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MEDIA SHARING AND THE MUSIC INDUSTRY

An Interactive Qualifying Project

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ABSTRACT

In this Interactive Qualifying Project, the effects of media sharing as well as illegal media duplication were assessed. Also, the point of views of the consumer, recording industry, and artists were observed. The financial breakdown of the whole industry showed that there is not direct evidence that links the loss of record sales to media sharing.

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1.0 INTRODUCTION

Technology grows faster and faster each day. Eventually we will be able to do almost anything we choose by means of the Internet. However, along with the Internet come advantages and disadvantages. This tool has an enormous potential to change our way of living. People now have the ability to carry on conversations and share files through little bits of information. The Internet brings many advantages, but with these advantages comes responsibility. Many people believe that the Internet should be monitored and regulated more strictly, but there must be a line drawn of what can be posted and what cannot online. As well as what should be allowed online and what should not. The Internet can be used as a way to share information, whether it is a written article or an MP3 file. The availability and convenience of this "sharing" makes it easy for anyone with a computer and a telephone connection the ability to download a piece of information within minutes. This is what makes the Internet somewhat dangerous. The recording industry is now claiming that they have lost a significant amount of money due to the presence of downloadable music sites. They believe that these download sites are taking away from their business. Media sharing is now more prevalent today than it was several years ago; however, technology should not be taken away or restricted because an industry cannot keep up with the changing times. There are always two sides to any argument, maybe more. Each side will have valid points but can never seem to find a common ground. This seems to be the case for the issue of media sharing. There are a few different ways to view the current situation. One viewpoint would be that of the consumers, who feel as if they are being over-charged by the music industry for far more money than they should have to pay for a compact disk (CD). The

availability, ease, and cost of downloadable music gives the consumers more to consume for free and less reasons why they feel that they should purchase CDs. Another viewpoint is that of the recording industry. The recording industry challenges the idea of free media sharing. They argue that they own the rights to pieces of music because of a copyright label and that it should not legally available for free. The final major viewpoints are those of the musicians. There are bands on both sides of this issue. Some groups believe that music should be free for anyone and that you cannot stop a growing technology. However, there are those musicians who believe that media sharing is the same as stealing, and that their job is to make music. They feel that people should be able to obtain their work for free. Therefore, the question to consider is, should media sharing be accepted because of the projected financial of the music industry?

2.0 MEDIA PIRACY

Media piracy refers to the illegal duplication and distribution of sound recordings. There are four specific categories of music piracy:

1. Pirate recordings are the unauthorized duplication of only the sound of legitimate recordings, as opposed to all the packaging, i.e. the original art, label, title, sequencing, combination of titles etc. This includes mixed tapes and compilation CDs featuring one or more artists.
2. Counterfeit recordings are unauthorized recordings of the prerecorded sound *as well as* the unauthorized duplication of original artwork, label, trademark and packaging.
3. Bootleg recordings (or underground recordings) are the unauthorized recordings of live concerts, or musical broadcasts on radio or television.
4. Online piracy is the unauthorized uploading of a copyrighted sound recording and making it available to the public, or downloading a sound recording from an Internet site, even if the recording isn't resold. Online piracy may now also include certain uses of "streaming" technologies from the Internet (RIAA)

There are very strict laws today regarding the issue of media piracy, which we will refer to later. These laws can be very severe, however, where do you draw the line to which people can share media. All of these types of media piracy are a large concern to the music industry and artists. Media piracy has the potential to severely damage one of the largest industries in the world: the music industry. The advancement of technology now lets us share media at the click of a mouse. Almost any piece of music is now available on the Internet for any person with a computer and a phone-line. Anyone can now easily download a piece of music within a few minutes, which would take less time then going down to the music store and buying the CD. The availability of free music raises the question "Why don't I just download the song for free instead of paying for it at the music store?" and that type of mentality makes media piracy a threat to the recording industry.

2.1 Online Piracy

2.1.1 Background

The Internet offers so many possibilities for music lovers. It contains virtually every song ever sold. The technology of media sharing currently has the ability to record any bit of music and present it to the world. It also stores the information in its memory for anyone to "call up" when they feel. You can download any song today and play it at your own discretion. This growth will extend to audiences across the world. This current technology is amazing and opens the door for limitless applications in media sharing. However, where does the availability of "free" music leave the recording industries?

People now know how to emphasize this technology and share files. This sharing is relatively easy and convenient, however it also illegal. There must be laws and rules to regulate this sharing or online sharing will severely impact the recording industry. The recording industry knows that the Internet is being utilized for the illegal activity of media sharing. But, how do you impede the progression of technology? The growth of the Internet and computer technology is imminent. The recording industries must find either a way to control online sharing or devise a new strategy for the distribution of music online.

2.1.2 Why Do People Share Media?

Many people do not believe that sharing files should be illegal. Free online sharing by means of the Internet is just a perk that comes with the whole package. Many people now believe that they can just download a song I want for free as opposed to purchasing it. Many people know that downloading music without permission is illegal;

however, should media sharing be legal? Where does the government draw the line to what is legal and illegal in terms of what is available online? One might believe that the availability of free media will attract most people who have a computer and normally buy music albums. The people who consume downloadable music claim that downloadable music allows them to sample the music and determine whether or not they should buy the CD. Some even claim that they buy more records and music products because of downloadable music sites. "The study, conducted by market research firm Cyber Dialogue, showed that 29 percent of people who download music would buy entire albums off the Web for $10 a piece (Hu)". This shows that as digital music is on the rise as well as the technology to support it. More examples of the battle between the recording industry and consumers later on in this chapter. People feel that this technology will continue to grow, make more available to us by means of the Internet, and feel that it is the recording industry's responsibility to keep up with the times. They must learn how to create an online market, as our society grows more and more dependent on the Internet. If this does not happen soon, it will grow more and more difficult for the recording industry to stop all of these illegal downloads.

2.1.2.1 Do CD's cost too much money?

People now turn to media sharing because of the high prices of compact disks. In the early eighties record sales were referred to as "flat", this means that the record sales were stable, there was not much fluctuation in the recording industry's market. The mediums were either vinyl or cassette, and audio media was moderately priced. The makers of all of this hardware and software felt that they needed to introduce some new

type or format of data to increase sales. This brought about the creation of the compact disk. At first, the CD was not a great success; the prices were too high due to manufacturing costs. One out of every three CDs were being thrown away due to defects in the product. However, CDs took the place of tapes and vinyl due to a flexible return policy established between the record stores and major distributors. This policy stated that if the record stores did not have success in selling the CDs that the record stores could just return the shipments and go back to tapes and vinyl without having to worry about a huge financial loss. Contrary to the record stores confidence about compact disks, CDs became the new medium of music. People liked the quality of music more and the smaller sizes that CDs gave as opposed to tape or vinyl. As CDs grew in popularity, more manufacturers began with mass amounts of CD production and less of the other mediums. The defect rate soon dropped to about zero because of advancements in technology, with this, the manufacturing of CDs became significantly less. A CD with the paper booklet and plastic jewel case now costs approximately eighty cents to make. Also, a small independent label, which can cost up to three dollars, needs to be included into the cost. This now should mean that the cost of a CD would be less than it cost approximately ten years ago, or so you would think. However, the costs of CDs have actually gone up because the recording industry wants to maintain a high margin of profit. The general cost of CDs is approximately five dollars, but the you have to include about five more dollars that go to distributors, middle men, and the actual record stores. The extra four to six dollars that you are paying for a CD goes directly to the record labels. The extra four to six dollars that the record labels make on CDs have many people upset and when they see the opportunity to get the music that they normally buy

for free, they will take the opportunity because of the minimal risk run when sharing files online (Negativland).

On the other hand, the recording industry claims that that extra percentage of money they receive is justified. They say that it takes more money now than ever before to put out a new recording. The cost of studio fees, studio musicians, sound engineers, producers, and many more has a large percentage of the total cost of a CD. This may be true because with all of the advancements in technology, a knowledgeable staff is a requirement. The recording industry claims that the costs of CDs are relatively low compared to other forms of entertainment. The cost of movies, rentals, and DVDs all are very expensive now. Considering all of these categories, realize that the power of "re-entertainment" that CDs posses, this makes compact disks very well priced for the amount it is used.

2.1.3 What is an MP3?

2.1.3.1 Introduction and History

MP3 is a shortened term for MPEG Audio Layer III. Today, it is the most widely used audio format in the digital world, and this state of the art compression algorithm for the encoding of digital audio has some artists and recording companies very nervous. It is the main reason that we have famous dot coms like Napster.com and MP3.com, and is responsible for the huge shift of in the way many people get their music. MP3 has become a major problem today for the illegal exchange of music, and all of the controversies regarding copyrights among artists and the rest of the music industry. Many say that the problem with MP3's has spread so much that is going to be very hard to reverse, regardless of all of the current lawsuits pertaining to this argument.

The actual development of MP3 began back in 1987 in Erlangen, Germany, at a research facility named Fraunhofer Institut Interrierte Schaltungen (Fraunhofer IIS-A). With the help of Professor Dieter Seitzer, the goal of MP3 was to create audio with a high quality, low bit rate compression, which manipulated certain aspects of human hearing. This manipulation would make the difference between pure uncompressed audio and MP3 almost undetectable by any normal human ear.

Development of MP3 took three years, and by 1992, it was accepted by two very important groups, the International Standards Organization (ISO) and the Motion Picture Experts Group (MPEG), and was now accepted as a standard in the compression of audio. Although, the main reason why MP3 prospered was due to the fact that its patent holders released it as open source, and the technology was free for any of the developers to use. One developer, Advanced Multimedia Products, created an application known as Amp, which is current day Win Amp or Mac Amp, a widely used application for the playback of this compression format.

From here the whole technology of MP3 expanded, and not before long, this high quality compressed audio files (easily transferable over the Internet now due to increased speeds and lower file sizes), were being shared via peer-to-peer networks or online media servers. This peer-to-peer file sharing is the reason why we have a controversy today. (see Appendix A1)

2.1.3.2 Data Compression and Quality

The big reason why Internet users today are able to receive and trade these MP3 files is that these files are compressed so much that they are quickly transferable over an average Internet connection, whereas an uncompressed audio file may take over 20 times

as long, depending on the MP3's bit rate. So without this huge reducing in the audio file size, music trading over the Internet would be much less of a controversy.

This MPEG audio codec has been tested and documented, and it has been found that MP3's provide sufficient quality to the average listener. Usually, a MP3 compression rate of 10:1, or 128 kbps, can be perceived by normal hearing as basically the same quality as an untouched audio file. To put things in perspective, an uncompressed audio file over an average DSL connection could take up to an hour to download, whereas an MP3 can be downloaded in far less than ten minutes. This has caused an outrage among Internet users, obtaining close to ten times as many audio files in the same amount of time, in today's digital world where downloading is all about time and speed. Even listeners with extremely advanced hearing have been unable to detect the difference between an uncompressed audio file and an MP3 with a bit rate of 256 kbps or higher, proving these files very worthy of high quality. On the other hand, once audio is compressed to lower bit rates, such as in the 16 kbps to 96 kbps range, the ear is more apt to detect a drop in the sound's quality. This can be depicted sometimes by hollow sounds in the audio, swishy high frequency sounds, or the file could be altogether distorted. These types of MP3's are usually not used in downloading or trading, but rather in streaming audio over the Internet. It a quick, but low quality way, of having lived audio or broadcasts sent for viewers all over the world.

2.1.3.3 MP3 File Sharing Mediums

Everyone knows that MP3s are being shared over the Internet, but what technology is being used to accomplish this? Napster popularized what is known as peer-to-peer networking (abbreviated P2P), which is a way that users can use the Internet to

exchange files with each other directly or through a mediating server. Users log into these online applications, such as Napster, and search various files of other users, that can then be easily downloaded.

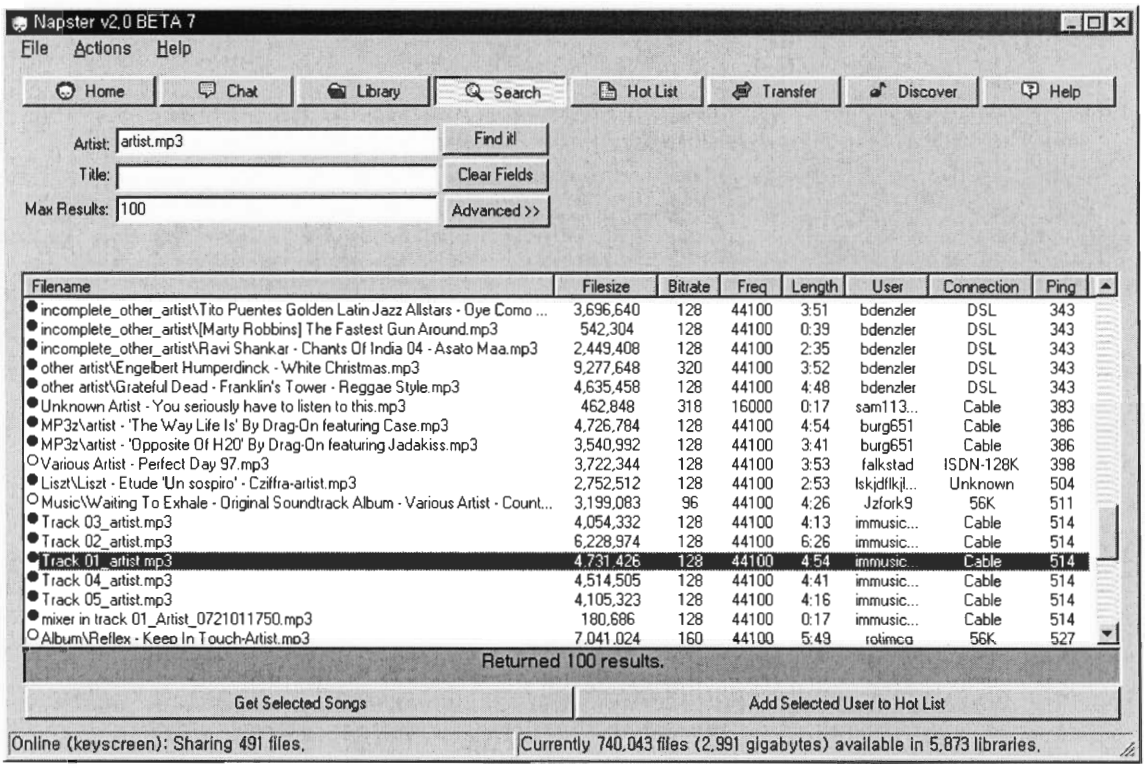

Figure 2.1 - Napster Interface Screenshot

There are a few different forms of peer-to-peer networking. Like Napster, one way is through a centralized server, where one user uploads the file to a server and another downloads it. Even though Napster has gained such great popularity, it isn't the most sufficient way of sharing MP3's. One common application is iMesh (www.imesh.com), where music listeners would connect directly to others' computers and not through a server. This application and others like it, such as Kazaa (www.Kazaa.com), have a great benefit because files can be downloaded from multiple users at once, and unlike Napster, user's downloads cannot be terminated. These

programs cannot be shut down because they are not using a centralized server, which is Napster's main downfall.

Other ways listeners get their MP3's include getting them directly off a server, such as MP3.com's website, where all of the media has been approved for download by the artists themselves. Basically, this is for a lot of independent artists try to get there music out there and available to the whole world. There are not many big name artists that allow their work to be downloaded via MP3.com. Any servers like MP3.com that allow illegal material to be downloaded can be quickly shut down, because this would be blatantly breaking copyright laws.

New applications are being developed daily, but they are all based mainly on these technologies. The main differences among them are basically the user interfaces (the appearance and ease of usability of the applications), and the amount of material available, which usually depends on the popularity of the applications. These applications are going to be around for a while, and as long as they are here, the transfer of copyrighted material will continue.

2.1.4 Examples

Online piracy is now very prevalent among the younger generations. This puts the recording industry into a great panic; everything that they have accomplished is about to be taken away from them by a college student with the idea of online music sharing. Shawn Fanning, a Northeastern freshman developed the idea and applied the technology of peer to peer networking. He called this idea Napster and began showing everyone he

knew. Soon enough, the recording industry found out about this new type of pirating and began to seek ways to put an end to this form of piracy.

The site www.napster.com once allowed a person access to any song on someone else's computer, with a few stipulations. This essentially means that anyone can download a song that you have and you can down load any songs that they have. The amounts of audio media that can be shared are gigantic. With compressed files, anyone can have thousands of MP3 files on a regular computer. This availability of music allows people access to so many more songs that they wanted but never thought they would buy. If someone downloads a song by an artist who they really had not heard of and began to like the music, it would probably encourage that person to go and buy the CD. However, media-sharing sites give that person the ability to download the whole album and not give any contribution to the music industry. This issue raises the question, "What should or should not be available to people by means of the Internet?" If the government decided to monitor and regulate the Internet it would be called an intrusion of our civil liberties. Whereas, if the government does not take actions against online activities they appear foolish to society.

Napster is now attempting to redeem themselves by re-creating the original idea with a few minor charges. The new Napster is attempting to reestablish itself on the Internet with the idea that people will log onto their server and download approximately fifty songs a month at a cost of five to ten dollars. This new system will now allow you to download the file as a ".nap" as opposed to an ".mp3". The consumer will only be allowed to have the file on their desktop and play the file through that computer. One may believe that this is a very good idea; however, due to the rise of Napster, many other

downloadable music sites were created. There are still sites that continue to offer audio and video media for free. According to all of the laws associated with online sharing, this will soon be stopped but it is difficult right now to stop the rate at which people become more knowledgeable about technology and how to find a way around rules and regulations.

Many people believe that technology cannot stop online piracy. An editorial director for ZD Net writes:

> "The battle over music piracy is like the war on drugs: You can't win it, but you can fight it forever, and spend millions on the battle. We're now entering the next phase in the recording industry's fight for the control of music distribution. In this phase, the recording industry tries and fails to control distribution of copyrighted content with technology (Berst)."

This is very true, but what should be done? Both sides of the coin have good arguments and supporting facts. This article breaks down the figures looking at the issue from the side that feels media piracy is illegal and should be stopped.

"Napster Hurting Online Music Sales

By Michael Pastore

Napster is back in the news as it tries to find a way to legally allow its users to share music files, and now comes research by PC Data Online that says Napster users eventually buy less music online once they get comfortable with downloading.

According to the research, home Web surfers who download music with Napster software initially purchase music online at the same rate as non-Napster consumers. However, after they become adept at downloading music, they purchase much less music through online vendors than non-Napster users. PC Data Online's data comes from its buying meter, which tracks the purchasing behavior of 120,000 US home Internet users.

New Napster users are just as likely to purchase music at cdnow.com after initially downloading Napster software. However, 90 days after downloading Napster software, consumers' online music purchases plummet, although they visit online music retailers much more frequently.

"Apparently Napster users visit online retailers to get information about music, and then use Napster to download the music free of charge," said Ann Stephens, CEO of PC Data. "Portable MP3 players and recordable CD-ROMs are simply too easy and too cost efficient not to use."

As far as converting digital files to CDs, PC Data's sales tracking service found that 2 million CD-RW stand-alone drives and another 3.5 million PCs with CD-RW drives pre-installed will be sold at retail this year. These drives are frequently used to burn music CDs.

The number of Napster users has more than doubled over the past six months to 18.7 million, or nearly 20 percent of the total online population, according to PC Data Online. Penetration among the primary consuming group, 12-24 year-olds, is more than 40 percent.

Media Metrix has also been tracking Napster usage, and reports that usage increased from 1.1 million users in February 2000 to 6.7 million users in August, a 506.8 percent increase. Napster usage grew more than 30 percent from July to August of 2000, to 6.7 million home users and 1.2 million work users.

US Napster Users, Home and Work
(thousands)

	May '00		June '00		Jul '00		Aug '00	
	Home	Work	Home	Work	Home	Work	Home	Work
Total Online Computer Users	77,759	26,687	77,591	26,857	79,163	26,863	79,461	26,821
Multimedia Player Users	35,354	11,455	35,664	10,646	37,477	14,211	38,121	14,523
Napster Users	3,166	417	4,670	763	4,936	887	6,729	1,179

Source: Media Metrix SoftUsage Report

Table 2.1 - US Napster Users

These figures show that media piracy is illegal and is taking money away form the recording industry. On the other hand, there have been studies shown that Napster users are more likely to increase what they spend on music than non-Napster users.

> ""If BMG can go to the other labels and say, 'Look how many CDs Napster has sold without any marketing or promotion...You guys should get onboard; you can add your own flair to it and your own commerce partners,' it's a proposition that other major labels would be foolish not to consider," said Jupiter Media Metrix music analyst Aram Sinnreich.
>
> Data from Jupiter Media Metrix already shows that Napster members are 45 percent more likely to increase the amount they spend on music than other online music fans that do not use Napster (Barnes)."

Both sides have valid points and reasoning behind those points. However, there were approximately fifty-one million Napster users at one point. Since the shutdown of Napster, people have just gone to find other downloadable sites. With the re-launch of Napster, one may believe that Napster will not have the same amount of users as in prior years. A decrease in users would be due to the fact that a user will have to pay for the audio media, as opposed to receiving it for free. The idea of a pay-for-service downloadable music site is not very feasible. People who are sharing media by means of the Internet will continue to want music for free.

2.2 Pirate Recordings

According to the Recording Industry Association of America (RIAA) CD-R piracy is "the unauthorized duplication of only the sound of legitimate recordings, as opposed to all the packaging, i.e. the original art, label, title, sequencing, combination of titles etc. This includes mixed tapes and compilation CDs featuring one or more artists (RIAA)." This excerpt can be used as a model of why the music industry feels that media sharing should be punished more severely.

> **"Music chiefs warned of piracy threat**

> January 21, 2001
> Web posted at: 6:37 AM EST (1137 GMT)
>
> CANNES, France -- The music industry is losing up to $5 billion a year through pirated music a year, according to the industry's chief watchdog. He warned record companies that 500 million fake CDs are being produced annually and that in the worldwide fight against CD pirates "we are still in the heat of battle." Huge profits have attracted organized crime, he told industry executives, with pirate CDs accounting for 20 percent of worldwide CD sales. Jay Berman, head of the International Federation of the Phonographic Industry (IFPI) and music's global crime buster said: "Piracy is still an incredibly difficult problem to deal with." Berman issued his alarm call in Cannes where the industry's biggest trade fair has attracted 10,000 music executives from 96 countries. "Piracy has become global. This is not just a group of guys in a garage trying to make a buck with a few decks," he said. "There are enormous pirate exports around the world. The production capacity is staggering and organized crime is playing a growing role. "In Britain what turned out to be the largest credit card fraud ring was a Russian Mafia operation that started with pirated CDs." (CNN)"

Approximately five billion dollars is being lost each year due to pirated music. That may be an inflated number, however, that is a significant amount of money to lose to pirated media alone. With the advances in technology, almost any type of media or software can be duplicated. There are so many knowledgeable people who can keep up with technology that the record industry may feel like it is fighting a losing battle.

2.2.1 Burning MP3s to Disk

The availability of CD duplication hardware and software along with the low cost of CDs give people the opportunity to create their own music CDs. When CDs first grew popular, people began to realize that this would the new medium for different types of media. The next idea was, "How can I duplicate CDs?" Over several years the cost of CD copiers has dropped in price, and eventually became a part of a computer. The computer was and still is taking over every aspect of our lives. With the connection of

the Internet, hardware, and software it is now possible to download a song, save it to a computer file in a certain data form, convert the data form to a waveform file, and then copy the file to a compact disk. This may not be a very large problem if people do it every now and then for their own personal use, which many young people are guilty of. However, when people start duplicating CDs with copyrights and licenses is where the problem turns into an issue. People have been making identical music CDs, with the exception of maybe the inner booklet, and selling them at lower prices than music stores. People would much rather pay maybe five dollars for a CD as opposed to fifteen dollars. This type of black market is prevalent all over the world, "I have seen people peddling pirated music CDs and video game software on every corner of the streets of Bangkok, Thailand. I purchased three audio CDs for about six dollars, American that should have cost me approximately thirty six dollars, American, in the Thai stores, and about forty-five dollars, American, in an American store. Six dollars versus forty five dollars is not a very difficult decision for me, of course I would buy the same CDs for thirty-nine dollars less, and so wouldn't almost anyone else (Chenarak)." In summary, there is the ability to copy music on your own, however, there should be certain limits to which these laws should be followed, as well as, be enforced on people.

3.0 PREVENTATIVE MEASURES

3.1 Laws Past Against Piracy

For all artists, no matter what their talent is: writing, directing, composing, dancing, etc., the term "copyright" is an extremely important matter to them. For an artist to get something copyrighted, they have a piece of their creative work legally backed by law, declaring that there cannot be any unauthorized duplication, performance, or distribution of this work. Copyright laws first started back in Britain in 1709, and since then have expanded greatly. Due to the vast change in life since the creation of the World Wide Web and the Internet, many copyrights have been implemented as a result of this new digital technology. Recently, copyrights have moved into such areas as digital music due to the increased availability of online media, and many controversies between recording artists and record labels. Here we are going to examine the laws in the recent years relating to digital music and file sharing, explaining the legal boundaries that have been set in this controversial matter.

3.1.1 Audio Home Recording Act of 1992 (AHRA)

The first digital music laws were passed in 1992, and have been growing greater and more complicated ever since. In the beginning, there was the Audio Home Recording Act of 1992 (AHRA). According to this law, consumers are exempt from lawsuits for copyright violations, as long as the recorded music is for private, noncommercial use. This law is designed to cover the manufacturers that design products for digital recording, such as minidisk players, DAT players, tape players, etc. They, in

turn, have their products copyrighted. They then have to pay a statutory royalty on each device and piece of media sold. These statutory royalties are paid to the Copyright Office, and then there is a group called the Alliance of Artists and Recording Companies (AARC) that distributes the money to artists and copyright owners to compensate for money lost due to home recording. Although this law covers a lot in the field of media recording devices, it does not cover multi-purpose devices, such as a general computer or CD-ROM drive. This makes it illegal for a PC user to make sound recordings of an artist's copyrighted work. These computer recordings, usually performed by ripping CD's, a way of recording an audio CD to a computer's hard drive and changing the audio file format (to .MP3 most of the time), are usually the key reasons for copyrighted material to appear illegally on the Internet. A typical situation is: a music listener buys a CD, records the CD"S audio files to the .MP3 format, and then through peer-to-peer networks or online servers distributes the illegal material to any number of Internet users across the world. Although this type of copyright infringement occurs daily throughout households all over the world, anyone responsible for breaking this law using these devices can be prosecuted. Basically, with these devices, manufacturers do not have to copyright them, or pay royalties for that matter. Therefore, no one is getting paid to compensate for the home recordings.

3.1.2 Digital Performance Right in Sound Recording Act of 1995 (DPRA)

The next digital music law was passed in 1995. It was called the Digital Performance Right in Sound Recording Act of 1995 (DPRA), and it gave copyright owners the right of public performance. This meant that owners could give authorization for digital transmission of their works via such mediums as the Internet. Digital Internet

media programs like Shoutcast (www.shoutcast.com) and Live365 (www.live365.com), and digital transmissions from radio stations are examples of this law in action. Although this law does not have a great bearing on our project, it is still a very important Act regarding copyrights and the digital world. However, computer users sometimes record these digital performances and illegally distribute them, taking away from artist and recording company profits.

3.1.3 Digital Millennium Copyright Act (DMCA)

In 1998, the Digital Millennium Copyright Act (DMCA) was implemented, prohibiting the manufacturing and distribution of devices designed for the sole purpose of undermining technology used to protect copyrighted works. This act was also for Internet Service Providers (ISP's) transmitting digital media that had been copyrighted. The law states that if these ISP's were transmitting infringing content, then they were to remove it immediately, or else be penalized for it. It also provided a license for digital audio services transmitting copyrighted data for the prime purpose of entertainment. According to this law, everything would be wonderful for the music industry. However, it has to be accepted that there are devices and programs out today that people use, such as CD-ROM's or CD burners and recording applications, for purposes that aren't illegal, like making own personal private recordings and distributing them. Therefore, these products cannot be illegal, yet people will continue using them illegally to their advantage. As for the ISP's, keeping track of user's individual infringing content is virtually impossible, and until further technology is invented to detect this, the transmission of this content will continue.

3.1.4 No Electronic Theft Law (NET Act)

As the music world approached the new millennium, new measures were taken in order to catch up with the exponentially growing digital world, such as the availability of downloadable online music and other media. The increasing amounts of peer-to-peer networking and online media servers have brought about yet another law that limits users to what they can and cannot do over the Internet. This new law, called the No Electronic Theft Law (NET Act), is one of the most recent additions dealing with this controversial problem. It states that sound recording a copyrighted work is considered infringement, even if it is not for monetary or commercial gain. Basically, this part of the law contrasts the earlier Audio Home Recording Act (AHRA) set in 1992, which stated that recording for private noncommercial use was legal. So, the authorities are toughening up due to the present circumstances. Older laws are being done away with and stricter laws are taking their place. When this act explains what "commercial advantage or monetary gain" means, it includes anything received digitally of value. This is very important because it incorporates MP3 trading. The penalties for this recent Act can be pretty punishing, although there have been very few cases where individuals have been penalized. It calls for up to 5 years in prison and/or up to $250,000 in fines.

3.1.5 Conclusion

In all, the whole copyright issue with digital music is yet to be resolved, and as long as newer technology emerges, and more and more homes are linked with the Internet daily, the whole media distribution process will continue. Right now, these laws are almost impossible to enforce, and while there are few ways to seriously enforce them, music listeners will keep taking advantage of the artists and the music industry.

3.2 Licensing

According to copyright laws, the creator of a work has the right to:

1) reproduce the work
2) distribute copies
3) perform the work publicly
4) create a derivative work
5) display the work publicly

The rights are usually only legally exercised by a copyright owner, unless someone who wants to use the work obtains a license. Usually, there are fees involved with this process, and the licenses are voluntary and have limitations.

This whole concept can be applied to sound recordings and the Internet. Anyone wishing to offer sound recording for download must obtain a license before doing so, and these licenses are binding contracts that specify (a) the owner, (b) the rights being granted, (c) the term of the license, and (d) if any royalties are to be paid.

Some particular situations in which licenses need to be purchased are:

- Using a sound recording in a movie, commercial or other visual work
- Offering music videos to view or copy
- Using a 30 second clip
- Selling compilation CDs
- Offering digital downloads
- Offering a jukebox on the internet
- Offering a download or performance to someone outside the United States

In the end, the key factor here is that it is illegal to offer digital downloads on the Internet, these laws are being broken, and it is extremely hard to control and enforce.

3.3 Campaigns Against Media Piracy

According to the Recording Industry Association of America (RIAA), one of the largest groups against this whole piracy situation, there is a significant negative impact

that piracy has on the music industry. Every view in this section is from the recording industry. They say that the belief that record companies and recording artists are still getting rich is a mere fallacy, and that the industry loses approximately $4.5 billion to physical music piracy alone. This does not even include money lost to online digital piracy, although the digital world and the Internet may have a bearing on these illegal physical copies. But, now the RIAA is banding with law enforcement officials to crack down on the music pirates around the world, and when caught, sentencing them to jail time or imposing a fine.

3.3.1 Who is Losing?

There is a great impact due to the music piracy going on today in the world, and so many groups are losing from it. First off, something that isn't so evident is that consumers are losing. Well, how are they losing? All of this money that is saved by pirated recordings is driving up prices for legitimate products for everyone. The recording industry has to obtain their money back somehow, and this is one of the ways they are doing it, even if it is punishing the most honest people, the truthful consumers. Next, it appears obvious that the record companies are losing. One stunning fact is that 85% of released recording don't even generate enough revenue to cover their costs, and the companies have high hopes that these campaigns can crack down on the piracy so that this number will decrease (RIAA). Lastly, the artists are losing. When most people think of artists, they think of the singers or bands, but in most cases the artists also include musicians, songwriters, and producers that have devoted hours upon hours into creating these works. Basically, almost all of these artists (around 95%) depend on sales to make a living, and are being damaged by pirated copies sold to the public.

3.3.2 What is Being Done?

Illegal production and distribution is being investigated by the RIAA, and they are pursuing a policy that combines education, enforcement, and developing technologies to help suppress all of the industries losses.

It is estimated that $300 million is lost a year domestically by the music industry because of illegal products, and the RIAA and law enforcement are taking action, shutting down hundreds of United States and overseas manufacturing and distributing operations, resulting in greatly reduced illegal CD vending across the country.

More importantly, to take care of the problems online, the RIAA has a team of Internet Specialists, and also a 24-hour automated WebCrawler, that have stopped some internet sites from making illegal recordings, such as MP3s available. Obviously, this process is taking some time, because there are still plenty of ways to receive illegal media, and when enforcement figures out how to detect illegal recordings, there is usually some computer genius there to counteract their technology, and find new and improved ways of distributing these MP3s.

The following excerpt, from the official RIAA website, explains how the RIAA has taken action against some of this online media piracy, describing the process they use.

> "Based on the Digital Millennium Copyright Act's (DMCA) expedited subpoena provision, the RIAA sends out information subpoenas as part of an effort to track and shut down repeat offenders and to deter to those hiding behind the perceived anonymity of the Internet. Information subpoenas require the Internet Service Provider (ISP) providing access to or hosting a particular site to provide contact information for the site operator. Once the site operator is identified, the RIAA will take steps to prevent repeat infringement. Such steps range from a warning e-mail to litigation against the site operator. The RIAA then uses that information to send notice to the site operator that the site must be removed. Finally, the

RIAA requires the individual to pay an amount designated to help defray the costs of the subpoena process (RIAA)."

The RIAA are the pioneers for Internet copyright enforcement, and in the past couple of years have settled five lawsuits pertaining to internet piracy violating federal copyright laws by reproducing and distributing material. They also have created an educational program called the Soundbyting Campaign, where they have come together with over 300 universities, and have reduced the amount of illegal sound recordings obtainable through their servers by 55%. Usually, these universities put a block on certain web sites or servers, and the students are unable to download these illegal recordings.

3.3.3 Statistics

Now that the RIAA has taken action against media piracy in the past couple of years, the numbers of seizures and arrests has skyrocketed as compared to in the past. By mid-year 2000 they had seized 539,130 illegal CD-R's and at the same time in 2001 had collected 1,257,796 copies, a figure that had increased 133 percent. According to this increase, the operation seems to be working, and if numbers continue to increase, they could be making the recording companies and artists much happier. Also by mid-year 2001, the RIAA investigators had located 72 illicit distribution companies, 34 manufacturing operations, and taken 604 CD burners that were being using to produce illegal copyrighted recordings. The number of CD burners seized was close to the amount found in the whole year of 2000.

1762 arrests had been made up until mid year 2001, a number which had increased 89% from the year before it, thanks to the help of federal, state, and local enforcement officials.

The statistics for cutting down on CD-R piracy crime prove that the RIAA is heading in the direction that they want to on seizing actual physical copies, but what about the real issue here: the online piracy, the illegal distribution of MP3s, and the Internet masterminds that are behind all of this? Here is what the RIAA had to say recently about illegal online activity.

> "The first half of 2001 saw a slight decline in the number of notices sent to ISPs in relation to infringing ftp sites, web, and hotline type sites. However, this in not necessarily an indication that online piracy has declined. Instead, the reduction in notices sent reflects a consumer migration to centralized and decentralized file sharing services, an increased focus on enforcing against open nap servers, and a reallocation of internal resources to support the critical online litigations that have been brought this past year (RIAA)."

According to this excerpt, the online consumers are looking elsewhere to obtain their MP3s as newer technology is being invented. They are going to other types of MP3 servers that the RIAA has been too slow to track down, and also getting involved in such things as peer-to-peer networks, with which it is very hard to detect the illegal files. However, the RIAA is making progress, and MP3s aren't the only way people are getting their illegal music over the Internet. There is also online physical piracy, where music listeners are getting there music through such mediums as online auctions. Here, the RIAA's investigative crew is working with online auction houses, and singling out those trying to distribute illicit recordings. Together, by middle of 2001, they had removed 8,716 online auctions offering illegal copyrighted material, which was a 418% increase from the previous year. (See *Appendix A)*

3.4 Online and CD-R Piracy Prevention

Due to the phenomenal success of MP3 compression technology, many steps are being taken for prevention of illegal distribution online and illegal CD-R recordings. Among these are ways of detecting copyrighted media, monitoring the sharing of illegal audio recordings, and preventing listeners from ripping and burning copyrighted tracks to CDs.

One company, Digital Rights Management (DRM), is developing software technology to preserve music studios' and artists' rights. However, music listeners' rights may suffer in the process. Hundreds of companies are joining forces to create the Secure Digital Music Initiative (SDMI), which has a goal of encouraging digital music commerce, but at the same time preventing piracy. These companies, mainly producers of MP3 player software applications, are creating programs that now detect the watermark in a file that validates its authenticity, and controlling how these files are being viewed. Examples of how these files are being "controlled" are: (1) limiting the number of times a file can be played, (2) preventing playback on unauthorized machines, and (3) monitoring the transfer of files from a computer to a portable MP3 device, with a check in/check out process. This process causes the user to check back in a certain amount of MP3 files to their computer before allowing others to be checked out.

Another way of preventing the whole piracy situation is to look at it from the CD perspective. If stolen MP3 files are prevented from being burned to disk, enforcement and those who disagree with the whole topic of media sharing will be heading in the right direction. It was estimated in 2001 that 56.2 million computers were sold with CD burners, and 5 billion blank CD-R's will be purchased, leaving a large indication that

possible copyright infringement could take place, and it did. The solution to this problem is to limit users of CD-R burning software, such as that made by Roxio (www.roxio.com), so that burning copyrighted songs onto homemade CDs with the record label's permission would be virtually impossible. Such technology is expected out this year, and technology is in the works for a do-it-yourself CD, where a consumer would go to a secure online site, and purchase the rights to burn their own copy.

Also, the five major music labels are evaluating a technology, developed in 2001, that prevents listeners from ripping tracks into MP3 files. By the CD's being encoded this way, moving the audio files from a CD to a computer to the Internet will become much more difficult. These are some prophesies about the possible future of piracy technology:

> "In the next 12 months, different studios are going to protect CDs so you wouldn't be able to rip or burn them." – Jay Samit, senior vice president of new media at EMI Group
>
> "EMI is willing to bet that one in four music CDs will be sold this way [a do-it-yourself CD] within the next five years."
>
> "The significance of this deal is that the other half of the digital distribution model has just been recognized. Ten years out, this digital distribution model will be the dominant distribution model for recorded music and video." – Chris Gorog, Roxios president and chief executive

Another way to help the problem is to monitor the servers and peer-to-peer networks that contain MP3s. A tool called Media Enforcer, software that is now being developed to track distribution of media content across the Internet, has been used by both media content and service providers to help ensure the future of media online. This software will be able to detect illegal copyrighted works, and remove them from the Internet.

4.0 FINANCIAL EFFECTS OF MEDIA SHARING

Media sharing can have both a positive and negative effect on the finances of the music industry. The advantage of media sharing from the financial perspective is that it allows people to sample almost any kind of music with ease and would encourage them to buy that artists' record. By allowing the public easier access to these files the one might believe that the artist would gain more recognition and his or her record sales would increase. However, there are those people that take advantage of the current state of media sharing. People download songs, convert file types, and copy them to a CD. The music industry believes that this abuse of sharing copyrighted material is costing them billions of dollars a year in revenue. On the other hand, the music industry does not look at the sharing of files as "sampling" but as stealing. This view may harm the music industry in the future because of the increase of computers among consumers in the last five years. In the United States alone, the percentage of people that owned computers increased from 36 % in 1997 to 51% in 2000, this is an increase of about 15% over the a period of three years. Also, the percentage of people that have an Internet connection in their home has increased from 18% in 1997 to 41.5 % in 2000 (US Census Bureau). These percentages have also increased in the last two years and will more than likely continue to increase over time.

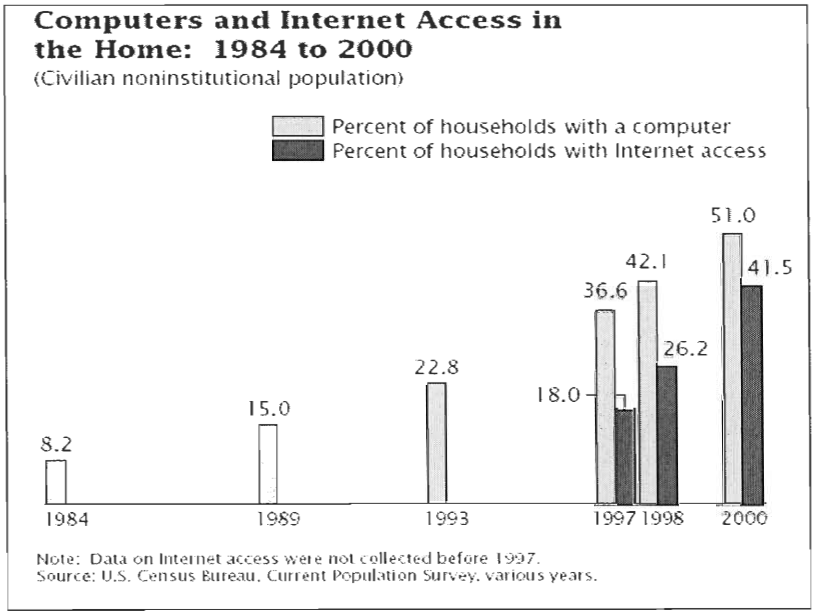

Figure 4.1 - Computer and Internet Access (1984 - 2000)

The music industry is claiming that they have lost a significant amount of money due to media sharing as well as pirated CD-Rs. According to BBC News, pirated music alone was worth approximately 4.2 billion dollars in 2000 (BBC News). This can also be considered an indirect effect of media sharing because of the availability of music files and the technology to copy the files on to CDs, as well as the low cost of CD-R copiers. Music piracy has increased by 25% globally and it is now believed that approximately on of every three CDs sold is an illegal copy (BCC News). This CD piracy is very prevalent globally, especially in China, Russia, Mexico, Brazil, and Italy. This rise in pirated CDs can be attributed to CD prices. The availability of copied CDs at a fifth of the store price will attract almost any consumer. However, one may believe that the availability of pirated CDs will cause the recording industry to lower their CD prices in order to drive out the competition of pirated records. This will not completely put an end to the problem but may impede the progress of pirated music.

When music is downloaded with the intent of purchasing the record based on whether or not the person likes the piece, it is called sampling. Sampling can be used to promote a record or give a group more exposure. However, some bands are against this because they view this as stealing copyrighted music. Many larger groups do not feel that they need to promote their music because they currently have enough support. On the other hand, many of the smaller bands feel that sampling is a great way to spread their music and gain publicity. These groups will later be analyzed later on in the Bands chapter.

One might rationalize the use of media sharing due to the high prices of CDs. The recording industry claims that they have lost enormous amounts of money due to media sharing and CD-R piracy; however, they are looking at every downloaded file as the proportional loss of a record sale. They do not see media sharing as a sampling tool but as a type of crime that violates copyrighted laws. It is true that most media sharing is illegal but it should not be if it is actually being used for sampling purposes. Sampling can be used to determine what CD the consumer wants to purchase. People are prepared to pay about seventeen dollars for a CD now. Some consider this to be a very high price for what costs go into making a CD. Here is a general the breakdown of the cost of a compact disk:

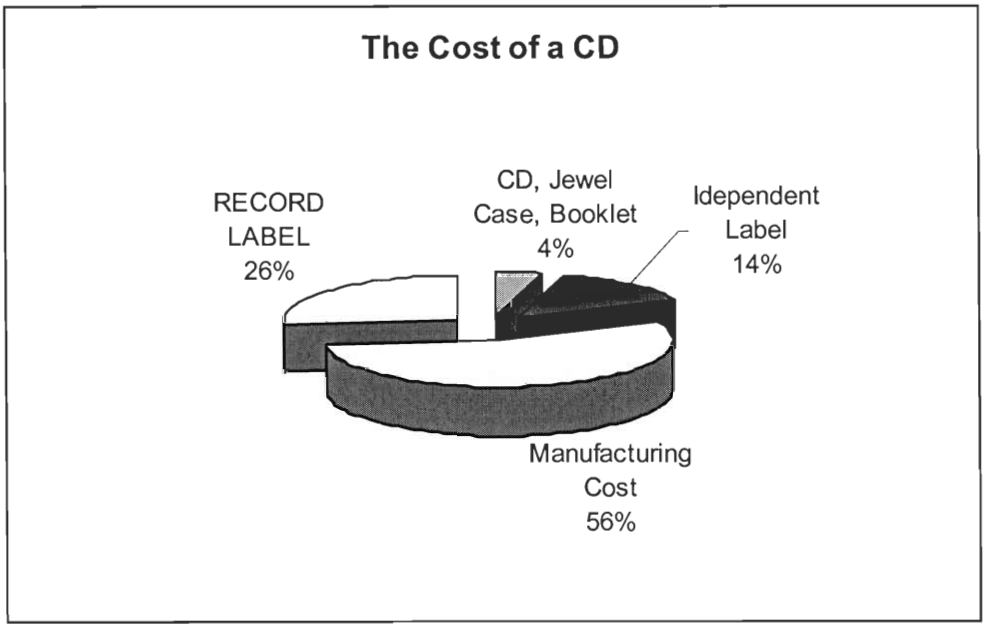

Figure 4.2 - The Cost of a CD

This percentage assessment is from Negativland.com and shows that the record labels are taking a significant proportion of the total cost, which is approximately 26%. This equates to about four dollars and seventy cents per CD. Many people see this as a type of price gouge because it is out of their control. Music is such a large part of society that most people would pay almost any amount to obtain a song.

However, according to the RIAA, the costs of CDs have gone down since they first entered the market and are more than worth their price compared to other forms of entertainment. The RIAA notes that the costs of many other forms of entertainment have increased over the years, as where the prices of CDs have not. There has been a significant amount of inflation that has occurred over the last ten years in the entertainment industry. An example of inflation is the cost of an NBA ticket. In 1993 the cost of a regular season was about twenty-seven dollars. However, during 2000 the cost of an NBA ticket is approximately fifty-one dollars. This was a 56% increase over

the course of seven years. When considering all of the money that athlete's owners make, it may appear that sporting entertainment is taking advantage of an interested audience. Here is a chart that shows that the prices of CDs have actually decreased while other costs of entertainment have increased by significant percentages.

Entertainment vs. Inflation 1993-2000

Recording Industry Association of America, Inc. (202) 775-0101

The Labor Department's Consumer Price Index, a common measure of inflation, rose 21% from 1993 to 2000. That means $1 in 1993 had the same buying power as $1.21 in 2000. In that same time, the cost of several entertainment categories rose at rates faster the overall CPI. Here's how the prices, both adjusted and not adjusted for inflation compare.

	1993 Price	2000 Price	Raw Change	Adjusted for Inflation
NBA Ticket	$27.12	$51.02	+88%	+55%
Concert Ticket (average Top 50 tours)	$24.05	$43.75	+82%	+50%
Basic Cable TV (average monthly rate)	$19.39	$30.09	+55%	+28%
Movie Admission (average that includes matinees and discount theaters)	$4.14	$5.39	+30%	+8%
Hardcover Book (fiction)	$20.35	$25.33	+24%	+3%
Broadway Show	$43.91	$52.96	+21%	0%
Home Video Rentals	$2.42	$2.82	+17%	-3%
CD (average suggested list price)	**$13.14**	**$14.02**	**+7%**	**-12%**

Sources: U.S. Labor Department, The Marketing Report, Pollstar, National Cable Television Association, The Motion Picture Association of America, American Library Association, The League of American Theatres and Producers, The Motion Picture Association of America, Recording Industry Association of America

The data on CD average suggested list price contained in this chart are determined through an aggregation of proprietary company data, hich are confidentially submitted directly to PricewaterhouseCoopers LLP. These figures are not representative of any individual company's pricing structure, nor are company-specific data accessible to RIAA or competing company personnel.

Table 4.1 - Entertainment vs. Inflation 1993 - 2000

These numbers represent a trend in a trend to which Americans have spent their money. The basic trend is that people will allow large business to raise prices because there is not much that they can do about it but be angry. Whereas compact disks have actually decreased in price over the past decade. The overall cost of a CD has decreased by about 12 % between 1993 and 2000. The recording industry may advertise their products very well, but there is not much for anyone to complain about since CD prices have done nothing but decrease. Therefore, one may consider that compact disks are very reasonably priced for the amount paid for them, as well as the enjoyment they deliver. Even though music and sports are both types of entertainment, they differ greatly and financial conclusions cannot be drawn comparing the two types of entertainment. (see Appendix A3)

Also, both age and gender effect record sales significantly. The majority of popular music now is targeted to the youth because they are very impressionable. The use of the music television, such as VH1 and MTV, create trends and stereotypes of human behavior. This generation also has more power than any previous generation because of the personal computer (PC). This piece of technology, along with the Internet, allows the majority of CD consumers' free access to what they are currently paying for: music. The following chart shows that approximately 23% of American people surveyed have downloaded a music or MP3 file off the Internet from their PC

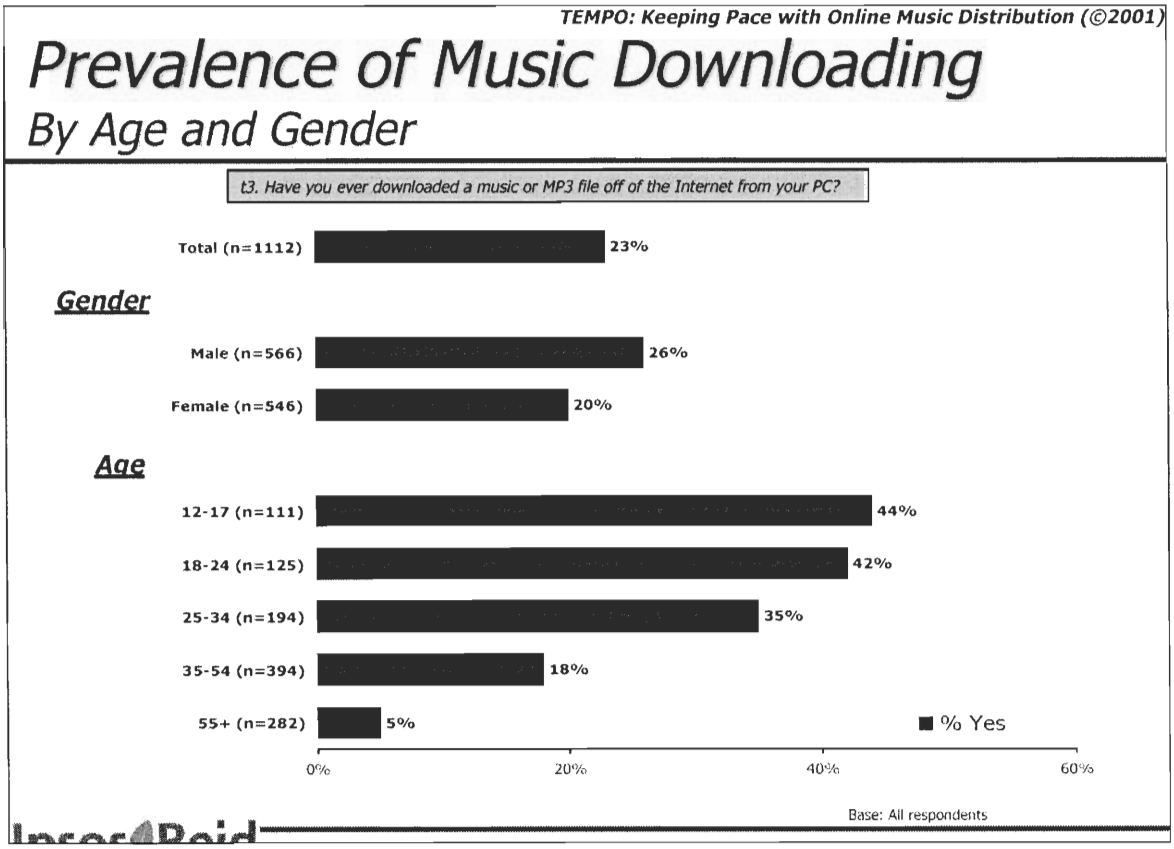

Figure 4.3 - Prevalence of Music Downloading (By Age and Gender)

(Ispos-Reid). This chart also shows that downloading music is not a gender-biased activity. Approximately the same amount of males and females download music, about 26% of males download music, while about 20% of females download music. This shows that the main concern with media sharing is the age group as opposed to gender. Approximately 43% of people between the ages of twelve and twenty-four have downloaded music. That is a large percentage of the population, it is almost one out of every two surveyed. The following chart also illustrates that the minority of downloaders in the 23% bracket are above the age of fifty-five. This shows that the availability of free

music by means of the computer has not influenced many older people. This may be due to the recent introduction of the computer to the world.

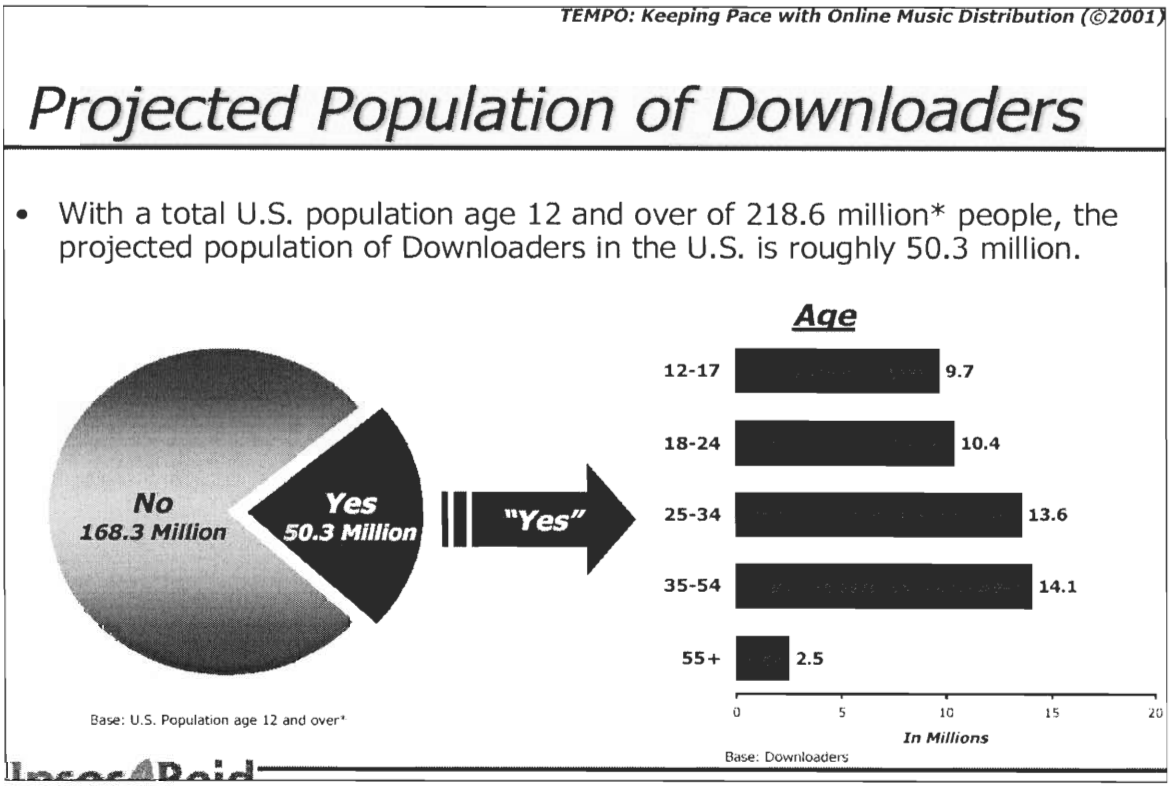

Figure 4.4 - Projected Population of Downloaders

In terms of marketing, this is a number that has to be watched carefully because that is the age group, which is largely targeted by the recording industries. This is can be seen in advertising methods used on music television stations such as MTV and VH1. MTV is targeted to a young audience and has a strong influence on the music choices of today's younger generations. This is the same generation that has access to computers. With its advancements, approximately one out of two people in the age group twelve to twenty-four have downloaded music. The recording industry should take that into consideration

while trying to regulate the flow of media sharing because there is a large potential for a loss of sales.

Another study conducted by CNET news says that about 29% of people who download music would buy entire albums off the web for about ten dollars a piece (Hu). According to the other chart of the amount of people who download music, this 29% would be approximately 14 million people. Considering that the online prices are significantly less than music store prices, this is just another problem that the recording industry financially faces. Also, another survey done by CNET says that nearly 11 million online music fans would have interest in paying a monthly subscription fee to download music. A price was not given, however it must be a reasonable amount of money so that consumers would be happy, as well as the bands and recording labels.

There was much controversy surrounding the topic of a decline in music sales due to music downloading sites such as Napster (CNET). According to a study conducted by CNET, a record industry retail tracker called SoundScan found declining CD sales at music stores near universities and colleges. The blame is being pointed toward Napster and other similar downloading sites. There has been a 4% drop in record sales at music stores specifically located near colleges and universities in the last two years. However, in stores located near sixty-seven colleges that have banned the use of Napster, record sales have dropped 7% in two years. But on the other hand, there has been an overall sales growth of about 20% across the music retail industry (CNET). The study also states that the CEO of Digital Rights Management claims, "these sales take a pretty severe dip downwards". But the drop in college music stores were from 1998, which was a year

prior to Napster being written. Therefore, many of these surveys and decisions cannot directly link media sharing to sales loss.

The Napster site was soon shutdown and told to change its structure because of legal implications of copyright laws being broken. Napster is currently restructuring its distribution format. They are currently trying to set up a server that allows downloads based upon monthly payments. This will be a very interesting situation, given that Napster was the number one downloading site in America at one point in time. People may not be willing to pay for downloads currently when they are still receiving them for free on other sites such as Audio Galaxy and Music City. These sites do not use a centralized server, which allow people to share media "freely". However, the new Napster will still be on a central server but only certain files will be selectable. This is due to permission given to Napster by the bands and their recording labels. One may think that this is a plausible way for Internet users to share media without the repercussions of copyright violation laws. (see Appendix A4)

5.0 SURVEY BASIS

In order to get an overall general opinion of what users think about these peer to peer file sharing applications, we gathered a collection of surveys done in the past couple of years by a variety of different companies, magazines, associations, and colleges. Among these are Digital Mogul and CENTRIS, Greenfield Online QuickTake, Cyber Dialogue, the Digital Music Association, *Rolling Stone*, the University of Southern California (USC), and Peter S. Fader, PhD., an Associate Professor at the University of Pennsylvania. The main basis for the most part of these surveys was to determine if sampling via peer to peer file sharing, such as Napster, had a positive or negative impact on a listener's likelihood of going into a retail store and purchasing a CD.

5.1 Digital Mogul and CENTRIS

A survey by Digital Mogul and CENTRIS, released in 1999, discovered that almost half of music listeners felt that sampling digital audio tracks online increase the likelihood of purchasing the entire CD on the Internet. Additionally, 55% of listeners said that track sampling increases their likelihood of buying a CD in a retail store.

Question	Yes
Does sampling increase CD purchasing on the Internet?	50%
Does sampling increase CD purchasing in retail stores?	55%

Table 5.1 - Digital Mogul and CENTRIS Survey

5.2 Greenfield Online QuickTake.com

An online survey done by Greenfield Online QuickTake proved that 38% of music listeners felt they would buy more CDs due to downloading digital music, while 46% said they expect to buy around the same amount.

Effect	Percentage
Downloading music increases CD purchasing	38%
Downloading music has very little effect on CD purchasing	46%

Table 5.2 - Greenfield Online QuickTake Survey

5.3 Cyber Dialogue

The Cyber Dialogue firm released a study that proved to the music industry that the Internet and online file sharing has a positive impact. Out of a large group of respondents who download music files, 29% purchase more music as a result, 49% purchase around the same amount, and 14% say their awareness and interests in new artists and music styles has increased.

Effect of Downloading Music Files	Percentage
Listeners purchase more music	29%
Listeners purchase the same amount	49%
Increased interest in new artists and music styles	14%

Table 5.3 - Cyber Dialogue Survey

5.4 Digital Media Association

The Digital Music Association did their own survey that proved that online Internet streaming and downloading increases music sales. In their study, 59% of listeners have heard singles online and then bought the album. Also, one third of downloaders say they are more likely to buy music and 57% say their habits are not affected.

Effect	Percentage
Hearing a single online has caused the purchase of an album	59%
Downloading makes CD purchasing more likely	33%
Downloading does not affect buying habits	57%

Table 5.4 - Digital Media Association Survey

5.5 *Rolling Stone*

A reader's survey in *Rolling Stone* magazine in the Summer of 2000 determined that 90% of music listeners buy at least as many CDs now as compared to before when free music was unavailable on the Internet. Napster and other MP3-download sites caused 36% of listeners to increase their CD buying, and 83% said they have never decided not to buy a CD because they got it free online. Also, 22% music listeners that download at least once a week said they usually buy an artists CD after sampling it on the Internet.

Effect	Percentage
Listeners buy at least as many CDs since music became available online	90%
Users buy more music because of technology such as Napster	36%
Because music is free online, music listener decides not to buy it	17%
Once a week downloaders that usually buy a CD after sampling	22%

Table 5.5 - *Rolling Stone* Survey

5.6 University of Southern California

Researchers at the University of Southern California (USC) surveyed the student population and found that 63% of students who download MP3s say they are still buying the same number of CDs, and 10% say they are buying more. In addition, 39% of students that downloaded a song in an MP3 format had caused them to go out and buy that artists CD.

Effect	Percentage
Students that download are buying the same number of CDs	63%
Students are buying more CDs even with MP3s available	10%
Students have bought albums of artists they've heard through MP3s	39%

Table 5.6 - University of Southern California Study

5.7 Peter S. Fader, PhD. Survey

Peter S. Fader, an Associate Professor at the University of Pennsylvania, concluded that 28.3% of people that have downloaded music from Napster say that their music purchases have increased since they started using the software, whereas only 8.1% say their music purchases have decreased.

Effect	Percentage
Increase in music purchasing because of Napster	28.30%
Decrease in music purchasing because of Napster	8.10%

Table 5.7 - Fader Survey

5.8 Conclusion

After examining media sharing though a variety of reliable surveys, the evidence suggests that file sharing programs such as Napster have a positive overall impact on CD sales. It has a greater effect on stimulating CD sales rather then displacing CD sales, and according to financial figures, the music industry sales are still strong. The only reason they are suggesting that they are losing billions of dollars is because they are treating every file downloaded online as if it were a lost sale, which is absurd because many music listeners actually buy the CDs after sampling the MP3s, and they are not taking this into account. They may have not bought an artist's CD in the first place in they had not sampled it online. Peter Alexander, PhD., an economist studying media sharing, had views that totally coincided with the conclusion of these surveys. When asked if the music industry was losing money, he stated:

> "There is no evidenced that supports that. None. There is no evidence that supports that because someone uses Napster (a) that they will buy less music or (b) that they would have bought that music in the first place. I've listened to plenty of MP3s, none of which I would have purchased anyway. It's not a lost sale. They're predicting that for every file moved they have lost a sale. That's simply not the case. You can listen to something without wanting to buy it. You can listen to something and say, "Gosh, I actually don't like that." Perhaps a little more to the point, you can hear things and say, "Oh, you know I do like that. That's pretty neat. Who is that band? Who is that group? What other things do they have? I'd actually like to get their CD, and get nice clean copies." There are two sides to this coin, but when they start throwing figures around like that its complete foolishness (Alexander Interview)."

Also, a portion of an article published by Peter Alexander read "A survey by Jupiter Communications found that Napster users are 45% more likely to increase their purchases of prerecorded music than those who do not use the service. Further, a study by Reciprocal Inc. showed that while sales of recorded music fell by 4% near college campuses over the past year, sales at 67 colleges that had banned Napster fell by 7%. Moreover, the dollar value of compact disk sales grew by 9.9% over the first two quarters of 2000 (Alexander 5)." This shows that the claim that the recording industry is losing profit due to online media sharing holds no ground based on statistical data.

The combination of these surveys and studies seems to suggest that file sharing agents, such as Napster, are not harming the music industry. When taken all together, these studies conclude that 73% to 92% of consumers who download music purchase the same amount of CDs or more. Based on the evidence here and the views of Peter Alexander, PhD., the music industry is not in as bad of shape as they suggest, and to state that they are losing 5 billion dollars because of media sharing is a little extreme.

6.0 BANDS

It is also important to look at the issue of media piracy from the makers of the music. One might believe that bands would be strongly against piracy because it causes them to lose money. In essence, media sharing is breaking the law. People are copying licensed material without any rights. However, there are those who may think that media sharing can be used as a tool to publicize the name of a band or to gain more recognition. There are certain bands for and against media sharing. Each has their particular reasons why they are or are not for media sharing. The problem is where to draw the line between sampling and stealing.

6.1 Bands Against File Sharing

Many musicians believe that media sharing is stealing and should not be tolerated. One may argue that they are making too much money for what they do; however, they do earn their money. Being a musician is a full time job and requires much time practicing or working in the sound studios. Rapper, Shaggy had this to say about media sharing:

> "You know, my whole vibe on Napster is, I understand how it will help life for unsigned bands. It is definitely a window to showcase a lot of bands [that] probably wouldn't be getting to hear from a lot of these majors, but at the same time you all need to pay us now . . . I mean, straight up! This is some hard work. I mean, I was in the military for, like, four years, man, and I'm telling you, boy, the music business is some hard work . . . You need some sort of pension, you know? And if they can't regulate it to where the artist gets paid, well, then it's not that great of an idea because even the unsigned artists, at some point, they're going to want to get paid for their things also."
> -- *Shaggy*
> *February 2, 2001* (RIAA)

This statement is very true. The lives of professional musicians are very hard because of the touring and recordings. It can be a very restless life. In addition, Don Henly had this to say about media piracy:

> "The bottom line is this; the works of recording artists are being stolen and disseminated over the Internet without fair and just compensation for those artists. This is the way songwriters and singers make their living, and stealing that music and giving it away for free is not right. Then there's the absurd argument that, 'Well, rock stars are wealthy, and therefore, it's all right to steal from them.' But the majority of singers and songwriters and recording artists in this business are not wealthy. They're struggling from hand to mouth, day to day, and they need fair and just compensation for their work. I'm deeply concerned, as are all artists about these issues, particularly Napster."
> *-- Don Henley*
> *Boston Globe – May 5, 2000 (*RIAA)

Stealing is against the law and that should be taken into consideration before downloading their songs if you have no intention to buy their CD. Trent Reznor of Nine Inch Nails said:

> "…Just because technology exists where you can duplicate something, that doesn't give you the right to do it. There's nothing wrong with giving some tracks away or bits of stuff that's fine. But it's not everybody's right. Once I record something, it's not public domain to give it away freely. So I stand behind Dr. Dre and Metallica and support them. And that's not trying to be the outdated musician who is trying to 'stop technology. I love technology. Technology is here to stay…"
> *-- Trent Reznor of Nine Inch Nails*
> *Boston Globe – May 5, 2000 (*RIAA)

Technology should not give anyone the rights to rationalize stealing. Sharing can be good in moderation but when people are given a little leniency that is when they begin to get take advantage of the situation. Rapper Eminem had this to say about media sharing:

> "I'm sorry; when I worked 9 to 5, I expected to get a f--king paycheck every week. It's the same with music; if I'm putting my f-- king heart and

> all my time into music, I expect to get rewarded for that. I work hard and anybody can just throw a computer up and download my s--t for free. That Napster s--t, if that gets any bigger, it could kill the whole purpose of making music. It's not just about the money…It's the thrill of going to the store; you can't wait till that artist's release date, taking the wrapper off the CD and putting the CD in to see what it sounds like. I've seen those little sissies on TV, talking about [how] 'The working people should just get music for free,' I've been a working person. I never could afford a computer, but I always bought and supported the artists that I liked. I always bought a Tupac CD, a Biggie CD, a Jay-Z CD. If you can afford a computer, you can afford to pay $16 for my CD."
> -- *Eminem*
> *Wall of Sound – May 17, 2000 (*RIAA)

This is very bold statement; however, his general message was that people should not download a piece of music that does not belong to them without buying the piece. The people doing this apparently can afford sixteen dollars for a CD if they are spending at least five hundred dollars for a computer. Also, Chino Moreno of the Deftones says:

> ". ... [But] right now, if it's affecting anybody, it's affecting a band like us. Metallica sells millions of records, you know what I mean? They're not in the hot seat as much as we are. ... Our new record, it hasn't even come out yet, and I'm sure probably a quarter of our fan base has already heard it. We just have to hope these people still buy our record when it comes out, but it's kind of scary for us."
> -- *Deftones singer Chino Moreno*
> *Sonicnet.com – June 7, 2000 (*RIAA)

This is a good example of how media sharing can take way profit from a band. The Deftones are a popular band that may have some trouble in record sales because of a limited audience that can easily obtain their recordings by means of the Internet. Finally, Lars Ulrich of Metallica said:

> "Let's get the obvious out of the way: This is not just about money (as some of the more cynical people will think). This is as close as you get to what's right and what's wrong. Metallica have always been in favor of giving the fans as much access as possible to our music. This includes taping sections at our concerts, and streaming our music via our website.

> And while we certainly revere our fans for their continued support and desire for our music, we must stress that the open trading of any copyrighted material is, in effect, the looting of our art. And that is something that no artist can, in their right mind, condone. We are in the business of art. This is a walking contradiction if ever there was one. However, there is no denying it. On the artistic side, Metallica create music for ourselves first and our audience second. With each project, we go through a grueling creative process to achieve music that we feel is representative of Metallica at that very moment in our lives. We take our craft -whether it be the music, the lyrics, or the photos and artwork- very seriously, as do most artists. It is therefore sickening to know that our art is being traded, sometimes with an audio quality that has been severely compromised, like a commodity rather than the art that it is. From a business standpoint, this is about piracy- a/k/a taking something that doesn't belong to you; and that is morally and legally wrong. The trading of such information -whether it's music, videos, photos, or whatever- is, in effect, trafficking in stolen goods. Back to the obvious: Very successful recording artists are compensated extremely well for what they do. For every Metallica, however, there are an endless number of bands who rely on what ever they can get in royalties to survive. And while we all like to take shots at the big, bad record companies, they have always reinvested profits towards exposing new bands to the public (although sometimes not the RIGHT bands). Without this exposure, many fans would never have the opportunity to learn about tomorrow's bands today. Napster and other such sites were obviously not conceived to lose money. They, like the labels, must make money or they're out of business. And whatever money they are generating from their site is dirty money. It's being taken out of the hands of the artist and the record labels and put into the hands of another corporation."
> -- *Lars Ulrich, Metallica (*RIAA)

This is a statement from one of the leading artists speaking out against media sharing. His point is very reasonable. Downloading is stealing another person's property and is doing nothing but taking profit away from the musician.

6.2 Bands For File Sharing

On the other hand, despite all of the negativity coming from the recording industry and artists like Metallica, there are several musicians that believe that media sharing is a positive thing. These artists range from popular artists on major record labels

to artists on independent labels to artists that aren't even on a label. Some of these groups have even become extremely active in the fight for Napster, many of them releasing legal documents on the benefits that file sharing have offered to them.

Take Limp Bizkit for example, one of the most successful recording artists recent years. This hard rock band's singer, Fred Durst, criticizes fellow artists who have accused Napster of promoting music piracy, and thinks that MP3 file sharing is a great way for fans to sample an album before buying it. To make a big deal about this, Limp Bizkit teamed up with Napster in 2000 and launched a free US concert tour, promoting the trading of MP3s across the Internet, and letting the public know that media sharing doesn't have a large negative effect as some of the bands are declaring (ZDNET).

There are many bands that have backed Napster and file sharing due to the huge controversy that Napster has had to face in court. Several of them have released official legal court documents, expressing their views on the topic of media sharing and its effect on them personally. Among these is a very successful alternative rock band, The Offspring. An excerpt of the legal document released by The Offspring's general manager, Jim Guerinot, stated:

> "7. The Offspring support Napster on their web site and even provided a link to Napster. The Offspring believe that digital technology provides a great opportunity to communicate directly with fans and thus increase their fan base.
> 8. Napster is a wonderfully programmed system that The Offspring has successfully used to promote their music and their band. Wired magazine reported that singles by the band from their record, *Americana*, had as many 22 million downloads while the band sold ten and a half million copies of that release. It is the bands' and their manager's opinion that allowing fans of The Offspring to hear their music on Napster will make fans more, not less, likely to purchase the group's records, T-shirts and other merchandise, and attend live performances by the band.

> 9. Napster allows The Offspring to reach a global audience of music lovers and to create new fans all over the world. Compared to traditional and more expensive methods of "sampling" promotion such as cassette and CD samplers, allowing fans to download MP3s from a website and/or trade them on Napster is radically more efficient and effective. With the increasing use of the Internet, it is conceivable that Napster and other technologies that allow quick and direct means of sharing and transferring information will be as effective as radio, television and the press to market and promote their music while being more cost effective. The Offspring view Napster as a vital and necessary means to promote music and foster a better relationship with fans (Napster).

As concluded by The Offspring, MP3 file sharing has proved to be very helpful and positive towards their band. Nothing was ever stated that suggested a loss in the bands profit due this file sharing controversy. While The Offspring is a highly popular and successful band, there are also many bands under independent labels and no labels at all that are heavily backing Napster and MP3 file sharing. There are actually many success stories of unknown bands that have prospered due to exposure through MP3 file trading, artists that perhaps may have never had the opportunity to have their music heard before. Among these are the Pilfers, a not so well known ska band, and D.J. Xealot, a disk jockey who has gained great success through Internet file sharing. Below are two excerpts from legal documents released, one from Randy J. Nichols, personal manager of The Pilfers and one from Lawrence W. Railey, also known as D.J. Xealot.

Excerpt from Randy J. Nichols:

> "5. MoJo and Universal Music have not released our album internationally. Because of this and the label's unwillingness to promote us, the band has turned to the Internet and technologies like Napster, which allow bands to reach a global audience.
> 6. I first learned about Napster in November of 1999, through one of The Pilfers'
> fans. It immediately occurred to me that Napster would be a great tool for promotion, distribution, and research. The Napster software and website attracts millions of music lovers and its chat-rooms provide a great forum of discussions and "word of mouth" promotions. Further, Napster's file

sharing technology makes it possible for The Pilfer music to proliferate at an exponential rate and with minimal expenditure. This proliferation is sure to lead to increased recognition and a larger base of fans willing to attend the band's live performance and buy the band's merchandise and CD's.
7. Besides being an efficient, effective, and inexpensive distribution tool, Napster is a great research tool, allowing bands to "look into" their fan's play list to determine the fan's musical tastes. I have accessed the song lists of the Napster users who are trading The Pilfers in order to gain insight into that fan's musical taste and identify what bands, or what types of bands, The Pilfers should perform and tour with.
8. When I initially searched Napster for The Pilfers' music, I found that only a few files were being traded. I have encouraged the trading of The Pilfers' music as part of my continuing effort to promote this band. A search on Napster now returns the maximum 100 files. This increase in the sharing of The Pilfers' music means that more people are listening to their work. Based on my experience in the music industry, the increase in the number of people listening to music means a better chance in an increase in the demand for the music and for live performances. Napster is an ideal service allowing us to reach a global community of music lovers (Napster)."

Excerpt from D.J. Xealot:

"2. I am currently not signed to a major or independent label.
3. Before Napster was available to me, only a few local listeners were interested in my music. Before November of 1999, I posted several of my tracks on MP3.com, which are currently available at http://www.mp3.com/DJXealot. Although I received some hits and a few people paid to download my music, neither the income nor the amount of traffic to my site was substantial.
4. In November of 1999, I began making my tracks available on Napster so that Napster users could download and trade my music. Napster's New Artist program allowed me to attach the URL of my MP3.com site using the ID3 tag functionality so that users interested in my music could link to my personal site, where they could actually purchase my CD's.
5. Within two weeks of posting my MP3's on Napster, my business improved by an estimated 50%. There were over 50% more hits on my tracks and many more hits on my MP3.com site.
6. In addition, I have made over $4,000 in C.D. sales and downloads since August of 1999, which has helped me pay for my college tuition at University of Florida in Gainesville.
7. Within a few months of posting my MP3s on Napster, I started receiving e-mails informing me that my music was being played in dance

> clubs, university radio stations, and web casts worldwide. I have also received solicitations from various independent labels.
> 8. Although most of my tracks are posted on Napster, loyal fans flooded to my MP3.com site after listening to one or two tracks on Napster in order to purchase my albums. Without Napster's ID3 linking functionality, users would not easily have been able to reach my web site.
> 9. Napster is a great promotion tool that provides an affordable alternative to major labels for artists like myself (Napster)."

The success of these artists proves that MP3 file sharing is beneficial in a variety of different cases. Without it, music by artists such as D.J. Xealot may have never been heard, and his CDs would have never been purchased. The truth is that artists for file sharing believe that it is a helpful tool in getting their music out to a large audience, and many of them owe their success to it. They realize that listeners are going to download the audio files, and some may sample them and burn them to CD, which is a loss for the artist. Although, studies have shown that the gains are greater than the losses, and more listeners are likely to buy a CD after sampling rather than burn an illegal copy of it. In all, many artists do not want to see MP3 file sharing disappear, and are doing anything they can to keep it active, because for some, if file sharing disappears, so does their rising fame.

7.0 CONCLUSION

Based on all of this data one might believe that media sharing could be invaluable to the record companies if used properly. When used for sampling purposes, media sharing can be used to promote bands and give them more publicity. However, many people have taken advantage of the commodity and free cost of file sharing. Therefore, media sharing has the ability to either advance or impede the future of the recording industry even though it is illegal.

Media sharing cannot be stopped it can only be regulated. This will come through the preventatives measures mentioned earlier. Measures such as campaigns against media piracy, licensing, and laws past against piracy. There are many people who will continue to download music for free. But there will be more laws enforced and searches will become harder when trying to find certain music. The music industry may soon find ways to prevent certain types of file sharing. However, it may be beneficial for them to create a widely used server such as Napster to distribute MP3 files at a proportional cost. This might be the ideal solution but the fact of the matter is that media sharing will not be contained to a reasonable level for a few years (see Appendix A2 and A5). By that time there may be new technology that will negate this issue. But, the issue that the music industry faces is not a bad one. The music and recording industries are still making an overall profit even though "...digital technology has reduced both reproduction and distribution costs (Alexander 4)."

The fact that there was no overall financial loss due to media sharing would lead one to believe that it should continue to exist. One may also think that much of the file sharing was sampling and promotion. There were no financial losses in the music

industry accredited to the usage of downloadable music sites. That is why media sharing should be tolerated to some extent. Even though file sharing is considered stealing, it is only gift that technology gives to our society as it advances.

APPENDIX A1

Technical Information on MP3's

As for the science behind MP3, this MPEG audio compression takes the area of psychoacoustics and uses it to capitalize on the limitations of human hearing. The human ear is less able to hear weaker audio signals at around the same frequency as stronger ones, a process known as auditory masking. This is where MP3 takes advantage of human hearing, by applying Sub-Band Coding (SBC), which first identifies the spectrum of frequencies in an audio file and then separates them into a series of frequency bands. Weaker signals within those bands are identified and then limited to the amount of data needed to represent the sound. Stronger audio signals in the same frequency bands end of masking these limited signals, which makes the noise from this limiting process not perceivable by the human ear. Basically, all if this information is now encoded in this format and the way to extract it and make it playable for the listener to hear is through an application such as Win amp that has the capabilities to decode and reconstruct the file. Although this process reduces the audio file's size greatly, there are other processes that factor in to the MP3's small file size. When encoding stereo files, audio files with a left and right channel, an MP3 realizes that sometimes there is a redundancy in the channels. It takes advantage of this using a procedure called Joint Stereo encoding, which will produce and end result that has a higher data reduction, while basically keeping a nearly perfect stereo image.

APPENDIX A2

***DISCLAIMER: "THE VIEWS EXPRESSED IN THIS INTERVIEW ARE THOSE OF ME, PETER ALEXANDER, AND DO NOT NECESSARILY REPRESENT THE VIEWS OF THE FEDERAL COMMUNIACTIONS COMISSION, THE CHAIRMAN OR ANY OF ITS COMMISIONSERS OR ANY OTHER STAFF. IN FACT, THEY PROBABLY WOULD VIAMATELY DISAGREE WITH ANYTHING I HAVE TO SAY ON THIS."

QUESTION: Do you feel that online piracy and pirated CDs are a very large problem right now?

DR. ALEXANDER: No, not necessarily. I have several reasons for thinking its probably not. They haven't been able to demonstrate that, in fact, piracy, as they call it, or file sharing as I call it has any negative impact on sales. In fact, if you look at the year 2000, I think sales were up 8 or 9 percent over 1999, and 2000 was the year when lots of people started sharing lots of files, when Napster started to really take hold. There is not a one to one correspondence between file sharing and music sales, a negative correspondence that is. Moreover, if you look at even area around the country, college areas in particular, where Napster is banned or was banned after some use and where Napster wasn't banned, even though sales fell in 2001 in those areas where Napster was banned, sales fell by more.

QUESTION: Is there statistical data that proves that the music industry is losing money due to media piracy, both online and CD-R pirating? There are some figures that show that the recording industry has lost up to five billion dollars in sales.

DR. ALEXANDER: There is no evidenced that supports that. None. There is no evidence that supports that because someone uses Napster (a) that they will buy less music or (b) that they would have bought that music in the first place. I've listened to plenty of MP3s, none of which I would have purchased anyway. It's not a lost sale. They're predicting that for every file moved they have lost a sale. That's simply not the case; you can listen to something without wanting to buy it. You can listen to something and say, "Gosh, I actually don't like that." Perhaps a little more to the point, you can hear things and say, "Oh, you know I do like that. That's pretty neat. Who is that band? Who is that group? What other things do they have? I'd actually like to get their CD, and get nice clean copies." There are two sides to this coin, but when they start throwing figures around like that its complete foolishness.

QUESTION: How do you feel about the statement that there is one pirated copy for every three actual CDs?

DR. ALEXANDER: The Chinese are heavily involved in that kind of stuff, and that's been known for years. In Southeast Asia in general, it is a real piracy haven for

CDs, and stuff just shows up there. I'm told back when, a lot of this was a wink and a nod in China, and that there were big shops to reproduce all kinds of intellectual products that were set up and more or less government sanctioned to knock off software, books, other things. So I have no doubt that it probably has an impact on those markets.

There are a couple things. First, I'm told that in Southeast Asia, it's a point of pride that if you have the original of a thing not a knock off it's a lot more prestigious. I can't say for sure but I've been told that more than several times

QUESTION: Do you think that the preventative measures that are being used for media piracy, such as coding files, are going to work?

DR. ALEXANDER: It's always been broken. Look at Ed Sullivan, out of Princeton. He took on when the music industry had its digital watermark competition. He and his group, some CS people from Princeton, Rice, and a few other places just demolished the stuff, in short order, and published a paper on how to demolish it.

QUESTION: Are the copyright protections being encoded in CDs going to work?

DR. ALEXANDER: When they encode it with this protection, there are basically three rings that start off on the CD, three really small rings, the first two of which are copy protection. A piece of tape over them defeats the entire copy protection. So, lets see, I'm going to guess, a piece of tape, about an inch long costs maybe about a tenth of one cent. So, you tell me. Every time that they have tried to protect something someone has found a way to defeat it. If it can be made, if it can be heard, it's going to be broken. It's that simple. They need to adjust to that.

QUESTION: Do you feel that CDs too expensive?

DR. ALEXANDER: Napster, you know relied on central servers, and that made it a target for litigation. Morpheus, Music City, Kaaza, and all the rest, all these others that are kind of built on a more peer to peer structure. There's no central server to sue. So when the music recording industry actually got Napster, they just made their job that much harder. These other little disintegrated parts are going to be much tougher to wean out, because it's all peer to peer. Do I think that the price has anything to do with it? Maybe. I can only speak from my own experience that I never like buying a CD that I've heard is pretty good, and spent fifteen to twenty dollars and finding out that it is crap. So I always like to have some heads up on that, and often times you can't just dial up radio and say play this. So, if someone can share with me those files and I can listen to them in advance, it helps me make better-informed decisions frankly. But that's my own experience, and I hate to generalize from my own experience. Think of the way the world would actually be if we all just generalized from our own experience, and said this is the way the world is.

QUESTION: Do you think Napster will be successful in the future?

DR. ALEXANDER: No, and I think that first of all the .nap will be converted to .mp3 in short order. That's going to take some CS kid about four seconds to figure out how to do, and then it's going to be done. Part of the battle you're fighting here is you've centralized some of the sharpest minds in the country in some of these CS and analytical schools and then you throw down this challenge of, "No, you're not going to be able to have this thing. You're not going to have it. It's just way too much free time, way to many resources, and way too much brainpower working at knocking these problems off and defeating the protection. The music recording industry and the motion picture industry, none of them stand a chance.

QUESTION: Do you feel online piracy will be controlled in the next 5 – 10 years?

DR. ALEXANDER: I don't think things are free. Microsoft used to give away, I mean, a lot of firms used to more or less give away software to hook people into using it, so later down the road after you're out of college and at a firm. Working at a business something, and you have the resources to buy the software, you do. I think a lot of people are willing to pay for software if they know it's something they are going to use and they're going to derive value added from. I think a lot of the hacking and cracking scene came from, you got this 10-day trial. How do you know whether you like the software? You get a thirty-day trial, or the software is priced at a rate where no one can afford it and they want to use it. So, I think it's going to be a question of the industry adjusting their prices to the realities of the market, and, moreover recognizing that a lot of people who are using for free today are potential customers tomorrow. It's just a question of their use and the right price. I don't think they'll be able to contain it in the way that they have tried to. I think its kind of a chaotic phenomenon. It's always a difficult phenomenon to try and contain. I hate to use the old hurting cat's image but I suppose this is not inappropriate here. They're just going to have to figure out a way to contain the kinds of chaotic dynamics and they haven't done a very good job so far.

QUESTION: What do you have to say on the profits that the music industry says they are losing?

DR. ALEXANDER: Look at industry growth and revenues from the RIAA. They'll give it to you, and they should. That shouldn't be too hard to do. This is a very hard argument to make either way, because the counterfactual is so strong. They claim, "Oh we are losing money, oh my goodness." Well, you can never make that claim. Suppose revenues do fall in the music recording industry. Is it due to file sharing? Well, maybe, maybe not. Maybe people are substituting and buying

other products. Maybe instead of buying CDs, they are buying video games or Playstation games or DVDs. It's not a question of, "Oh, it's due just to this piracy." That's a non sequitur, and that is part of the absurdity of the situation. You can construct an argument, which may be a non sequitur as well, but it can be constructed that these mp3s going around expose a wider diversity and variety of people, a wider audience, to this music. There are people all around the world that now heart this music, develop a taste for it, and want to buy it.

QUESTION: What is your overall conclusion about all of this?

DR. ALEXANDER: I think that the conclusion is that it is not possible to nail down in any meaningful way. That's not always satisfying but sometimes that's just the way things turn out.

I come down on the side of, probably a moderate amount of piracy exposes more people to these products and they develop a taste for them, or they realize these are products they like, and given that they would have the disposable income to purchase units, they may well go out and purchase it. They may go out and discover that they don't like the stuff and never would have bought it in the first place. Or more importantly, they may not have the income and would have never purchased it in the first place. Now, the RIAA is counting every single time someone shares a file like a lost sale. That's a non sequitur. A twelve year old kid doesn't have any disposable income is not going to be buying CDs. They maybe swapping mp3s and they get some utility from it, which by the way, from a social perspective is well for enhancing. Those people are getting utility, pirates get utility from their consumption. The recording industry may not like it but that's part of maximizing social welfare is to take into account the pirates welfare. So, it's not 1 to 1, where "they share a file, it's a lost sale", just a total non sequitur.

APPENDIX A3

The Recording Industry Association of America's

2000 Yearend Statistics

1330 Connecticut Ave, NW, Suite 300, Washington, D.C. 20036
(202) 775-0101

Manufacturers' Unit Shipments and Dollar Value
(In Millions, net after returns)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	% CHANGE 1998-1999	2000	% CHANGE 1999-2000
(Units Shipped) **CD**	333.3	407.5	495.4	662.1	722.9	778.9	753.1	847.0	938.9	**10.8%**	942.5	**0.4%**
(Dollar Value)	4,337.7	5,326.5	6,511.4	8,464.5	9,377.4	9,934.7	9,915.1	11,416.0	12,816.3	**12.3%**	13,214.5	**3.1%**
CD Single	5.7	7.3	7.8	9.3	21.5	43.2	66.7	56.0	55.9	**-0.1%**	34.2	**-38.8%**
	35.1	45.1	45.8	56.1	110.9	184.1	272.7	213.2	222.4	**4.3%**	142.7	**-35.8%**
Cassette	360.1	366.4	339.5	345.4	272.6	225.3	172.6	158.5	123.6	**-22.0%**	76.0	**-38.5%**
	3,019.6	3,116.3	2,915.8	2,976.4	2,303.6	1,905.3	1,522.7	1,419.9	1,061.6	**-25.2%**	626.0	**-41.0%**
Cassette Single	69.0	84.6	85.6	81.1	70.7	59.9	42.2	26.4	14.2	**-46.0%**	1.3	**-91.0%**
	230.4	298.8	298.5	274.9	236.3	189.3	133.5	94.4	48.0	**-49.2%**	4.6	**-90.3%**
LP/EP	4.8	2.3	1.2	1.9	2.2	2.9	2.7	3.4	2.9	**-14.0%**	2.2	**-24.6%**
	29.4	13.5	10.6	17.8	25.1	36.8	33.3	34.0	31.8	**-6.7%**	27.7	**-12.7%**
Vinyl Single	22.0	19.8	15.1	11.7	10.2	10.1	7.5	5.4	5.3	**-2.5%**	4.8	**-8.1%**
	69.9	66.4	51.2	47.2	46.7	47.5	35.6	25.7	27.9	**8.4%**	26.3	**-5.4%**
Music Video	6.1	7.6	11.0	11.2	12.6	16.9	18.6	27.2	19.8	**-28.3%**	18.2	**-8.0%**
	118.1	157.4	213.3	231.1	220.3	236.1	323.9	508.0	376.7	**-27.6%**	281.9	**-25.2%**
***DVD**	-	-	-	-	-	-	-	0.5	2.5	**405%**	3.3	**35.2%**
	-	-	-	-	-	-	-	12.2	66.3	**442%**	80.3	**21.1%**
Total Units	**801.0**	**895.5**	**955.6**	**1,122.7**	**1,112.7**	**1,137.2**	**1,063.4**	**1,124.3**	**1,160.6**	**3.2%**	**1,079.3**	**-7.0%**
Total Value	**7,834.2**	**9,024.0**	**10,046.6**	**12,068.0**	**12,320.3**	**12,533.8**	**12,236.8**	**13,723.5**	**14,584.5**	**6.3%**	**14,323.0**	**-1.8%**

*While broken out for this chart, DVD Audio Product is included in the Music Video totals

Total Retail Units	**817.5**	**850.0**	**869.7**	**2.3%**	**788.6**	**-9.3%**
Total Retail Value	**10,785.8**	**12,165.4**	**13,048.0**	**7.3%**	**12,705.0**	**-2.6%**

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Figure 4.2 - RIAA 2000 Yearend Statistics

THE RECORDING INDUSTRY ASSOCIATION OF AMERICA'S

2000 Consumer Profile

Phone: 202.775.0101 Web: www.riaa.com

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
ROCK	34.8	31.6	30.2	35.1	33.5	32.6	32.5	25.7	25.2	24.8	%
RAP/HIP HOP [1]	10.0	8.6	9.2	7.9	6.7	8.9	10.1	9.7	10.8	12.9	
POP	12.1	11.5	11.9	10.3	10.1	9.3	9.4	10.0	10.3	11.0	
COUNTRY	12.8	17.4	18.7	16.3	16.7	14.7	14.4	14.1	10.8	10.7	
R&B/URBAN [2]	9.9	9.8	10.6	9.6	11.3	12.1	11.2	12.8	10.5	9.7	
RELIGIOUS [3]	3.8	2.8	3.2	3.3	3.1	4.3	4.5	6.3	5.1	4.8	
JAZZ	4.0	3.6	3.1	3.0	3.0	3.3	2.8	1.9	3.0	2.9	
CLASSICAL	3.2	3.7	3.3	3.7	2.9	3.4	2.8	3.3	3.5	2.7	
SOUNDTRACKS	0.7	0.7	0.7	1.0	0.9	0.8	1.2	1.7	0.8	0.7	
OLDIES	1.0	0.8	1.0	0.8	1.0	0.8	0.8	0.7	0.7	0.9	
NEW AGE	1.3	1.2	1.0	1.0	0.7	0.7	0.8	0.6	0.5	0.5	
CHILDREN'S	0.3	0.5	0.4	0.4	0.5	0.7	0.9	0.4	0.4	0.6	
OTHER [4]	4.2	5.4	4.6	5.3	7.0	5.2	5.7	7.9	9.1	8.3	
FULL LENGTH CDS	38.9	46.5	51.1	58.4	65.0	68.4	70.2	74.8	83.2	89.3	%
FULL LENGTH CASSETTES	49.8	43.6	38.0	32.1	25.1	19.3	18.2	14.8	8.0	4.9	
SINGLES [ALL TYPES]	8.8	7.5	9.2	7.4	7.5	9.3	9.3	6.8	5.4	2.5	
MUSIC VIDEOS	0.4	1.0	1.3	0.8	0.9	1.0	0.6	1.0	0.9	0.8	
VINYL LPS	1.7	1.3	0.3	0.8	0.5	0.6	0.7	0.7	0.5	0.5	
10-14 YEARS	8.2	8.6	8.6	7.9	8.0	7.9	8.9	9.1	8.5	8.9	%
15-19 YEARS	18.1	18.2	16.7	16.8	17.1	17.2	16.8	15.8	12.6	12.9	
20-24 YEARS	17.9	16.1	15.1	15.4	15.3	15.0	13.8	12.2	12.6	12.5	
25-29 YEARS	14.5	13.8	13.2	12.6	12.3	12.5	11.7	11.4	10.5	10.6	
30-34 YEARS	12.5	12.2	11.9	11.8	12.1	11.4	11.0	11.4	10.1	9.8	
35-39 YEARS	9.8	10.9	11.1	11.5	10.8	11.1	11.6	12.6	10.4	10.6	
40-44 YEARS	6.7	7.4	8.5	7.9	7.5	9.1	8.8	8.3	9.3	9.6	
45+ YEARS	11.8	12.2	14.1	15.4	16.1	15.1	16.9	18.1	24.7	23.8	
RECORD STORE	62.1	60.0	56.2	53.3	52.0	49.9	51.8	50.8	44.5	42.4	%
OTHER STORE	23.4	24.9	26.1	26.7	28.2	31.5	31.9	34.4	38.3	40.8	
TAPE/RECORD CLUB	11.1	11.4	12.9	15.1	14.3	14.3	11.6	9.0	7.9	7.6	
INTERNET	na	na	na	na	na	na	0.3	1.1	2.4	3.2	
TV, NEWSPAPER, MAGAZINE AD OR 800 NUMBER	3.0	3.2	3.8	3.4	4.0	2.9	2.7	2.9	2.5	2.4	
MALE	54.1	52.6	50.7	52.7	53.0	50.9	48.6	48.7	50.3	50.6	%
FEMALE	45.9	47.4	49.3	47.3	47.0	49.1	51.4	51.3	49.7	49.4	

Total U.S. Dollar Value

The figures below (in millions) indicate the overall size of the U.S. sound recording industry based on manufacturers' shipments at suggested list prices.

1991	$7,834.2
1992	$9,024.9
1993	$10,046.6
1994	$12,068.0
1995	$12,320.3
1996	$12,533.8
1997	$12,236.8
1998	$13,723.5
1999	$14,584.5
2000	$14,323.0

Methodology

Peter Hart Research conducts a national telephone and internet survey of past month music buyers (3,951 per year). Data from the survey is weighted by age and sex, and then projected to reflect the U.S. population age 10-and-over. The reliability of the data is ± 2.2% at a 95% confidence level. With respect to genre, consumers were asked to classify their music purchases; they are not assigned a particular category by Hart Research.

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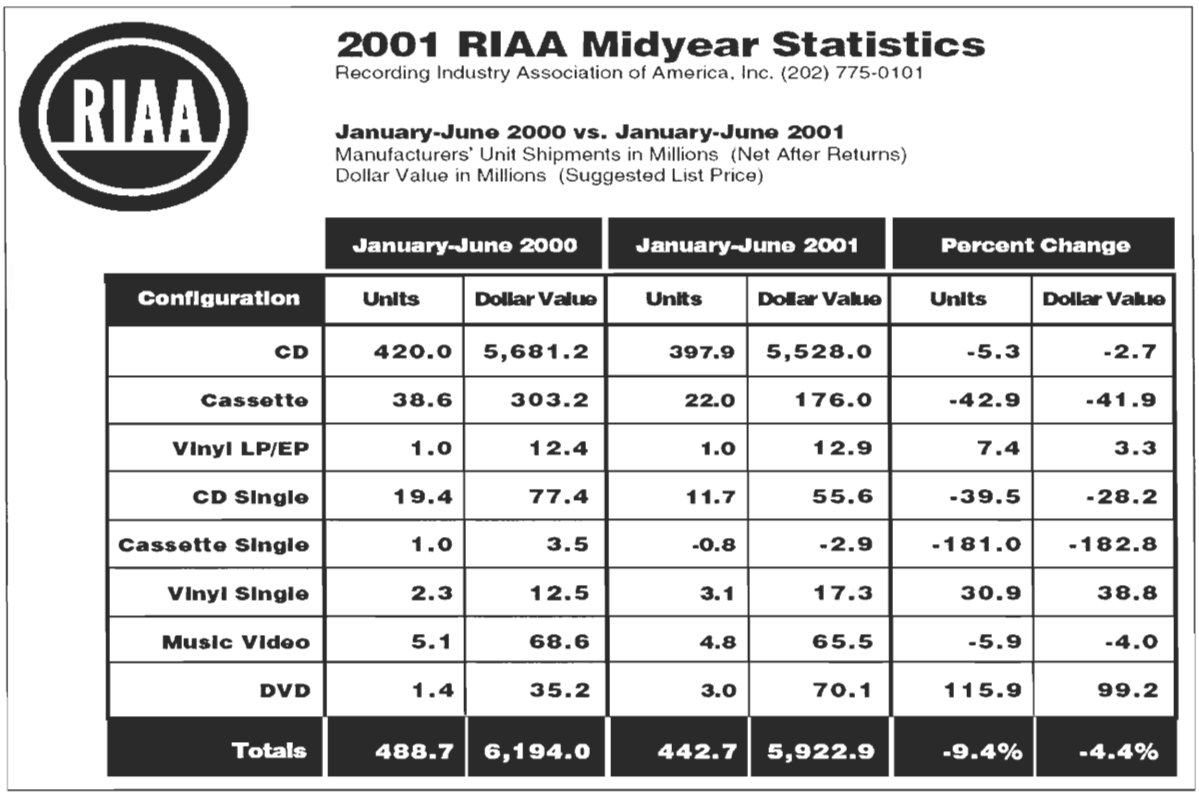
[1] "Rap": Includes Rap (10.3%) and Hip Hop (2.6%)

[2] "R&B": Includes R&B, Blues, Dance, Disco, Funk, Fusion, Motown, Reggae, Soul.

[3] "Religious": Includes Christian, Gospel, Inspirational, Religious, and Spiritual.

[4] "Other": Includes Ethnic, Standards, Big Band, Swing, Latin, Electronic, Instrumental, Comedy, Humor, Spoken Word, Exercise, Language, Folk, and Holiday Music.

Figure 4.3 - RIAA 2000 Consumer Profile



2001 RIAA Midyear Statistics

Recording Industry Association of America, Inc. (202) 775-0101

January-June 2000 vs. January-June 2001
Manufacturers' Unit Shipments in Millions (Net After Returns)
Dollar Value in Millions (Suggested List Price)

	January-June 2000		January-June 2001		Percent Change	
Configuration	Units	Dollar Value	Units	Dollar Value	Units	Dollar Value
CD	420.0	5,681.2	397.9	5,528.0	-5.3	-2.7
Cassette	38.6	303.2	22.0	176.0	-42.9	-41.9
Vinyl LP/EP	1.0	12.4	1.0	12.9	7.4	3.3
CD Single	19.4	77.4	11.7	55.6	-39.5	-28.2
Cassette Single	1.0	3.5	-0.8	-2.9	-181.0	-182.8
Vinyl Single	2.3	12.5	3.1	17.3	30.9	38.8
Music Video	5.1	68.6	4.8	65.5	-5.9	-4.0
DVD	1.4	35.2	3.0	70.1	115.9	99.2
Totals	488.7	6,194.0	442.7	5,922.9	-9.4%	-4.4%

Figure 4.4 - RIAA 2001 Midyear Statistics

APPENDIX A4

Soundexchange, Record Labels & Artist Groups Reach Agreement to Pay Artist Performance Royalties Directly to Performers and to Change Soundexchange Structure

Pays $5.2 Million Directly To Artists And Labels In Historic First Distribution

WASHINGTON— SoundExchange, the major record labels, the Recording Industry Association of America (RIAA), artists' unions the American Federation of Television and Radio Artists (AFTRA) and the American Federation of Musicians (AFM), and artists' groups including the Recording Artists Coalition (RAC), and the Music Managers Forum (MMF) and the National Academy of Recording Arts & Sciences (the Recording Academy) announced an agreement concerning performance royalties and SoundExchange, the collection and distribution agency for sound recording performance license fees.

This landmark agreement places SoundExchange under the joint control of recording artists and record companies. Artists, artist representatives, copyright owners and copyright owner representatives will share governance of the SoundExchange Board equally.

Under the agreement, SoundExchange will distribute the performers' share of performance royalties it collects under statutory license directly to performers, rather than to the record labels for subsequent distribution to the performers. Artists will receive these royalties regardless of their recumbent position with the record labels.

In addition, the major record companies have agreed to this system of direct payments and non-recoup ability regardless of which performing rights collective they may join. Royalties earned from licenses issued by a label under its exclusive right -- such as licenses issued for interactive services -- are unaffected by the agreement.

SoundExchange made its first direct royalty payment of $5.2 million on October 15, 2001 to artists and sound recording copyright holders.

"I think the record companies have shown great leadership in embracing the direct payment approach, at a time when there is great uncertainty in our industry," commented SoundExchange Executive Director, John Simson. "I believe this will strengthen our organization and our ability to license, collect and distribute royalties."

"AFTRA made achieving direct payments of the performers' share of these statutory royalties one of our primary goals for 2001," said Ann Chaitovitz, AFTRA's National Director for Sound Recordings. "We worked to attain this goal on many fronts simultaneously –on Capitol Hill, through our position on the Board of SoundExchange, in our participation in the current web caster CARP proceeding, and with the Copyright Office. We are very pleased that we were able to negotiate an agreement with the RIAA

and the major labels giving artists equal control in the governance of SoundExchange and requiring that SoundExchange pay the artists' share of the statutory royalties directly to the artists and prohibiting recumbent against these royalties. We will continue our efforts to ensure that recording artists receive fair treatment and compensation in the digital age."

"Even in its infancy, SoundExchange has been a huge success for the recording industry," stated Hilary Rosen, President & CEO of the Recording Industry Association of America. "I am proud that the recording companies extended themselves beyond what the law requires to partner with artists to reassure the web casting and broadcasting industries that the music community is united on behalf of sound recording performance rights," concluded Rosen.

"Since 1994, the AFM has worked to ensure that the new digital performance right created by Congress would benefit artists as well as copyright owners, including payments to artists that were not recoupable against their advances," said Thomas F. Lee, President of the AFM. "The AFM believes that this agreement is an important milestone in our continuing efforts to ensure that artists are rewarded when their work is exploited in new mediums. We look forward to working with the record companies and other artist groups to achieve these goals in Sound Exchange."

"This is a positive step for the music community," says Don Henley, co-founder of RAC. "AFTRA, the AFM and the RIAA are to be commended for the work they have put into this critical issue. The Recording Artists Coalition looks forward to working with SoundExchange to ensure success in collecting and distributing performance royalties in this complex digital age."

Barry Bergman, President of the Music Managers Forum, reflects back to June 28, 1995, when he testified before Congress stating "We cannot emphasize enough how essential it is that the artists' portion of royalties from this bill must flow directly into the artists' hands without any party being able to reduce this revenue for any reason whatsoever. Unless direct payment is made, all your efforts to protect the artists will be impaired."

"The MMF is extremely pleased that, with the various artist groups working together, this essential component of the digital performance royalty for artists has finally come to fruition" stated Mr. Bergman.

"As an organization that represents more than 20,000 recording professionals, direct royalty payment to artists has been an important part of the Academy's overall advocacy agenda," said Michael Greene, President/CEO, and the Recording Academy. "Artists deserve direct payment of their royalties and a voice in the management of SoundExchange. The Recording Academy is committed to continuing its support of artists' rights, and we're pleased to be involved in this effort."

Existing management will continue to oversee the daily administrative activities of the SoundExchange organization, including future direct payments to artists.

APPENDIX A5

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removed from scanned project

Original may be viewed at Gordon Library

IQP/MQP SCANNING PROJECT

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