sup> The disparities between the written words of the Act and infringing technologies are further amplified by the large-scale public disregard for the Copyright Act. Mimeograph machines, video cassette recorders and various audio recording devices have legitimized the public notion that copying a protected work is not the same as stealing it from a retail outlet. Today, the consumer can violate the Copyright Act by performing and distributing sound recordings to the public; all from the comfort of his own living room.

#### *A. The Audio Home Recording Act of 1992 and Frank Music: Copyright Protection Expands in the Digital Age*

Only one case to date has addressed the copyright implications of transmitting music over the Internet. In *Frank Music Corp. v. CompuServe, Inc.*, a class action suit was filed on behalf of more than 140 music publishers against the defendant, an online computer network, alleging that it allowed unauthorized copies of “Unchained Melody” and 900 other songs to be posted on its server.<sup>83</sup> CompuServe settled the suit in 1995, agreeing to require bulletin board operators to obtain licenses to use songs on the Internet, and paying \$568,000 to music publishers for the online services’ prior use of the copyrighted songs.<sup>84</sup> Since the case settled out of court, *Frank Music* raised but did not resolve how the Audio Home Recording Act of 1992 would have affected the determination of the case.

or television program is left without protection if such a work were to be broadcast over the Internet. The legislative history states that “nothing in this bill creates any new copyright liability with respect to the transmission of a motion picture or other audio visual work . . . whether interactive or non-interactive.” Pub. L. No. 104-39, 109 Stat. 336 (1995).

81. H.R. 2441, 104th Cong. (1995). The Digital Performance Rights in Sound Recordings Act of 1995 was limited by design to the rights in sound recordings. Pub. L. No. 104-39, 109 Stat. 336 (1995). The NII Act addresses the copyright issues of all works of authorship, usually by adding “or by transmission” to relevant statutory provisions.

82. Jukebox owners benefitted from an exemption for performances in penny-parlors granted by the 1909 Copyright Act. Prior to the enactment of the 1976 Copyright Act, Herman Finkelstein, the general counsel for ASCAP, testified that each year approximately 500,000 jukebox machines capture \$500 million in revenue with no royalties flowing back to the copyright owners. See William H. O’Dowd, *The Need for A Public Performance Right In Sound Recordings*, 31 HARV. J. ON LEGIS. 249, 253 (1994).

83. *Frank Music Corp. v. CompuServe, Inc.*, No. 93 Civ. 8153 (JFK) (SDNY 11/29/93). Other cases have addressed similar Internet issues with respect to other types of copyrightable material. See *Sega Enterprises Ltd. v. Maphia*, 857 F. Supp. 679 (N.D. Cal. 1994) (Internet bulletin board service operator found liable for posting of computer games by its subscribers); *Playboy Enterprises v. Frena*, 839 F. Supp. 1551 (M.D. Fla. 1993) (bulletin board service sued when Playboy discovered 170 instances where its copyrighted photographs were placed on the bulletin board).

84. *In The News*, 17 ENT. L. RPTR. Dec. 1995, at 22. For the details of this online license agreement, see *infra* note 153 and accompanying text.

In 1992, Congress enacted the Audio Home Recording Act (“AHRA”) to address the issue of home taping of copyrighted music and to establish a framework for insuring that royalty payments are made to holders of copyright in musical works, in light of recent advances in digital technology. The music industry estimates that it loses millions of dollars in revenue per year as a result of consumer copying of musical works.<sup>85</sup>

The Act was legislated largely in response to the controversy surrounding home copying of audiovisual works using video cassette recorders (“VCRs”), which was litigated in the case of *Sony Corporation of America, Inc. v. Universal City Studios, Inc.*<sup>86</sup> *Sony* involved a suit for copyright infringement against the manufacturer of the Betamax videocassette recorder for “time-shifting” of free, over-the-air broadcast programming by consumers.<sup>87</sup> *Sony* coincided with the introduction of digital audio recording technology, initially in the form of compact discs. “Because CDs could not be recorded over, they did not pose a significant home taping issue. The situation changed in 1987 with the development of digital audio tape (“DAT”) machines. Because of the digital nature of the medium, record companies believed that perfect serial copies of DAT tapes could be made.”<sup>88</sup>

Just like in *Sony*, the AHRA included an exemption from copyright infringement for consumers engaging in noncommercial copying of digital or analog music.<sup>89</sup> Consumers are therefore free to make a copy of an original recording for home use,

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85. See Melville B. Nimmer, *Copyright Liability for Audio Home Recording: Dispelling the Betamax Myth*, 68 VA. L. REV. 1505, 1530 (1982)(citing studies that show losses from home taping result in hundreds of millions of dollars lost in revenue to the record industry).

86. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984). “Although the precedential value of *Sony* for audio home taping was sharply debated, the Court’s ruling led to calls for a royalty regime for both video and audio works.” H. Rep. No. 102-873(1), at 6, (1992), *reprinted in* 1992 U.S.C.C.A.N. 3578, 3580.

87. *Sony*, 464 U.S. 417 (1984). The court held that the sale of VCRs to the public does not constitute contributory infringement of copyright. *Id.* at 456.

88. H. Rep. No. 102-873(1), at 6, (1992), *reprinted in* 1992 U.S.C.C.A.N. 3578, 3582. (“Negotiations between hardware manufacturers [and record companies] to include copy protection circuitry were unsuccessful. . . . [A]t this point, the record companies sought their own technological solution,” in the form of the CBS Copycode System.) The CBS Copycode System would remove a portion of the audio signal in order to prohibit the reproduction of copyrighted sound recordings and musical compositions embodied therein. Independent testing of the system, however, revealed that the system adversely affected the quality of the sound, occasionally failed to prevent copying and could easily be circumvented. *Id.* at 3579. In response to the deficiencies in the CBS System, the Serial Code Management System (“SCMS”) was developed. Instead of altering the audio signal, SCMS involves encoding copyright information on the first copy of a digital musical recording. *Id.* Congress supported the use of this technology and incorporated it into the Copyright Act, at 17 U.S.C § 1002 (1992). As expected, devices have been developed which are designed to defeat the SCMS. See *infra* note 169 and accompanying text.

89. 17 U.S.C. § 1008 (1992).

but may not make a copy of a copy.<sup>90</sup> Perhaps the proponents of the bill contemplated, as a premise to the home use exemption, that the copying individual had purchased at least one original version of the musical work for himself, thereby contributing to the royalty scheme in place to compensate the copyright holders. This, however, is not the case when considering home copying off of an interactive network. One individual has indeed purchased an original version of the work, but he then makes it available to a million people, all at once, who are free to copy the work for themselves. This activity is akin to an individual placing a book on her front porch and offering to passersby the opportunity to take the book for a moment and make their own copy.

This shortcoming in the AHRA was illustrated in *Frank Music* when the defendant raised the home taping exemption as an affirmative defense.<sup>91</sup> While § 1008 could be stretched to shield downloaders, it is doubtful that the home taping exception would shield from liability those who upload the music. Uploading music onto the Internet should constitute a “public performance,” which is in violation of the copyright holder’s exclusive rights pursuant to the Copyright Act.<sup>92</sup>

Whether or not the judiciary would find the defense to be convincing remains to be seen since the case settled out of court prior to judicial determination. The AHRA was passed prior to *Frank Music* and prior to the general awareness that Internet music transmissions were taking place. The language of the Act, however, contemplates technology like interactive networks, primarily in its principal definitions that describe the types of machines and devices with which the bill’s proponents were concerned.<sup>93</sup>

For example, a “digital audio copied recording” is a reproduction in digital format of a digital musical recording, whether that reproduction is made directly from another digital musical recording or indirectly from a *transmission*.<sup>94</sup> Both uploading and downloading of music using a computer would fall within this definition.

Additionally, a “digital audio interface device” is any machine or device that is designed specifically to communicate digital audio information and related data to a digital audio recording device through a nonprofessional interface.<sup>95</sup> Such a description would encompass technology like computer modems and CD-ROM

90. This is known as “serial copying,” defined as “the duplication in a digital format of a copyrighted musical work or sound recording from a digital reproduction of a digital musical recording.” 17 U.S.C. § 1001(11) (1992).

91. See Defendant’s Answer at 4, *Frank Music*, 93 civ. 8153 (JFK)(fifth affirmative defense). It is unclear how CompuServe planned to use the home taping exception; the exception relieves from liability only those who tape for private, *noncommercial* use.

92. 17 U.S.C. § 106(4) (1994). At this point, prior to the Digital Performance Rights in Sound Recordings Act of 1995, only the copyright holders in “musical works” could enforce the right to control public performance. Thus the *Frank Music* plaintiffs, who are music publishers, could enforce this right against CompuServe. For the distinction between musical works and sound recordings, see *infra* note 102 and accompanying text.

93. 17 U.S.C. § 1001 (1994).

94. § 1001(1)(emphasis added).

95. § 1001(2).

drives, and could be read to include the MIDI software that enables the computer to convert music to and from digital format. These analogies may seem tenuous, which is one of the shortcomings of the AHRA with respect to interactive technology in that such networks may not have been fully contemplated or understood at the time of the drafting of these definitions.

An argument could be made on behalf of uploaders that the AHRA does in fact shield them from liability. Section 1008 establishes that “no action may be brought under this title alleging infringement of copyright based on the . . . *noncommercial* use by a consumer of such a device or medium for making digital music recordings or analog recordings.”<sup>96</sup> Uploaders would argue that they are not receiving compensation for putting music on the Internet, that they are merely copying onto the computer network a copy of the original that they purchased. The public/private place distinction becomes critical here. Regardless of commercial intent, a noncommercial public display of a copyrighted work should not be protected by § 1008. Noncommercial “home taping” is a private activity. But posting a compact disc to an Internet site implicates the exclusive right of public performance.

Strictly viewed as merely “copying for home use,” such a defense could serve to shield uploaders from liability under § 1008. However, assigning a web address to a musical work and thereby exposing the work to the Internet goes much farther to implicate the exclusive rights of the copyright holder to control the public performance and distribution of her works.<sup>97</sup> Such activity is much more culpable than simply loading an album onto the hard drive of a private home computer. The new Digital Performance Rights in Sound Recordings Act of 1995 eradicates any uncertainty regarding whether placing a musical work on the Internet implicates the rights granted by § 106.<sup>98</sup>

### *B. The Digital Performance Rights In Sound Recordings Act of 1995*

The purpose of enacting the Digital Performance Rights in Sound Recordings Act was to ensure that performing artists, record companies and others whose livelihoods depend on effective copyright protection for sound recordings will be protected as new technologies affect the ways in which their creative works are used.<sup>99</sup> The Act accomplishes this by granting a limited right to copyright owners of sound recordings which are publicly performed by means of a digital

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96. 17 U.S.C. § 1008 (1994)(emphasis added).

97. 17 U.S.C. § 106 (3) & (4) (1994). Many computers on the market have sound capabilities. It is a common feature which enables computer users to play music through the computer while working in other applications. Loading a copy of a CD into a computer, for this purpose, should

be considered a noninfringing copy per § 1008. Assigning a web address, however, “publishes” the work and infringes the copyright.

98. 17 U.S.C. § 106 (1994).

99. H.R. No. 274, 104th Cong. (1995).

transmission.<sup>100</sup> While the granting of the performance right to sound recordings is indicated in the name of the Act, the Act goes beyond performance and actually grants a digital transmission distribution right as well.<sup>101</sup>

### 1. *The Difference Between Musical Works and Sound Recordings*

Copyright protection subsists only in original works of authorship.<sup>102</sup> Section 102 of the 1976 Copyright Act lists eight categories which constitute “works of authorship.” Among these are “musical works” and “sound recordings.”<sup>103</sup> The distinction between the two is illustrative of the ongoing battle to deny or provide for a public performance right in sound recordings.<sup>104</sup>

A musical work consists of the instrumental component, the “tune” or musical notes, plus any accompanying words or lyrics created by the composer.<sup>105</sup> For example, the sheet music to Pearl Jam’s song “Evenflow” would constitute a musical work. A sound recording is defined by the Copyright Act as “works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied.”<sup>106</sup> Once “Evenflow” is recorded onto a master tape or compact disc, a sound recording has been created.

The result of this distinction is that musical performers and record companies, unlike songwriters, composers, music publishers, and all other owners of a right in copyrighted music, traditionally had no rights to authorize or receive compensation for the broadcast or other public performance of their copyrighted sound recordings.<sup>107</sup> This seemingly imbalanced distribution of rights and accompanying revenues stemmed from the belief that sound recording copyright holders did not need a performance right since they received adequate compensation in the form of

100. *Id.*

101. 17 U.S.C. § 115(d) (1995). *See infra* note 124 and accompanying text.

102. 17 U.S.C. § 102(a) (1988 & Supp. V 1993).

103. *Id.*

104. The history of the legislative attempts to grant a performance right in sound recordings is discussed *infra* at note 109 and accompanying text.

105. Jay L. Bergman, *Digital Technology has the Music Industry Singing the Blues: Creating a Performance Right for the Digital Transmissions of Sound Recordings*, 24 SW. U. L. REV. 351, 354 (1995) (citing 1 PAUL GOLDSTEIN, COPYRIGHT PRINCIPLES, LAW AND PRACTICE § 2.8 (1989)). Section 101 of the Copyright Act does not include a definition of “musical work.”

106. 17 U.S.C. § 101 (1988 & Supp. V 1993).

107. *See* William H. O’Dowd, *supra* note 82, at 249. Ownership of copyright in a protected work initially vests in the author or author of the work; in the case of musical works, the initial owner is typically the lyricist or composer. In the music industry, it is common that this initial ownership is transferred to a record company. *See* SIDNEY SHELLE & M. WILLIAM KRASLOVSKY, THIS BUSINESS OF MUSIC 12 (6th ed. 1990). The composer then is limited, by contract, to receive only compensation and royalties, with no rights to the physical copies or masters in which the musical work is embodied. *Id.*

traditional record sales.<sup>108</sup> As advances in duplicating technology threatened to erode this source of income for the copyright holder, the century-long battle for the performance right in sound recordings ignited once again.

## 2. *The Sound Recording Gets a Performance Right*

Sound recordings were first granted federal copyright protection by the Sound Recordings Act of 1971.<sup>109</sup> The debate over the lack of a performance right in sound recordings dates back as early as the 1920s.<sup>110</sup> Congress and the courts traditionally withheld the granting of this right on the presumption that the granting of the exclusive rights of reproduction, distribution, and adaptation provided adequate protection and sufficient revenues.<sup>111</sup> Recent advances in technology convinced Congress unequivocally that the time had come to reconsider the granting of a performance right in sound recordings.<sup>112</sup> Congress began to recognize the vitality and growth of digital transmission services like “music-on-demand” and “pay-per-listen.” Congress predicted that interactive services are most likely to have a significant impact on traditional record sales and therefore pose the greatest threat to the livelihood of those whose income depends on revenues derived from traditional record sales.<sup>113</sup> In recognition of this potential for impact on revenues, Congress specifically excluded interactive services from

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108. H.R. No. 274, 104th Cong. (1995).

109. Sound Recording Act of 1971, Pub. L. No. 92-140, 85 Stat. 391 (1971), *amended by* Pub. L. No. 93-573, 88 Stat. 1873 (1974)(codified as amended at 17 U.S.C. § 102 (1988 & Supp. V 1993)). The Act had the specific purpose of preventing phonorecord piracy due to advances in duplicating technology.

110. H.R. No. 274, 104th Cong. (1995). Strong opposition from the broadcast industry threatened the passage of the 1971 Act. As broadcasting became more important to the music industry, there was an increase in efforts to secure sound recording copyright protection and corresponding opposition by broadcasters and music publishers. Les Watkins, *The Digital Performance Right in Sound Recordings Act of 1995*, 13 ENT. & SPORTS LAW. 1, 19 (Winter 1996)(includes comprehensive review of the history and arguments relating to the granting of the performance right).

111. H.R. No. 274, 104th Cong. (1995).

112. In the wake of the 1991 Copyright Office study on digital audio transmission services, the House of Representatives held an oversight hearing during the first session of the 103rd Congress regarding sound recording performance rights. In the second session, Senators Orrin Hatch and Diane Feinstein introduced S. 1421 which provided for an exclusive right to perform sound recordings by means of a digital transmission (with a companion House bill). Although the proposed right was limited, interested parties including representatives of broadcasters and of the recording industry proposed further amendments to these bills, and they were withdrawn at the end of the session. Prior to that, most parties did come to a compromise on May 11, 1994, but did not come to a final agreement. On January 13, 1995, Senators Hatch and Feinstein introduced S. 227, a new version of this legislation. The bill reflected some of the May 11, 1994 compromises. On August 8, the Senate passed S. 227 by unanimous consent. On September 12, 1995 the House Judiciary Committee passed H.R. 1506 by a recorded vote of 29 to 0 in favor of the bill. H.R. No. 274, 104th Cong. (1995).

113. *Id.*



the limitations placed on the new exclusive performance rights in sound recordings.<sup>114</sup>

Section 106 of the Copyright Act was amended by adding a new exclusive right giving copyright owners of sound recordings the right to perform their work publicly by means of a digital audio transmission.<sup>115</sup> A “digital audio transmission” is a “transmission in whole or in part in a digital or other non-analog format.”<sup>116</sup> To “transmit” a performance or display is to communicate it by any device or process whereby sounds or images are received beyond the place from which they are sent.<sup>117</sup> Thus, uploading music onto an interactive network, like the Internet, for downloading by others, clearly fits the applicable definitions in the copyright law as amended by the 1995 Act, since sounds received by the downloader’s computer did not originate there.

An “interactive service” is defined in § 114(j)(4) as a service that enables a listener “to receive, on request, a transmission of a particular sound recording.”<sup>118</sup> The legislative history gives the example of “audio-on-demand” and “pay-per-listen” services, but notes that the term would also apply to an “on-line service that transmits recordings on demand, regardless of whether there is a charge for the service or for any transmissions.”<sup>119</sup>

The Internet is an interactive service. Music uploaded and posted on the Internet is essentially available “on request.” The listener requests the song by clicking on the song’s name or similar identifying icon. The song is then downloaded to the listener’s computer and he may listen to it or copy it at will. Furthermore, Congress denotes the Internet as a “digital audio mechanism” in § 114(j)(8).<sup>120</sup>

Under existing principles of copyright law, the transmission or other communication to the public of a musical work constitutes a public performance of that musical work.<sup>121</sup> The Internet and other similar interactive networks to come should be recognized as media which communicate information to the general public. While the end-user on the Internet must seek out the musical works available therein, this process is no different than changing the channel on the

114. 17 U.S.C. § 114 (1988) outlines the scope of exclusive rights in sound recordings. These exclusive rights include only those given by § 106(1), (2), (3) and (6). Exemptions from the new limited right to public performance by means of a digital transmission are found at § 114(d)(1). These exemptions were designed to ensure that traditional “nonsubscription transmissions” like radio or television broadcast would not be subject to the new right. Such entities would not be subject to any new provisions requiring royalty payments to copyright holders in sound recordings. Public performances as a part of an interactive service are not exempted from the exclusive right to public performance granted by this section.

115. 17 U.S.C. § 106(6) (1995).

116. 17 U.S.C. § 101 (1994).

117. § 101.

118. 17 U.S.C. § 114 (1988). This does not include requests made when a caller contacts a radio broadcast station and requests that the station plays a song as a special request in addition to its predetermined play schedule.

119. H.R. No. 274, 104th Cong. (1995).

120. *Id.*

121. *Id.*

television or scanning through radio broadcasts to find a jazz station. The act of making music available via the Internet should be considered a public performance of that musical work.<sup>122</sup>

Congress directly addressed the type of copying at issue with respect to interactive networks. The legislative history notes that “the digital transmission of a sound recording that results in the reproduction *by or for* the transmission recipient of a phonorecord of that recording implicates the exclusive rights to reproduce and distribute the sound recording and the musical work embodied therein.”<sup>123</sup>

This intent appears to address the activities of both the uploader and downloader of sound recordings off of the Internet. When an individual uploads a song onto the Internet, there is no conceptual reason for doing so other than to make the song available to other Internet users. It cannot be seriously argued that the uploading was done for any reason other than to provide a reproduction *by or for* a transmission recipient. Even if the uploader makes a song available intending only that the recipient listen to the song, a reproduction has still been made by the recipient’s computer, thereby violating the copyright holder’s right to control public performance. In order for the user to hear the song, the computer must make a copy to the hard drive to convert the file [or read it] in (.au) format. Liability for violation of the distribution right is also much clearer if the transmission recipient saves the song on the computer or makes a hard copy from the Internet transmission.

### 3. *Creating a Right to Distribute Music by Digital Transmission*

The Digital Performance Rights in Sound Recordings Act of 1995 granted more than a performance right; it also expanded the exclusive right to distribute music to include distribution via digital transmission. Performance and distribution take place simultaneously during a digital transmission; separating the two for purposes of ascertaining licensing fee management proved difficult yet necessary for the drafters of the Act.<sup>124</sup> The digital distribution of a musical recording is called a

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122. See 17 U.S.C. § 101 (1988). (“To perform or display a work “publicly” means— (1) to perform or display it at a place open to the public or at any place where a substantial number of persons outside of a normal circle of family and its social acquaintances is gathered; or (2) to transmit or otherwise communicate a performance or display of the work to a place specified by clause (1) or to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times.”)

123. H.R. No. 274, 104th Cong. (1995)(emphasis added). (“New technological uses of sound recordings are arising which require an affirmation of existing copyright principles and application of these principles to the digital transmission of sound recordings, to encourage the creation of and to protect rights in those sound recordings and the musical works they contain.”)

124. Lionel S. Sobel, *A New Music Law for the Age of Digital Technology* 17 ENT. L. RPT.R., Nov. 1995, at 8. (The distinction was necessary because mechanical licensing fees are greater than public performance fees. Further, performance licenses are issued by ASCAP, BMI and SESAC, while mechanical licenses are issued by Harry Fox Agency or by music publishers

“digital phonorecord delivery.”<sup>125</sup> The Act defines a digital phonorecord delivery as a “digital transmission of a sound recording which results in a specifically identifiable reproduction” of the recording, but “not a real-time, noninteractive subscription transmission where no reproduction . . . is made . . . in order to make the sound recording audible.”<sup>126</sup>

When a song is uploaded into a computer and subsequently assigned a web address, a reproduction has been made. Fixation in tangible form is no longer required. This is because once the work is loaded into the computer, the CD can be removed from the CD-ROM drive and a copy of the recording still exists in the computer. Also, the computer converts musical signals to (.au) format to make the work audible for the downloader. It follows, then, that a distribution of a musical recording has taken place for which royalties must be paid to the copyright holder or licensee.<sup>127</sup>

Individuals who upload music onto the Internet should reconsider the legality of what they are doing, regardless of the intent. Even the novice netsurfer who loads up her web site with music just for fun is subject to severe penalties pursuant to the Copyright Act.<sup>128</sup> There appears to be no provision in the Act which either explicitly or by interpretation places liability on those who download music from an interactive network. Indeed, it is technologically and practically impossible to track down individuals who visit an Internet site and download a song. It is much easier to police the information superhighway for the illegal sites themselves. The Digital Performance Rights in Sound Recordings Act of 1995 incorporates the remedies for infringement found in Chapter 5 of the Copyright Act into the bundle of limited rights extended to public performance of digital transmissions.<sup>129</sup>

Section 503 allows for the impounding and destruction or other reasonable disposition of “all copies or phonorecords claimed to have been made or used in violation of the copyright owner’s exclusive rights, . . . or other articles by means of which such copies or phonorecords may be reproduced.”<sup>130</sup> This section would seem to allow for the impounding and destruction of the *downloader’s* modem, personal computer, audio recording devices and hard copies of any sound recordings she received through an interactive network. Liability could theoretically be placed on the phone company providing telecommunications

directly.)

125. 17 U.S.C. § 115(d) (1995).

126. *Id.* at § 115(d).

127. 17 U.S.C. § 115(e)(3)(A)(i) (1995). (The fee to be paid for a digital phonorecord delivery is that which is now payable for the right to distribute CDs and audiocassettes.)

128. Provided that the copyright owner has properly registered the work of intellectual property with the Register of Copyrights, an act for infringement may instituted under § 501 et seq. of the Copyright Act. 17 U.S.C. § 411 (1988). Remedies for infringement include injunctive relief, 17 U.S.C. § 502 (1988); impounding and disposition or destruction of infringing materials, including all articles by means of which such copies were reproduced, 17 U.S.C. § 503 (1988); statutory damages up to \$100,000 or actual damages and profits, 17 U.S.C. § 504 (1988); and costs and attorneys fees, 17 U.S.C. § 505 (1988).

129. 17 U.S.C. § 114(j)(3)(H) (1995).

130. 17 U.S.C. § 503 (1988).

devices and services. Notwithstanding the impossibility of locating all such infringing persons and devices, reasonableness and public policy would likely dissuade copyright owners from confiscating the personal property of every individual who downloaded an illegal transmission of a copyrighted work. Corporate attacks on the music-buying public would also amount to a public relations nightmare.

*C. The National Information Infrastructure Copyright Protection Act of 1995*

The amendments to the Copyright Act by the Digital Performance Rights in Sound Recordings Act of 1995 have welded into place the appropriate statutory basis from which to place liability on those who perform or display music to the public via interactive networks. Still, members of Congress are pushing for further revisions to the Act which would unequivocally recognize the proposed National Information Infrastructure Copyright Protection Act of 1995 ("NII Act") as a safe haven for works of intellectual property.

The purpose of the proposed National Information Infrastructure Copyright Protection Act is "to adapt the copyright law to the digital, networked environment of the national information infrastructure, and for other purposes."<sup>131</sup> The NII Act, based largely on a Clinton Administration white paper, reflects the collective input of the Administration, the Congress and the private sector on protecting intellectual property on the Internet.<sup>132</sup>

The NII Act has been the subject of heated debate, pitting the movie and music industries against the consumer-electronics, computer and Internet groups.<sup>133</sup> While the former favors quick adoption, the latter seeks major modifications to the bill to limit liability for copyright infringement and to scale back anticopying provisions they view as too broad.<sup>134</sup>

The NII Act would amend the Copyright Act by adding at the end a new Chapter 12, which primarily addresses the use of copyright protection and management information and adds controversial criminal penalties for those who alter or circumvent such systems.<sup>135</sup> If enacted without further revisions, the bill would ban

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131. H.R. 2441, 104th Cong. (1995).

132. See The White Paper, *supra* note 24.

133. George Leopold, *Factions Feud Over Copyright Legislation*, ELECTRONICS ENGINEERING TIMES, Feb. 12, 1996, at 4.

134. *Id.*

135. "Copyright management information" is defined by the proposed new chapter as "the name and other identifying information of the author of a work, the name and other identifying information of the copyright owner, terms and conditions for uses of the work, and such other information as the register of Copyrights may prescribe by regulation." H.R. 2441, 104th Cong. (1995). (Section 1204 of the proposed chapter outlines criminal penalties for removal or alteration of copyright management information, which include fines of up to \$500,000 and up to five years in jail.)

products that could defeat copy-protection signals.<sup>136</sup> Opponents of the bill claim that the so-called circumvention provision is so broad as currently drafted that it could block the introduction of digital video recording technology and that the bill would, in effect, overturn the ruling in *Sony* that protected a consumer's right to private home recording of broadcast and cable programming.<sup>137</sup>

The bill's proponents argue, however, that the Information Superhighway will not be a success without compelling content, and that the copyright law must be extended before Hollywood and new media developers will offer their wares over the Internet.<sup>138</sup> They also urge Congress to "fast track" the passage of the bill, excluding if necessary, a provision addressing the liability of online service providers for contributory infringement.<sup>139</sup>

This, too, has Internet groups up in arms.<sup>140</sup> Proponents fear that discussion of such a provision would hinder the passage of the bill this year, suggesting that the issue should develop in the courts for another year to let policy develop.<sup>141</sup> Yet opponents of the current draft say it goes too far in protecting content providers, at the expense of distributors and users, which would discourage the development of online services or the completion of the National Information Infrastructure.<sup>142</sup>

136. H.R. 2441, 104th Cong. (1995). (The proposed § 1201: Circumvention of Copyright Protection Systems. "No person shall import, manufacture, or distribute any device, product, or component incorporated into a device or product, or offer to perform any service, the primary purpose or effect of which is to avoid, bypass, remove, deactivate, or otherwise circumvent, without the authority of the copyright owner or the law, any process, treatment, mechanism, or system which prevents or inhibits the violation of any of the exclusive rights of the copyright owner under § 106.")

This Section, if enacted, would effectively overrule a Fifth Circuit decision which held that copy protection defeating devices were noninfringing. *See* *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255 (5th Cir. 1988)(defendant's RAMKEY program was designed to "unlock" plaintiff's PROLOK program; because defendant's program did not reproduce expression from the plaintiff's program, it was noninfringing).

137. George Leopold, *supra* note 133, at 4. Jack Valenti, Chairman of the Motion Picture Association of America ("MPAA") and chief proponent of the bill, defended the circumvention provision, saying that it targets only emerging services. "We have no intention of interfering with what consumers are doing now" with VCRs, he said. *Id.*

Consumer recording rights have a voice in the Home Recording Rights Coalition ("HRRC"), a coalition of consumer groups, associations, retailers and consumer electronics manufacturers, dedicated to "preserving your right to purchase and use home audio and video recording products for noncommercial purposes." *HRRC Homepage* (visited March 2, 1996) <<http://www.access.digex.net/~hrrc/>>.

138. Leopold, *supra* note 133, at 4.

139. *Id.*

140. *House Subcommittee Considers Limited Internet Copyright Bill*, COMM. DAILY, Feb. 8, 1996.

141. *Id.* (quoting Jack Valenti, MPAA Chairman). In response, Rep. Rick Boucher (D-Va.) said that the "tortured analysis" used in one case involving a service provider led him to believe that Congress should address the issue immediately. *Id.*

142. *Id.* (quoting Edward Black, President of the Computer & Communications Industry Association).

In addition to the new § 12, which addresses copyright protection management systems, the NII Act also proposes several other conforming amendments to the Copyright Act. To the definition of “publication” in § 101 of the Copyright Act, the NII Act would add “transmission” as one of the means by which distribution constitutes a publication of a copyrighted work.<sup>143</sup> Even though the concepts of performance and distribution conceptually merge when music is uploaded onto an interactive network, this new definition would alleviate the need for an academic or technical distinction between the infringement of these two exclusive rights.<sup>144</sup>

The NII Act would amend the definition of “transmit” in § 101 of the Copyright Act by adding that “to ‘transmit’ a reproduction is to distribute it by any device or process whereby a copy of the phonorecord of the work is fixed beyond the place from which it is sent.”<sup>145</sup> Following this proposed definition, whenever a copy of a musical work is fixed (capable of being perceived) beyond the uploader’s computer, a transmission has taken place. Thus, when a netsurfer downloads a song from a web site, transmission has occurred.

The NII Act would unequivocally add the distribution of copyrighted works via interactive networks to the bundle of exclusive rights granted by § 106 of the Copyright Act. The NII Act would amend § 106(3) to include the exclusive right to distribute copies or phonorecords of the copyrighted work by transmission.<sup>146</sup>

143. 17 U.S.C. § 101 (1994)(defining “publication”). (The proposed addition to § 101 reads as follows:

“Sec. 2. TRANSMISSION OF COPIES.

(a) . . .

(b) DEFINITIONS- Section 101 of title 17, U.S.C. is amended--

(1) in the definition of ‘publication’, by striking ‘or by rental, lease, or lending’ in the first sentence and inserting ‘by rental, lease, lending, or by transmission’; . . .” H.R. 2441, 104th Cong. (1995)).

144. In the future, the ability to distinguish between performance and distribution and to control them will depend on technological advances. Without technological mechanisms in place, performance and distribution occur simultaneously. Distinguishing them is necessary to determine royalty fee rates and which clearinghouse organization will collect them.

145. 17 U.S.C. § 101 (1994)(defining “transmit”). (The proposed addition to § 101 reads as follows:

“Sec. 2. TRANSMISSION OF COPIES.

(a) . . .

(b) DEFINITIONS- Section 101 of title 17, U.S.C. is amended--

(1) . . .

(2) in the definition of ‘transmit’, by inserting at the end thereof the following: ‘To ‘transmit’ a reproduction is to distribute it by any device or process whereby a copy of the phonorecord of the work is fixed beyond the place from which it is sent.’” H.R. 2441, 104th Cong. (1995)).

146. 17 U.S.C. § 106(3) (1994)(exclusive right to distribute copyrighted works). (The proposed addition to § 106(3) reads as follows:

“Sec. 2. TRANSMISSION OF COPIES.

(a) DISTRIBUTION- Section 106(3) of title 17, U.S.C. is amended by striking ‘or by rental, lease, or lending’ and inserting ‘by rental lease, or lending, or by *transmission*; . . .’” (emphasis added).

While the Digital Performance Rights in Sound Recordings Act of 1995 effectively granted this right to copyright holders in musical works,<sup>147</sup> this addition would extend it to other works of authorship.

As the music industry becomes familiarized with the extension of rights granted by the Digital Performance Rights in Sound Recordings Act of 1995 (and eventually the NII Copyright Protection Act), various procedures should develop which will enable the industry to effectively patrol the information superhighway and eradicate illegal music sites and deter future uploaders from testing the limits of cyberfreedom. Performance rights societies like ASCAP, BMI and SESAC will likely be the driving force behind organized enforcement and control over the public performance of sound recordings via interactive networks.<sup>148</sup> The Harry Fox Agency or music publishers themselves will control the right to digitally distribute these works. These licensing organizations should be able to easily expand their reach to interactive networks. Indeed, this expansion has already begun.

### III. MARKET AND INDUSTRY SOLUTIONS

#### A. Licensing Organizations

It is practically impossible for individual composers and music publishers to enforce their performance rights. Performers do not have the time or resources to negotiate with every entity that wishes to publicly perform an artist's work. Retail stores play music to entice customers, movie producers use music for their films, and countless radio stations broadcast music. In recognition of the need for convenient and inexpensive licensing and negotiating apparatus, performance rights societies were formed.<sup>149</sup>

The three principal performance rights societies are Broadcast Music, Inc. ("BMI"), the American Society of Composers, Artists and Publishers ("ASCAP"), and the Society of European Stage Authors and Composers ("SESAC"). These entities issue performance licenses, collect license fees, monitor public performances of their members works and distribute royalties to members by an agreed formula.<sup>150</sup> These organizations differ somewhat in form but operate to perform the same function -- to facilitate negotiations between their members and parties who wish to perform their members' music. They serve as clearinghouses

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H.R. 2441, 104th Cong. (1995)).

147. 17 U.S.C. § 115(e)(3)(A). See *supra* note 109 and accompanying text.

148. See Barry Massarsky, *The Operating Dynamics Behind ASCAP, BMI, SESAC, the U.S. Performing Rights Societies* (visited Feb. 26, 1996) <<http://www.nlc-bnc.ca/documents/infopol/copyright/massarsk.txt>>. ("[These performance rights societies] have developed, on behalf of their music rights holders, intricate licensing and distribution mechanisms that may augur the intellectual property safeguards confronting the emerging interactive multimedia community".)

149. See ASCAP, *Welcome to ASCAP* (visited Nov. 14, 1996) <<http://www.ascap.com/welcome/welcome.html>>.

150. *Id.* at ¶ 10.

and offer blanket licenses to perform any song on their roster.<sup>151</sup> This efficient system benefits all parties involved.

The advent of interactive technology, in addition to becoming an entirely new medium through which to publicly perform an artists work, will also vastly increase the number of potential licensees who wish to secure the right to lawfully play the music available through ASCAP, BMI and SESAC. In this respect, these societies will enjoy an increased market and corresponding increased revenues if this technology indeed takes off as predicted. Even if the Internet does not prove to be the lasting medium through which interactive digital transmission will travel, some form of interactive network will develop which will alter the notion of performance and distribution altogether. Indeed, the two will practically and conceptually merge into one process.

ASCAP has embraced this new interactive medium and has developed a licensing scheme to provide for the use of its music repertoire by the computer online marketplace. In 1995, ASCAP developed the Department of New Media & Technology Strategy to enable it "to plot a path down the Information Superhighway," and to "function as ASCAP's eyes and ears in the Information Age."<sup>152</sup> One of the fundamental efforts of the Department has been in the area of licensing, developing what they believe is an innovative and flexible approach to licensing that protects the value of music being used while deferring in part to the multiplicity of possible music uses on the Internet.<sup>153</sup>

The ASCAP license offers licensees the opportunity to elect from among four rate schedules the one that the online licensee determines best suits its needs.<sup>154</sup>

151. See Mark F. Radcliffe, *Debate Persists on Rights to Online Components: Clearinghouses, Contracts and New Laws are Proposed Solutions to Licensing Issues*, 18 NAT'L L. J. 24, Feb. 12, 1996, at C6. (Clearinghouse organizations exist which represent the interests of members of different types of copyright holders and creators. Many of these organizations existed prior to the onset of digital technology and interactive media. The Copyright Clearance Center, which serves 9,200 publishers in licensing the photocopying of their works, has announced several initiatives in licensing digital rights. Clearinghouse organizations also exist to represent the interests of journalists, authors and dramatists.)

152. *Department of New Media & Technology Strategy* (visited March 3, 1996) <<http://www.ascap.com/new/nmts/nmts.html>>. (The Department works to anticipate technological change and respond to it in ways which will protect and benefit creators and owners [of intellectual property].) See *ASCAP* (visited March 4, 1996) <<http://www.ascap.com>>. See also *BMI* (visited March 4, 1996) <<http://www.bmi.com>>. (listing the songs in its repertory and their respective songwriters).

153. *Department of New Media & Technology Strategy* (visited March 3, 1996) <<http://www.ascap.com/new/nmts/nmts.html>>. ("We think this is a significant step toward proving that the Internet can be both a self-regulating and commercially viable entity," says Scott Bourne, president of net.radio (<http://www.netradio.net>) and recent licensee. "Congress didn't have to tell us to do this, we did it because the copyright holders deserve fair compensation for their hard work and ASCAP has carefully crafted a license agreement that protects everyone.")

154. *Id.* Rate "A" contains rates based on the service's gross revenue;  
Rate "B" contains rates based on the services total music revenue;  
Rate "C" contains rates based on the service's total ASCAP music revenue; and  
Rate "D" applies only to non-profit corporations and contains rates based on the



The license, available over the Internet, contains several key limitations.<sup>155</sup> The most significant limitation prohibits the licensee from authorizing a “service user” to “reproduce, copy or distribute by any means, method or process any of the musical compositions licensed by this Agreement.”<sup>156</sup> The limitations include a prohibition on the transferring or copying of any such musical composition to a hard drive or otherwise downloading the musical composition onto any other storage medium.<sup>157</sup>

Essentially, the license authorizes the licensee to make a song available at its web site, but the licensee may not authorize or even encourage a service user to do anything but listen to the song while visiting the site. This provision amounts to a granting of a performance right but not a distribution right. Yet these two rights conceptually merge in the realm of interactive networks. By making a song available through performance on the web site, the service provider is, in the same instance, “distributing” the musical composition. Without further technological implementations designed to thwart transmitting and downloading by service users, the provision is without practical force and lacks any mechanism for enforcement.

At the very least, procuring a license agreement with ASCAP will enable the licensee to lawfully post music onto the Internet and will absolve the licensee of liability for contributory infringement. It is likely that ASCAP licensed web sites will need to include an unambiguous admonishment to service users that they may do no more than listen to the music provided therein.

While ASCAP, BMI and SESAC issue performance licenses, they do not issue mechanical licenses to distribute music. The Harry Fox Agency (“HFA”) issues such licenses. One result of the *Frank Music* legislation was a licensing scheme for online digital delivery of music through defendant CompuServe’s service.<sup>158</sup> Under the new licensing agreement, CompuServe managers will be assigned personal identification numbers which they will use to identify themselves when electronically requesting a mechanical license from The Harry Fox Agency.<sup>159</sup> The license is exactly the sort of agreement anticipated by the Digital Performance Rights in Sound Recordings Act of 1995, and it is likely that HFA will enter such agreements with other online providers as well.<sup>160</sup>

service’s total operating budget. *Id.*

155. ASCAP License Agreement for Computer Online Services, Electronic Bulletin Boards, Internet Sites and Similar Operations, *available over* Internet, by World Wide Web, at <http://www.ascap.com/new/nmts/licensing/license.html>.

156. *Id.* A “service user” would include any person or entity subscribing to the online service provider, likely extending to any and all other persons who have access to the service provider’s online location.

157. *Id.*

158. *In The News*, 17 ENT. L. REP., Feb. 1996, at 24.

159. *Id.* (The terms of the license will be “substantially identical” to the terms of HFA’s existing licenses for conventional recordings.)

160. *Id.*

### *B. Technological Solutions*

Just as technology has been the “cause” of the challenges posed by interactive networks to intellectual property rights, so too will technology provide the most workable solutions. Much of the technology needed to begin securing works of intellectual property is already available and being employed in other computer applications. Privacy, security and authenticity have been concerns in the world of commerce for years, in light of the use of computer networking as a means of doing business and completing commercial transactions.<sup>161</sup> These concerns spawned the development of technological solutions. Copyright owners now share the same fears of those engaged in computer commerce and the solutions developed by the business computing industry will be of great value to the copyright owner or licensee.

Protection will be necessary on two levels. First, copyright owners will need to ensure that their works are properly encoded or encrypted so that unauthorized use of these works can be curtailed.<sup>162</sup> Second, mechanisms will be developed to enable the copyright owner or licensee to lawfully and safely perform and distribute music over the Internet to those persons who pay for the work.

#### *1. Encoding Works of Authorship: The Serial Copy Management System and Copyright Protection Technology*

A method of controlling the copying of digitized music has been developed as the Serial Copy Management System (“SCMS”).<sup>163</sup> SCMS does not totally solve the digitized music piracy problem because it does not totally prevent copying, but it does prevent copies being made from copies. This system allows copying from the copyrighted source, which enables a consumer to make copies for personal use. SCMS addresses the fear that “copies of copies” could lead to exponential numbers of copies being generated from one primary source.

SCMS contemplates music transfers from CD to DAT, which is lawful, and DAT to DAT which is an unlawful “copy of a copy.” This system, as currently devised, does not have a technological application for interactive network transfers of digitized music. Further technological solutions should be applied at the CD manufacturing level to combat the unlawful transmission of digitized music. Research and development of these solutions would prove costly and take some time, but the long-term benefit to music copyright holders and their licensees would be far fewer losses in revenue from illegal transmissions of musical works.

To combat the illegal transmission of musical recordings, a “jumbling code”

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161. Robert T. Haslam & Thomas P. Maliska, *Encryption Ensures Privacy of Online Expression*, 18 NAT'L L. J. 24, Feb. 12, 1996, at C13.

162. “Encryption” and “encoding” involve converting a message into code format. Encryption may sound like something from a science fiction novel, but will likely become common to everyday language as digitized, interactive networks become a common form of performance and distribution of musical works and other works of authorship.

163. 17 U.S.C. § 1002 (1992). *See supra* note 88.

could be included within the digital code of the compact disc. Once a work is transferred to digital format in a computer, a latent code would be inserted which, if retransmission took place, would “surface” and jumble the digital format and make the transmission worthless and unreadable.<sup>164</sup> Thus, the compact disc would “recognize” when an attempted digital transmission is taking place and destroy the copy of the digitized music that was assigned to an interactive source. Such technology is already under development and has been recognized and supported by Congress and the Working Group on Intellectual Property Rights.<sup>165</sup>

If such technology could not be applied to the copyrighted works themselves, digital piracy would need to be controlled at the gateways to the Internet -- the online service providers. The “jumbling code” technology could be developed in the form of software, which would recognize the SCMS digital signals and become alerted to the transmission of copyrighted works. The problem with a software solution is one of enforcement. The Internet has no central source of access or control. Thus, some minor revisions to the Copyright Act could be made to require online service providers to include such software as a part of the service used by the consumer.

These revisions could be timely added to the NII Act if legislators choose to address the issue of online service provider’s contributory infringement during the writing of the new bill.<sup>166</sup> Although the issue of online server liability is heavily debated and threatens the passage of the bill,<sup>167</sup> mandating the use of encrypting software would benefit both sides of the debate. Once these technical innovations are in place, the use of the software by service providers would do much to eliminate charges of contributory infringement. Copyright holders and online service providers would be technologically coordinated by a system which prevents copying of encrypted works. Liability would only follow if the service provider failed to follow the provisions of the Act requiring them to include encrypting software. Indeed, if the encrypting technology were successful, liability of online service providers would no longer be an issue at all.

164. See Jeffrey C. Selman, *Copyright Protection in a Digital World: Judicial, Legislative, Technological and Contractual Solutions*, 7 J. PROPRIETARY RTS. 4 (1995). (This solution was adapted from a solution suggested by this author.)

165. See The White Paper, *supra* note 24.

166. See *supra* note 141 and accompanying text. Such a provision could be written in the form of additions to the proposed Chapter 12. The Chapter could include, for its purposes, a definition of “online copyright protection software,” and proscribe the circumvention of this software as with other copyright protection information protected in the proposed § 1201.

Additionally, the new Chapter could include a provision whereby “any entity providing online service or access to an interactive network, or other means of transmitting digital information, shall be required to incorporate within this service the deployment of online copyright protection software which serves to recognize and deconstruct any digital signal or code designed to prevent the copying by transmission of the copyrighted work embodied therein.” Upon recognition, the software could alert the service provider who could then track the use of the work to insure that is a legal or authorized transmission.

167. See *supra* note 137.

## 2. *Technology Will Provide the Means of Performing and Distributing Music Over the Internet*

Encryption will provide the means by which music can be uploaded and performed over the Internet by copyright owners and licensees, and will also provide the means for distributors to sell music over the Internet. One such encryption service now available is NetShade, developed by Atemi.<sup>168</sup> In order for the encryption to work, both parties to a transmission must have the program to ensure the data transfer is secured. When a connection is established, NetShade checks to see if its encryption software is being used. If so, it sets up the encryption. If not, it will ask you if you want to set up the encryption or refuse it.

Because performance rights societies like ASCAP and BMI will control interactive network performance of musical works in their respective repertoires, these groups will benefit from NetShade software. ASCAP, for example, could mandate the use of NetShade into its licensing contracts with online service providers or individual network uploaders who wish to perform music over the Internet. This solution suggests not only the control of access to musical works, but control of the *use* of the work as well. Rendering software can be used to restrict the manner in which copyrighted material is used.<sup>169</sup> Thus, it may be possible to have a machine read and display digital information to a user, but not make or distribute copies of the information to the computer's hard drive.<sup>170</sup> The online server's site would only be a "listening post" rather than an open window to be looted by persons seeking free albums.

An online service provider could make NetShade or rendering software part of its subscription service or sell the software to the consumer (who would simply download it from the service) for a one-time fee. With this in place, performance rights societies and online service providers who contract with them could control the performance of musical works and charge consumers accordingly.

Music distributors would also benefit from encrypting software designed to control the distribution of their product. As conventional record stores enter the interactive marketplace (and as new distribution services emerge), they will require mechanisms to prevent theft, much in the same manner that they control loss of physical copies from the retail store.<sup>171</sup> Such encryption mechanisms are already available and will prove worthwhile to online music distributors.

"Symmetric encryption" mechanisms, commonly used in electronic banking,

168. A free demonstration was offered in mid-December 1995 at NetShade's web site, at <http://www.atemi.com>. This site includes a comprehensive explanation of how NetShade operates and in which situations the use of the software would be beneficial.

169. Jeffrey C. Selman, *supra* note 164, at 8.

170. *Id.*

171. In many retail stores, merchandise is tagged with sensor devices which alert store personnel if an item is being unlawfully removed from the store. Only authorized store personnel can remove the tag, once the item is sold to the consumer. In similar fashion, music distributors on the Internet would encode a digital transmission and control the means by which the work can be lawfully converted to ownership by the consumer.

offer highly secure transactions yet have the significant drawback that the two parties must know and trust each other.<sup>172</sup> This is a practical impossibility in a commercial transaction over the Internet. Consumers and distributors have neither the time nor the economic incentive to forge intimate relationships in cyberspace. Consumers must be able to shop for product in a manner that is at least as quick and easy as a trip to the record store.

"Public key" or "asymmetrical encryption" is a much more workable solution for the Internet.<sup>173</sup> The parties to the transaction do not need to know each other, because the system is divided into public keys and private keys. The key that encodes the transaction, which in this case would be the transmission of digitized music, is different from the key that decodes or "unlocks" the transmission, and cannot be practically derived from the decoding key.<sup>174</sup> The parties exchange their public keys over open communication lines. This could take place directly at the point of transaction via e-mail. This system could be used to send the digitized music to the buyer, who could then use the same system to send her credit card number to the distributor.

Essential to any technological solution would be a comprehensive monitoring and enforcement scheme. Computer "hackers" often see encryption as a challenging problem in need of a solution, and will embark on a mission to defeat encryption mechanisms.<sup>175</sup> "SCMS filters" are available which are designed to

172. Robert T. Haslam & Thomas P. Maliska, *supra* note 153, at C13. "Anonymity is difficult, and the communications channels used to exchange keys must be independently secured to prevent fraud. Other problems include key management; the financial and legal risks associated with the agreement to be bound to the use of a key shared with another party; and security that is only as good as the security of the communications networks involved in each transaction." *Id.*

173. In contrast to symmetrical encryption, which involves one key encryption that is shared by the parties, asymmetrical encryption involves the use of two keys, which work together without either party knowing the encryption key of the other party.

174. Robert T. Haslam & Thomas P. Maliska, *supra* note 161, at C13. ("Among public key systems available is the RSA Encryption technique. In part, the mathematics behind RSA's asymmetric encryption is based on the fact that the product of two prime numbers is simple to calculate but cannot be factored to find those two primes without considerable time and expense. The product of the prime numbers can be used to make a secure key that can be exchanged with other parties openly. Messages encoded with such a key cannot be decrypted after interception without an enormous computational investment to determine the original prime numbers." The private key holds the original prime numbers and can decode the encrypted message rapidly.)

RSA Encryption is already being employed by online product providers. See Plaza, *Security Purchase Guarantee* (visited March 3, 1996) <<http://www.eshop.com:80/eplaza/security.html>>. This Internet shopping network insures the security of its encrypted method of soliciting credit card sales from online consumers. CDNow, an online music source, trades public keys with consumers via its e-mail address.

175. Pamela Samuelson, *Will the Copyright Office be Obsolete in the Twenty-First Century?* 13 CARDOZO ARTS & ENT. L. J. 55, 58-59. (1994) "A social overreliance on protection by barricades [such as encryption] rather than conscience will eventually wither the latter by turning intrusion and theft into a sport, rather than a crime." *Id.* at 59, n. 19. (quoting John P. Barlow, *The Economy of Ideas*, WIRED, March 1994, at 129).

disable the Serial Copy Management System, thereby enabling DAT users to make serial copies from other DATs. Self-proclaimed "DAT-heads" offer a site on the Internet from which to obtain information on where to purchase SCMS-disabling products.<sup>176</sup>

If performance rights societies were not interested in the task, an "IP Task Force" could patrol the Net in search for infringers. Such an entity could be funded by licensing organizations, at probably very low cost. Indeed, such a police force could be nothing more than a digital transmission that surfs the network in search of material that is encoded in a certain binary code. Upon recognition of that code, the NetCop would be alerted to the presence of a copyrighted work and could check its own file to see if the source of the work is a lawful transmitter thereof. The technological possibilities are as endless as the future of this medium itself.

#### CONCLUSION

This is the dawn of a new age in communication. With each new medium comes new opportunities, new challenges and new legal issues. For the intellectual property owner, these issues involve more than speculation or academic pondering; they involve the fruits of labor. Since copyright owners depend on communication to sell their wares, they are deserving of special attention as these new media develop. As technology advances at what seems a lightning-speed pace, traditional lines of ownership and dissemination begin to blur and the bundle of rights granted to the copyright holder appears to weaken.

The Internet poses such challenges for music copyright owners. Due largely in part to the efforts of industry lobbyists and forward-thinking legislators, copyright law has grown in tandem with the proliferation of digital technology and interactive networks. Proper judicial application of the Digital Performance Rights in Sound Recordings Act of 1995, based on the Congressional intent to protect works disseminated via digital transmission, will anchor the current rights of the copyright holder in the interactive realm.

Additionally, the technology and music clearinghouse industries will recognize and embrace this new opportunity to offer their services to copyright holders who wish to perform and distribute music over interactive networks. As new encryption technology and licensing schemes enter the mainstream in the music industry, music copyright holders will once again be in the comfortable position they have always enjoyed with respect to the protection of their creative works.

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176. University of Wisconsin, *DAT-Head FAQs* (visited March 3, 1996) <[http://www.wisc.edu/media/DAT\\_FAQ.html](http://www.wisc.edu/media/DAT_FAQ.html)>. These machines were priced at around \$200 in 1992. "In theory, anything that can be listened to, can be copied. The only way to prevent copying is to encode signals in the music which are detected by machines. There will always be ways to defeat schemes like this." *Id.*

