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INTERNET RADIO: IDENTIFYING ADMINISTRATIVE AND
REGULATORY GAPS IN A CYBERSPACE WORLD
WITHOUT BORDERS

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Public Administration


by
Linda-Marie Sundstrom
September 2002

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REGULATORY GAPS IN A CYBERSPACE WORLD
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Approved by:


Dr. Guenther Kress, Professor
Public Administration

8/30/02
Date


Dr. David Bellis, Professor & Chair
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ABSTRACT

The purpose of this paper is to identify gaps in regulatory policies resulting from the emergence of Internet Radio. To accomplish this purpose, the paper seeks to: 1) provide insights into agencies that may have direct involvement in potentially regulating Internet Radio; 2) explore the concepts of jurisdiction in cyberspace; and 3) address the regulatory challenges that exist when traditional country borders no longer apply.

Internet Radio provides computer users with access to up-to-date news, music, entertainment, and sports programs. But unlike traditional radio stations that can only broadcast to a limited geographic region, Internet Radio can "broadcast" worldwide via the Internet. Many regulations governing traditional radio stations (such as FCC licenses, content standards, advertising regulations, etc.) do not apply, as of yet, to Internet Radio Stations. There are currently over 40,000 Internet Radio Stations worldwide that broadcast free at all hours to anyone connected to the Internet.

The widespread acceptance and proliferation of Internet Radio has fundamentally challenged the existing regulatory model of "radio" in two areas. First, it is now

possible to easily access broadcast content not monitored and regulated by the Federal Communications Commission (FCC), the Library of Congress Copyright Office, and/or the Federal Trade Commission (FTC). Second, these broadcasts can essentially originate from anywhere in the world. It has not been legislatively established how to define the originating "location" of an Internet Radio broadcast. The FCC, the Library of Congress and the FTC need to thoroughly re-evaluate both their scope and jurisdiction in light of the new, Internet "world without borders."

ACKNOWLEDGMENTS

I would like to thank Dr. Guenther Kress for his guidance, encouragement, and support during this project. Many thanks to Dr. David Bellis for his belief in my success -- this belief served to keep me motivated and focused. The dedication and commitment to excellence modeled by the Public Administration faculty was a driving force that encouraged me to set high goals and develop plans to achieve those goals.

DEDICATION

To Don B. Sundstrom

For his love, support, and encouragement.

His vision, creativity, and knowledge was the
guiding inspiration that made this project possible.

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CHAPTER ONE

INTRODUCTION

Statement of Problem

In recent years, the Internet has quickly become a vital tool for business, education, and personal use. With Internet connection speeds exponentially getting faster, and Americans spending more time in front of their computers, audio streamed Internet Radio has recently emerged as a viable alternative to traditional radio as a means for people to keep up-to-date on music, news, entertainment, and sports. Internet Radio provides computer users with access to information around the world at the click of a button. In addition, the Internet does not have easily controlled "borders" (both regulatory and physical) to restrict content from flowing freely from one country to another. Indeed, the Internet was originally designed and constructed to be only marginally administered, in the form of technical standards, to allow different computers from around the world to electronically "talk" to each other.

Public administrative agencies in the United States, such as the Library of Congress, Federal Communications Commission (FCC), and the Federal Trade Commission (FTC) have successfully regulated traditional communications media such as radio and television since their inception. The Library of Congress regulates copyrights and copyright royalties; the FCC regulates transmission signal characteristics and, to various degrees, content; and the FTC regulates the marketing practices or "truth in advertising" of businesses engaging in trade. However, these agencies have been slow to adapt to the newly created and quickly evolving global environment of Internet Radio. In a short period, Internet Radio has become a worldwide reality. There are currently over 40,000 Internet Radio stations around the world, broadcasting free at all hours to anyone connected to the Internet. By failing to respond early to the administrative challenges posed by this new medium, government agencies may find it hard to "put the genie back in the bottle" once it becomes firmly entrenched as a web alternative to traditional broadcasts.

Many large organizations and government agencies cannot respond to change quickly due to the phenomenon of "institutional inertia." Tradition, history, bureaucracy, and complacency are just some of the factors that add up to resistance to change. Institutional inertia keeps the agencies moving consistently along the same path, in the same manner, and at the same speed. In these organizations it can be pictured that the "wheels of change" are square. Only after enough pressure is built up from one direction will the "square wheel" finally make a "block change." This type of block change must occur in order to modify existing regulatory models and adopt new regulations to administer the new and dynamic environment surrounding the emergence of Internet Radio. For example, the Internet allows businesses to operate in cyberspace (termed e-commerce) without the need of traditional "bricks and mortar" buildings. As a result, Internet Radio stations can broadcast from the United States one day, from a laptop in Jamaica the next day and from India the day after. Since these businesses may only exist in cyberspace, the United States may have difficulty enforcing traditional content and trade (advertising or marketing) regulations due to jurisdictional ambiguity.

Before agencies can enforce a regulation, they must decide how to define the "location" of a business.

Internet Radio also allows broadcasting which is free from physical constraints. Until recently, a person could only hear radio broadcasts in his/her geographic region. It was not possible for the average person in Southern California to pick up a radio signal transmitted from Saudi Arabia. But Internet Radio is broadcast around the world via the World Wide Web. The United States government can set laws and regulations to control operations within its borders, but these laws do not apply to all countries with access to the Internet.

Purpose of the Study

The purpose of this paper is to identify gaps in regulatory policies and to examine public administrative issues resulting from the emergence of Internet Radio to enable public administrative agencies to adapt to this new environment. To accomplish this purpose, the paper seeks to provide insights into the following research questions:

1. What agencies have direct involvement in regulating Internet Radio?
 - a. Copyright and royalties (Library of Congress)

- b. Station licensing, signal strength, and content control (FCC)
 - c. Advertising and commerce (FTC)
2. Which region/government has jurisdiction over companies that operate solely in cyberspace?
 3. What challenges exist when enforcing regulatory controls when traditional country borders no longer apply?

Methodology

The information for this study was derived from a review of the relevant academic literature, document study, and personal interviews with public administrative representatives, businesses, and artists involved in Internet Radio issues. In addition, the author relied on experiences as 1) a public administrative employee for more than a decade developing and implementing local, state and federal regulations; 2) a consultant for more than five years to state and local agencies creating and implementing workforce and policy changes in a dynamic environment; and 3) a consultant for more than five years to the entertainment industry helping them comply with government regulations and protecting the rights of

businesses and artists. As part of this evaluation the author conducted interviews with representatives from the Library of Congress, FCC, FTC, and FBI to determine the readiness of each agency to regulate Internet Radio stations. The author also interviewed Internet Radio stations, record labels, and songwriter/publishers to determine issues of concern in their industries. The information reported in this paper benefited significantly from the results of these surveys.

Limitations of the Study

During the course of this research, difficulties occurred because the subject matter continued to evolve. New technologies and trends emerged daily, which caused previously written sections to become outdated prior to completion. Legislative and regulatory changes were also evolving throughout the study and the author had to limit the number of revisions to a "snap shot" in time in order to bring this study to completion. It is the author's intent to consider this a "work in progress" to be followed up with additional research during the next few years.

CHAPTER TWO

HISTORY OF RADIO

Traditional Radio

In 1896 Guglielmo Marconi brought his first "wireless telegraph" box to Britain. Suspicious customs officials seized the box, claiming that it could only be used for subversion against the government. Years later, as "wireless" radio use became widespread, awestruck listeners acknowledged that it was truly revolutionary and that because it communicated without wires through the "invisible ether" it was a technology that could never be regulated or controlled.¹ The United States however, in the aftermath of World War I, attempted to bring all of radio's key patents under military / government control. They were eventually bundled into the newly created Radio Corporation of America. As the technology and its capabilities were increasingly understood, the need for overall organization and management became more and more apparent to prevent industry anarchy, radio signal chaos, and broadcaster abuse of the airwaves. Addressing this type of need for the public good is a cornerstone of responsive public administration. The government moved

into the regulatory sphere, parsing the usable radio frequency spectrum into distinctly and tightly defined ranges, allocating specific frequencies to specific broadcasters. By the 1930s, radio in both the U.S. and Britain was a heavily concentrated and tightly regulated industry.² The system of regulations and controls has continued to evolve in response to real or perceived public needs. For example, after the uproar over the infamous Mercury Theater "War of the Worlds" broadcast, stations were required to identify themselves on-air via their call letters at frequent intervals.

In the 1960's, another technological advance made radio so pervasive throughout society that it became taken for granted that virtually everyone in the country owned, or at least had access to, a radio of some kind. This was the solid-state transistor. With development spurred on by the U.S. space race, the transistor (and later the integrated circuit) became a low cost alternative to the large, hot, power-hungry and fragile glass vacuum tubes used in radios up to that time. Transistors were cheap, used comparatively little power, were relatively unbreakable and were about the size of an apple seed. For the first time, portable radios, which operated on

batteries, were possible. The slang term "transistor radio" became synonymous for these new hand held devices. Inexpensive, "anytime, anywhere" access to radio broadcasts (initially limited to the AM band), combined with the pop music explosion of the mid to late sixties, led to a substantial increase in available radio programming and listenership. However, there was not a corresponding need for increased regulation however. Radio broadcasts still had the same physical constraints. Broadcasts originated from a transmitter constructed at an approved geographical location and broadcast range was limited by the amount of transmitting power. The transmitting power was also limited and regulated. In the past, technology brought tremendous growth to the radio industry (another large expansion occurred after the development of small, FM band "Walkman" type devices in the 1980s). But despite these technological advancements, the fundamental administration and regulatory needs did not warrant changes. Therefore, the regulatory model stayed the same.

The Internet and Internet Radio

The "Internet" was originally conceived as a method of sharing scientific data between geographically dispersed academic, research, government, and defense agencies. In addition, it provided the military with a fail-safe communications link originally called ARPANET. It was essentially a network of networks. File data was transmitted as discrete packets. In 1989, a computer consultant named Tim Berners-Lee, working for the European Particle Physics Laboratory CERN, developed a communication system that made accessing and utilizing this network very easy. It consisted of a new document language called HTTP, an application (the browser) to display these documents, and special server configurations to send and receive the documents on request. This new system eventually became known as the World Wide Web.³ In the mid-nineties, entrepreneurs separately developed graphical point and click browsers (e.g., Mosaic, Netscape) which made using the World Wide Web even easier. By the late 1990s, millions of people worldwide had discovered the huge repository of online information now known as the Internet. Usage however, was limited to receiving (downloading) or sending (uploading) small,

individual files due to the slow speed (low bandwidth) of the network. Large picture files could take hours to send. Audio, and especially video files, were out of the question due to their immense size. Additional technology would be needed to allow the casual sending and receiving of multimedia information. The Internet started to radically change as we headed into the new millennium. By the year 2000, significant technological advancements changed the way the Internet could be used.

Technological progress developed on three fronts. First, algorithms were developed which could shrink the file size of data being sent. The most significant of these compression methods was called MP3. It allowed audio files to be converted to a fraction of their original size with their fidelity intact. The second advance was a new method of actually sending the physical data from one point to another. The original Internet protocol TCP/IP, sent data in packets in a manner that caused the system to frequently stop and wait for more packets. For audio and video transmission, this caused choppy and interrupted playback. A new system called Real-Time Transport Protocol (RTP) was developed which allowed continuous unbroken transmission, known as

"streaming."⁴ Initial Internet Radio was made possible as a result of these advancements. The third and main technological advance resulted in an on-going increase in affordable Internet speed (higher bandwidth). Current DSL customers can now routinely send and receive data at over 10 times the rate attained with a 56k modem. The ability to send and receive larger and larger amounts of data quickly and cheaply is changing the way the Internet is being used. What was once impossible on the Internet is now possible. While live video transmissions require sending large amounts of information they still tax today's fast networks. Smaller compressed audio streams are easily handled. This compression technology has enabled Internet Radio usage to explode, and will enable full-speed Internet Television in the future.

As we can send larger files at a faster rate, it becomes possible to copy and send material that has more intrinsic value. Downloading a 5-second sample snippet of Beatles' music did not raise any eyebrows in years past. Now being able to have the entire White Album, in full fidelity, streamed to a person's hard drive (in the background while you he/she is working on something else) is causing great concern to copyright holders. There is a

growing realization that intellectual property rights cannot be ignored just because technology makes it possible to violate. As a result, a wide variety of interest groups are lobbying for new rules and regulatory intervention.⁵

The administrative task facing government is to establish a set of balanced rules that allow commerce to prosper, that maximize societal freedoms and liberties, while protecting the private property rights of individuals and companies.⁶ Unlike technological advancements in the past, Internet Radio has created regulatory needs that are not being met by the long-established regulatory model for radio broadcasts. It has brought to light a number of new public administrative issues that need to be addressed, in order to protect the rights of individual intellectual property owners.

CHAPTER THREE

EMERGENCE OF INTERNET RADIO

Traditional radio stations broadcast over the airwaves using large, stationary transmitting towers. Their signals are always present in the air but in the United States the Federal Communications Commission (FCC) regulates transmitting power and geographic location thereby limiting the "range" of individual stations. Dedicated receivers (i.e., radios) are used to pick up these broadcasts. Within the last few years, technology associated with the Internet has allowed a new type of radio station to emerge; the Internet Radio Station. Advances in audio compression, audio streaming and increased connection bandwidth have made it possible to receive free, live, continuous high-fidelity audio broadcasts over the Internet directly to individual computers upon demand. Virtually anyone can set up an Internet Radio "Station" on a relatively inexpensive computer, and start broadcasting. Of special significance is the fact that because Internet Radio utilizes the Internet as a transmission medium, broadcast range is literally worldwide. Companies such as America Online,

provide built-in "tuners" for Internet Radio stations with their software.⁷ Websites such as www.Live365.com enable users to find and listen to any of over 40,000 Internet Radio Stations worldwide.⁸ Individuals can listen to free Internet Radio music or talk programs on their desktop computers at work or at home, and the broadcasts can be playing in the background as they use their computers for other tasks.

Jonathan Jay of Seattle, Washington is an Internet Radio pioneer and enthusiast. He describes Internet Radio as a "social communications revolution." In the past, starting and maintaining a traditional radio station required a sizable investment in hardware, dedicated structures, and FCC licenses (if available for a particular geographic area). Now it's something that can be done from almost anywhere using widely available free, or relatively low-cost software. From 1995 to 1998, Jonathan Jay ran a pirate (illegal, not licensed by the FCC) traditional radio station. He transmitted from various temporary, secret locations in and around Seattle, WA. But it wasn't easy to stay on the air. It was fairly easy for the FCC to track down the source of an unauthorized radio transmission. Jonathan eventually got

tired of being constantly chased by the FCC and gave up. Since late 1999, he's been broadcasting where no license is required and the FCC has no jurisdiction; on the Internet from his home.⁹ The advent of Internet Radio technology has suddenly allowed him to broadcast the same content nationally and internationally, legally, in an unregulated environment, and for very little cost. This illustrates the paradox brought about by this emerging technology. The hard and expensive method of traditional broadcasting is tightly regulated. The easy and inexpensive method is not. Internet Radio challenges the existing federal regulatory model of traditionally broadcast radio. In addition, the federal government is separately encouraging development of the technology making this possible.

One of the main enabling technologies behind Internet Radio is the availability of broadband (hi-speed) networks that allow more information to be sent faster over a given Internet connection. According to remarks made by Commerce Assistant Secretary Nancy Victor at the Broadband Outlook 2002 Conference in Washington, D.C. on January 23, 2002, broadband issues are a top priority for the Bush Administration. Broadband holds the promise of

revolutionizing the use of the Internet in many ways. This new technology's faster speed and greater capacity will not only permit users to make more effective and efficient use of existing Internet connections, it will also open up a whole new world of large data sets that can be accessed, distributed, and downloaded in seconds as opposed to hours. Broadband promises to increase economic productivity, spur innovation and open up new avenues for education, medicine, and commerce.¹⁰ According to the FCC, the number of domestic broadband subscriptions grew 62% during the second half of 2000 and an additional 36% in the first half of 2001.¹¹ The increased speed and data handling capability of broadband technology (along with advances in audio compression) now allow Internet Radio to stream continuous data over an Internet connection without interruption. This eliminates the stop and go, low quality, short audio snippets that were once characteristic of the Internet.

With the widespread adoption of these new technologies, live Internet Radio streaming has become an attractive method of increasing content listenership and potentially becoming a vehicle for generating commercial revenue. New companies, such as Measurecast, are tracking

the number of Internet Radio listeners in a manner similar to the way Arbitron measures the number of listeners for traditional radio stations. As an example of relative audience magnitudes, in September 2001 Measurecast determined that London-based JazzFM had a weekly listenership base of 72,000. During the same period the total combined Internet Radio listener base (all stations) in New York City totaled over 2.3 million.¹² According to data from Nielsen/NetRatings, 21.1 million or 55.8% of employees who logged onto the Internet from work in October 2001 listened to Internet Radio and listed it as their best news source at work after the September 11th terrorist attacks.¹³ According to the February 2002 Department of Commerce report, *"A Nation Online: How Americans Are Expanding Their Use of the Internet"* the percent of U.S. households with Internet access increased from 26.2 percent in 1998 to 50.5 percent in 2001.¹⁴ This increase in Internet access, combined with the advent of available and affordable broadband technology in homes and businesses, is making Internet Radio the place to go for easy-to-access, up-to-the-minute news and information as well as globally diverse entertainment.

Currently, the vast majority of people access the Internet and Internet Radio stations through computers that are "hard-wired" via a telephone line or network. One of the most appealing features of traditional radio receivers however, is that they are portable and can be located in automobiles. But even this limitation of Internet Radio is diminishing. Wireless networking is emerging as an important new technology for computers and Personal Digital Assistants (PDAs) including accessing the Internet. Microsoft has thrown its weight behind wireless networking, specifically a standard called 802.11 or Wireless Fidelity (Wi-Fi). The latest Microsoft operating system, Windows XP was designed to make wireless networking much simpler. Microsoft Chairman, Bill Gates, considers this technology one of the most important innovations of the past 5 years.¹⁵ A wireless network, which could be installed in a home, works similar to a cordless phone. For this type of system, the phone line connects to an inside base station, which has a small antenna. The cordless phone handsets will work remotely almost anywhere in the house, but not much beyond it. Computers can also network and access the Internet using the same type of system. The network uses the same radio

frequencies as a cordless phone but is designed to handle data at a rate 10 times faster than a cable modem. Once this technology is launched on a large scale, listeners will be able to access Internet Radio stations without being "tied" to a hard-wired network. According to Jim Zyren, director of strategic marketing for Intersil, which makes most of the world's Wi-Fi chips, there are surveys that show that users can currently pick up Wi-Fi access points continuously through some major urban areas.¹⁶ These frequencies often do not fall under the control of the FCC. Automobile makers are taking advantage of access to these signals in order to link modified car radios to receive the Internet in a wireless format. Mercedes-Benz recently demonstrated a prototype wireless network for a C320 sedan, which could download music from the Internet, or from a home Personal Computer (PC).¹⁷ As this type of technology further evolves it will only increase the popularity and pervasiveness of Internet Radio.

Once the Internet can be accessed easily through wireless means, the dividing lines will begin to blur between Internet Radio, traditional AM / FM radio and the newly developed satellite radio systems. Satellite radio is a simple offshoot of traditional radio, designed to

overcome transmitter distance limitations. Satellite radio networks are subject to the same Federal regulations as traditional radio. Satellite networks such as XM Satellite Radio or Sirius Satellite Radio operate on a subscription basis similar to cable television. For example, for \$9.99 per month XM provides 10 rock channels, six country music channels, four classical music channels, six for jazz and blues, three for comedy, and separate specialty channels for everything from Indian ragas to Jamaican reggae music. 30 channels are commercial free. On the others, commercials take up an average of two minutes an hour.¹⁸ Therefore, people with an SM subscription for their cars could travel from California to New England with an uninterrupted signal. Both XM and Sirius are currently asking the FCC to further regulate the airwaves in order to head off the coming influx of wireless Internet signals. While Satellite radio broadcasts on a different wavelength than Internet Wi-Fi systems, they are separated by only a small buffer. They expect that within a few years, interference from the huge number of Internet Wi-Fi signals will bleed through that buffer and interfere with the satellite radio signals. The result will be the kind of hissing and humming that

overwhelms a radio receiver when a cell phone is nearby. Sirius and XM have asked the FCC to consider imposing more stringent regulations on Wi-Fi specifications, device designs, and manufacturers. The FCC has yet to act on this request. The position of the Wi-Fi industry is that potential interference problem is not a technical issue. Therefore, they shouldn't be hampered by additional regulations, which would serve to increase the complexity and cost of their devices.¹⁹ Whether there is a real technical concern, or this is an attempt to use federal regulations to limit competition, the FCC has been slow to respond to this and other challenges surrounding new technologies. As a result, there is a significant lack of regulatory consistency between the old and the new, the traditional and the rapidly evolving, the traditionally domestic and the newly international.

CHAPTER FOUR

REGULATORY AGENCIES

Library of Congress

Public Copyrights

Copyright is a form of protection provided by the laws of the United States (title 17, U.S. Code) to the authors of "original works of authorship," including literary, dramatic, musical, artistic, and certain other intellectual works. This protection is available to both published and unpublished works. Section 106 of the 1976 Copyright Act generally gives the owner of copyright the exclusive right to reproduce the copyrighted work, to prepare derivative works, to distribute copies or phonorecords of the copyrighted work, to perform the copyrighted work publicly, or to display to copyrighted work publicly.²⁰ The copyright protects the form of expression rather than the subject matter of the writing.²¹

The U.S. Constitution gave Congress the power to enact laws such as establishing the system of copyrights in the United States. Congress enacted the first federal copyright law in May 1790 and the first work was registered within two weeks. Originally, Clerks of U.S.

District Courts recorded claims. Not until 1870 were copyright functions centralized in the Library of Congress under the direction of the then Librarian of Congress, Ainsworth Rand Spofford. The Copyright Office became a separate department of the Library of Congress in 1897. Thorvald Solberg was appointed the first Register of Copyrights.²²

Today the Copyright Office is one of the major public service units of the Library of Congress. In fiscal year 1994, the Office registered more than 530,332 claims to copyright works, and collected for later distribution to copyright holders nearly \$200 million. As of fiscal year 1994, the Copyright Office has recorded nearly 26 million registrations.²³

Although the original purpose of the copyright system was to promote creativity in society and the arts, the mission of the Copyright Office has grown to include administering copyright law; creating and maintaining a public record through the registration of claims and the recording of documents; providing technical assistance to Congress and Executive Branch agencies; providing information services to the public; serving as a resource to domestic and international copyright communities; and

supporting the Library of Congress by obtaining and making available deposits for the Library's collections.²⁴

In addition, the Copyright Office provides expert assistance to Congress on intellectual property matters; advises Congress on needed changes in U.S. copyright law; analyzes and assists in the drafting of copyright legislation and legislative reports, provides and undertakes studies for Congress and offers advice to Congress on compliance with multilateral agreements. They also work with the State Department, the U.S. Trade Representative's Office and the Patent and Trademark Office providing technical expertise in negotiations for international intellectual property agreements and providing technical assistance to other countries in developing their own copyright laws. Through the International Copyright Institute they promote worldwide understanding and international cooperation in providing protection for intellectual property.²⁵

The Copyright Office is also an office of record, a place where claims to copyrights are registered and where documents relating to copyrights may be recorded when the requirements of the copyright law are met. The Copyright Office furnishes information about the provisions of the

copyright law and the procedures for making registration; explains the operations and practices of the Copyright Office; and reports on facts found in the public records of the Office. The Office also administers various compulsory licensing provisions of the law, which include collecting royalties.²⁶

Royalties are the bread and butter of copyright ownership. While a copyright also allows the owner to prohibit or restrict usage of their creation, the main benefit is the collection monies based on the permitted use of original material. The key concept is that the choice is up to the copyright owner. For example, despite the promise of substantial royalty payments, the 1960's rock band, The Beatles, would not allow their music to ever be used in commercials. That restriction changed however, when they lost ownership of a large part of their music catalog to pop singer, Michael Jackson. His decision was to use his new acquisition to generate additional income. This is when The Beatles' songs, like "Revolution," started showing up in Nike athletic-wear commercials.

The practical copyright regulatory challenge has always been how to monitor copyright content usage in

various mediums (e.g., radio, television, jukeboxes) in order to assess and collect the royalties due the owner. The recent proliferation of unregulated Internet Radio broadcasts of copyright material, as well as general illegal copying and distribution of this material via the Internet, has revealed the inadequacies of the current system.

The System of Royalties: Radio

Traditional radio stations pay copyright licensing fees for the rights to play copyright music. For decades, traditional radio stations have been paying an annual licensing fee to groups representing composers and performers (ASCAP and BMI are the largest and most well known) for the rights to play their members' music. These fees are, in large part, passed on to the songwriter and music publisher. Recorded music actually consists of two types of copyrights. The song copyright is owned by the songwriter and/or the music publisher and is denoted by the letter "c" with a circle around it (i.e., ©). The artist and/or the record label own the performance copyright. It is denoted by a similar symbol which uses the letter "p" instead of "c". In the United States, traditional radio stations have historically paid only one

set of copyright fees and those are to the songwriters and/or publishers. Traditional radio stations have never been required to pay for the performance right copyright (i.e., ©). This came about due to an agreement with the recording industry. It was recognized by the recording industry that the radio industry was responsible for generating of 85% of record sales due to airplay.²⁷ The additional royalty was waived in return for this "free" advertising.

With the advent of the Internet, Internet Radio and other forms of interactive media, it was recognized that the overall policy needed to be readdressed. The recording industry wasn't willing to forego performance royalties for these new, untested types of broadcasts. The Recording Industry Association of America (RIAA) and the Digital Media Association (DiMA) put pressure on Congress to pass the Digital Millennium Copyright Act (DMCA) in 1998. After an additional ruling and an added clarification in December 2000, the verdict was in. Internet Radio stations and traditional radio stations were required to pay both sets of copyright license fees. This caused an uproar with traditional radio broadcasters. Friction and competition grew between traditional and

Internet Radio stations over copyright issues. The National Association of Broadcasters (NAB), RIAA, DiMA and the U.S. Copyright Office began political lobbying that tied the issue up for the next year with legislative appeals. All parties fought to receive a favorable and clear Congressional mandate on the issue.²⁸ Internet Radio as a broadcast medium was at a disadvantage because there was no real organized group representing their cause. Internet Radio consisted of individuals operating mostly for fun. As such, their lobbying power as a group was limited and not unified. It should be noted, however, that the traditional radio and recording industries could see the coming threat of added competition from Internet Radio -- even though Internet Radio was in its infancy. While competition was minimal at this point, it was clearly coming as more and more people looked to the Internet for variety, specialized programming and escape from the ubiquitous commercials. Traditional radio stations lobbied aggressively to prevent the implementation of the new royalty rates.

In mid 2001, the U.S. Copyright Office appointed a three-person panel to settle the dispute over royalty payments required for Radio Stations. The panel spent

seven months discussing the problem, receiving more than 14,000 pages of testimony from more than 50 witnesses.²⁹ By mid February 2002, a government arbitration panel was convened to rule on the royalty amount that traditional and Internet Radio stations should pay for songs they play. Recording companies and Internet Radio stations had been mandated by the DMCA to come to terms on royalty fees for artists and performers. When the two sides entered arbitration in 2001, they were worlds apart in their negotiations.³⁰ It was ultimately decided to divide the radio industry into three categories: 1) Traditional (or terrestrial) radio stations; 2) Internet-only Radio stations; and 3) Traditional radio stations that also streamed their programming over the Internet. By late February 2002, the United States government panel put forth a compromise in the battle over royalty rates for songs played by Internet Radio stations but none of the groups involved were pleased with the decision.

The panel recommended that Internet-only Radio stations pay 14 cents for each song played plus a 9% "ephemeral license fee. Traditional radio stations, along with those stations that also streamed their programming over the Internet, would pay half as much; 7 cents per

song. The rationale behind this seemingly obvious inequity is that digital "webcasts" are said to compete with live performances while traditional radio stations are promotional in nature. These rates became effective May 21, 2002.³¹ The rates were also effective retroactively to 1998. Under this recommendation, Internet-only Radio stations have to pay twice as much in royalties as traditional (terrestrial) radio stations, as well as traditional radio stations that simultaneously broadcast online. According to Internet Radio station organizations, the royalty rates made it nearly impossible for some Internet Radio stations to stay in business.³² According to Ed Hardy, head of an Oregon firm that measures Web radio traffic, the ruling was "cumbersome, unreasonable, and impractical. It's time for the RIAA and the U.S. Copyright Office to get real and to understand that putting [Internet Radio stations] out of business will put zero dollars in their royalty coffers."³³

Well known Internet commentator, David Coursey from ZDNet, a technology information website, reiterated the view that traditional radio stations are trying to shut down the Internet Radio industry in order to kill future competition while it's still young. While this kind of

"conspiracy" is somewhat far fetched given the inevitability of the Internet as a growing worldwide resource, it is clear that trying to retroactively regulate based on the traditional model of the radio industry is inadequate. Internet Radio is bringing about new paradigms, new possibilities for communication. Trying to equate Internet Radio to a "webcast" that "competes with live performances" is a severely limited vision. Legislating higher fees based on this lack of vision is more punitive than enabling. Clearly, the Library of Congress has decided not to proactively address head-on the administration of new Internet applications with far reaching potential. This is a common problem with public agencies that is being brought to light by the attempts to administer the issues surrounding the emergence of Internet Radio.³⁴

Federal Communications Commission

Regulatory Infrastructure

The 1927 United States Radio Act created the Federal Radio Commission (FRC), which established federal control over the airwaves. The 1927 law, which was designed to be provisional, was renewed every year until 1934 when

Congress passed the Communications Act. This replaced the FRC with the Federal Communications Commission (FCC). Radio spectrum access continues to be governed by the 1934 act. The FCC was charged with licensing and overseeing broadcasters in accordance with the public interest, convenience and/or necessity. In addition to developing a federal licensing system for broadcasters, the FRC, later the FCC determined that certain types of speech should not be allowed over the airwaves by invoking a public interest standard.³⁵

In the 1940s, the FCC argued that, in the absence of regulatory inducements, broadcasters might under-provide informative material, limit controversial material, or both. A 1949 agency report formalized its content policy in the form of the Fairness Doctrine. It contained two major provisions. First, licensees were required to provide coverage of important issues of interest to the communities served by the broadcaster. Second, licensees received a mandate to provide a reasonable opportunity for the presentation of contrasting viewpoints on such issues.

The FCC created a two-stage enforcement process for the Fairness Doctrine. In the first stage, the FCC required that a licensee respond to a complaint filed with

the commission. That could eventually lead to a hearing and a binding ruling by the FCC. The penalties associated with a Fairness Doctrine compliant ranged from the legal and research costs of responding to the plaintiff's inquiry to giving the plaintiff free airtime on the subject station. The second stage of enforcement was the most potent weapon the FCC had -- the power to revoke a traditional radio station's broadcast license or refuse renewal for a licensee in violation. These "hammers" do not apply to Internet Radio Stations.

The FCC's Mass Media Bureau (MMB) ensures that consumers continue to have access to interference-free radio and television services that are in the public interest. To achieve this, the MMB issues conditional licenses for traditional radio and television stations and establishes regulations to make certain that these stations serve their local communities through appropriate programming and advertising.³⁶ The International Bureau (IB) serves as the focal point for international activities and satellite services, and advises the Commission on worldwide communications. In addition, the IB monitors the effects of significant legislation such as the World Trade Organization's Agreement on Basic

Telecommunication Services. It also takes part in the World Radio Conference, a group that was created under the auspices of the United Nations to provide a forum for discussion on the worldwide use of the radio spectrum. Both nationally and internationally however, the FCC has been slow to address the unique concerns being raised by Internet Radio. Specifically, how should the FCC define who has jurisdiction over an Internet Radio station when it could emanate from almost anywhere in the world via a laptop computer? What should be the role of the FCC when a "broadcast" comes over the Internet via telephone lines? Should the FCC get involved with Internet Radio content when the Internet starts to go "wireless" and broadcasts the last communications segment to the end user through the airwaves (like traditional radio)?

The Internet and Internet Radio are currently adopting wireless technologies. Combination hand-held devices are appearing which can dial into Internet Radio broadcasts as well as the Internet in general. Many of these devices also integrate a cell phone, which further complicates the definition of the exact usage of their frequency spectrum. The FCC will soon need to re-examine the regulated vs. unregulated portions of the spectrum and

further define access devices and their "intended use." Currently, the FCC regulates the broadcast signals for traditional radio stations. They do not regulate wireless Internet, however. Current wireless Internet protocols, such as 802.11 and Bluetooth operate in an unregulated portion of the spectrum worldwide, and the potential for radio wave spectrum anarchy is very real. Newer wireless protocols, such as 3G, operate in an unregulated portion of the spectrum in the United States, but is considered a regulated portion of the European spectrum. 3G is heavily supported by the current Bush administration. It is generally considered to be the key to the next generation of growth in the computer industry by allowing unified, fast, mobile access to virtually all portable, electronic devices. Government policy must become proactive and address the current unregulated reality of Internet Radio as it becomes a potent communications medium rivaling traditional radio.

Regulatory Infrastructure / Internet

In 1996, Congress included the Communications Decency Act (CDA) as a component of the Telecommunications Act. The CDA sought to outlaw the use of computers and phone lines to transmit "indecent" material and provided jail

terms and heavy fines for violators. The act outlaws the transmission of "indecent" speech over the Internet, in spite of the fact that indecency is a category of speech that the Supreme Court has previously ruled deserving of protection under the First Amendment. Indecency differs from obscenity, which is not afforded First Amendment protection in that indecent speech, considered in its entirety, possesses some "serious artistic, literary, political or scientific value".

While there are compelling arguments for and against interfering with Internet speech, whether in the form of the CDA or some yet-to-be-crafted mandate that attempts to curb undesirable Internet communication, the Internet is without national borders. An Internet Radio broadcast from the Middle East can be easily tuned in anywhere in the United States. It may also contain language that, if broadcast from a traditional radio station in the United States, would be considered illegal, sedition or treason. The CDA is a regulatory tool historically applied to traditional media broadcasters for content regulation. Content regulations attempt to control the flow of information by imposing sanctions on content providers. In the past, content in the physical United States was

easy to control. It was not easy for anyone else to broadcast unregulated content with enough power to reach our shores. This has now changed with Internet Radio. The physical restrictions of transmitting radio waves long distances don't exist in the new medium. Current FCC efforts to address this problem have initially been clumsy.

In an effort to comply with the anticipated indecency standard of the CDA, America Online (AOL), the nation's largest Internet Service Provider, decided to eliminate "vulgar" words such as "breast" from their network by such techniques as censoring user profiles and chat room titles. In December 1995, AOL came under fire for declaring the word "breast" obscene. Earlier in the summer, breast cancer survivors were blocked from creating a forum with the word "breast" in the title. Therefore, they created a "hooter cancer survivor" forum. [p. 5] This is an illustration of decent, constitutionally protected speech chilled on the Internet by the mere anticipation of a vague indecency standard.

The parallels between the content controls imposed via the FCC licensing process and the CDA are substantial. Fundamentally, both seek to impose sanctions on "bad"

speech disseminated by a broadcaster or network provider. While the Fairness Doctrine sought to regulate biased news coverage, the CDA attempts to control "indecent" expression.³⁷ It should that any attempts to regulate the content of Internet Radio, in the same manner that content is regulated for traditional radio will also effect content of the Internet as a whole.

Content Regulations

Internet Radio Stations can originate from anywhere in the world. Generally, the stations are hosted by on high-speed machines located at an Internet Service Provider (ISP), such as AOL. These ISPs can also be located anywhere in world, and may host thousands of individual commercial and non-commercial websites. A question arises as to how much responsibility or liability for content should be placed on these hosting providers. For example, September 11th brought about a new anti-terrorism bill. Even before Congress signed the bill into law, someone apparently used it to get three Internet Radio shows yanked off the Internet, according to a USA Today article on October 16, 2001. Targeted were IRA Radio, Al Lewis Live and Our Americas, all were carried by Cosmic Entertainment. IRA Radio broadcasted Irish news

and politics, including interviews with alleged terrorists. Al Lewis Live (hosted by iconoclastic actor/activist Lewis, better known as Grandpa on the 1960s TV show The Munsters) drew some 15,000 listeners a day. Our Americas was a Spanish-language show about rebels in Latin America. The three shows were forced offline after someone identifying himself as a federal agent reportedly made a telephone call to the station's Internet Service Provider (ISP), Hypervine. The caller said the ISP company's assets could be seized for containing pro-terrorist materials. The ISP would have risked having its assets seized if it didn't take decisive action against the Internet Radio Stations. Travis Towle, founder and CEO of Cosmic Entertainment, doubts that the caller was really a federal agent. The FBI declined to comment.³⁸ Internet Service Providers are fearful of retributions under the Fairness Doctrine and the CDA, and they are hasty to respond to complaints. ISPs located outside the borders of the United States may not have to comply with these regulations.

Federal Trade Commission

The Federal Trade Commission (FTC) is an independent administrative agency, which was organized in 1915 pursuant to the Federal Trade Commission Act of 1914.³⁹ The FTC enforces a variety of federal antitrust and consumer protection laws. The Commission seeks to ensure that the nation's markets function competitively, and are vigorous, efficient, and free of undue restrictions. The Commission also works to enhance the smooth operation of the marketplace by eliminating acts or practices that are unfair or deceptive. The Commission also undertakes economic analysis to support its law enforcement efforts and to contribute to the policy deliberations of the Congress, the Executive Branch, other independent agencies, and state and local governments.⁴⁰

The FTC has authority to police unfair and deceptive trade practices under section 5 of the Federal Trade Commission Act, 15 U.S.C. §45. The FTC has taken a leading role in monitoring advertising practices on the Internet and developing guidelines for such advertising.⁴¹ The FTC is the agency that monitors Internet Radio commercials, guarding against deceptive ads. During a phone interview with Mr. Brian Toner, FCC Public Affairs

Division in Washington, D.C., Mr. Toner was asked if the FCC regulated the practices of companies outside the borders of the United States. He said generally their jurisdiction was limited to the U.S. He was asked how they determined the "location" of a company that only has a presence on the Internet. With a laptop computer, business owners can update their websites from anywhere in the world, and from a different location each day. Mr. Toner indicated the FTC has not yet determined how to identify the location of a web-based company for jurisdiction purposes.⁴² As Internet Radio stations play advertisements during their programs, consumers may be misled by business practices not approved in the United States. However, the FTC cannot stop misleading messages originating "outside" their jurisdiction - which still requires a definition of "location" to be created by the FTC.

CHAPTER FIVE

INTERNET RADIO ISSUES

The Digital Millennium Copyright Act

On October 12, 1998, the U.S. Congress passed H.R. 2281, the Digital Millennium Copyright Act (DMCA) ending many months of turbulent negotiations regarding its provisions. Two weeks later, on October 28th, President Clinton signed the Act into law. The Act was designed to implement the treaties signed in December 1996 at the World Intellectual Property Organization (WIPO) Geneva conference, but also contains additional provisions addressing related matters. This law, in general makes it a crime to circumvent anti-piracy measures built into most commercial software; outlaws the manufacture, sale, or distribution of code-cracking devices used to illegally copy software; does permit the cracking of copyright protection devices, however, to conduct encryption research, assess product interoperability, and test computer security systems; provides exemptions from anti-circumvention provisions for nonprofit libraries, archives, and educational institutions under certain circumstances; limits Internet Service Providers (ISPs)

from copyright infringement liability for simply transmitting information over the Internet; ISPs, however, are expected to remove material from users' web sites that appears to constitute copyright infringement; limits liability of nonprofit institutions of higher education -- when they serve as online service providers and under certain circumstances -- for copyright infringement by faculty members or graduate students; requires that "webcasters" pay licensing fees to record companies not paid by traditional radio stations.⁴³

The intent of this act was to begin addressing the worldwide reach of the internet and establish a baseline of international cooperation against activity traditionally illegal or prohibited in the United States, worldwide. However, subsequent events surrounding intellectual property rights on the Internet have demonstrated the weakness of current approach.

International Jurisdiction Issues

Russian Copyright Decryption Software

Prior to the event of September 11th, the Russian government issued an alert to its nation's programmers to exercise caution when in the United States. The Russian

government was warning them about the 1998 Digital Millennium Copyright Act (DMCA). A week earlier, a 26-year old programmer from Moscow, Mr. Dmitri Sklyarov, was arrested in Las Vegas for helping to write a computer program for his company ElcomSoft, in Russia. This software decrypts Adobe Systems' ebooks, and the software is legal to write and sell in Russia. Mr. Sklyarov was the first person to be criminally charged with violating the 1998 DMCA law.⁴⁴ Critics contend that the copyright law is too far-reaching because it restricts activities that are not directly related to the actual copying of protected materials, like encryption research. Computer scientists worldwide, like Niels Ferguson, a Dutch cryptographer, are reluctant to publish their research. Mr. Ferguson has cracked the high-bandwidth Digital Content Protection system developed by Intel to scramble video.⁴⁵

Mr. Sklyarov reached a compromise with the U.S. government in December 2001 that will defer prosecution in exchange for his cooperation in the prosecution of his employer, ElcomSoft, based in Moscow. Adobe Systems had complained to the FBI because ElcomSoft was selling the Advanced eBook Processor, which could strip the encryption

off Adobe's books; the program sold for \$99 over the Internet.⁴⁶

It is clear that the DMCA is interpreted differently in different countries, in particular, the interpretation of copyrights and what constitutes content piracy. For example, some streaming audio formats used by Internet radio such as RealAudio can be configured so that the listener cannot save the content they are receiving to their local hard drives. They are allowed to listen to music just like traditional radio without retaining it. It is clear from the above examples that programmers in other countries would be willing to defeat this feature allowing people to defeat this and similar anti-piracy attempts without regard to the intent of the DMCA. This highlights an inherent weakness in the government's initial attempt to regulate Internet activity on a global basis.

Netherlands File-Swapping Decision

Kazaa is a music file-swapping service in the Netherlands similar to the, now near defunct, U.S. company, Napster. In 2001, the United States Supreme Court ruled that Napster's free trading of copyright music was illegal, and violated United States copyright law. In

a surprise decision in March 2002, an appeals court in the Netherlands overturned a lower court ruling that had held music file-trading company Kazaa liable for copyright infringement, saying Kazaa is not responsible for the illegal actions of people using its software. Currently, one person can purchase a music CD, then allow those songs to be copied/swapped by anyone who logs onto the Kazaa website without paying any royalties to the owners of the music copyrights.

The Netherlands' court decision was the first anywhere to protect a file-swapping company against copyright liability. "Finding [piracy] havens is not difficult," said Jupiter Media Metrix analyst Aram Sinnreich. "But having that haven right there in the European Union would further isolate the American copyright industry from the rest of the world."⁴⁷ Many file-swappers are now wondering if the Dutch ruling will let the Netherlands become a safe haven for file-swapping companies, which could distribute their wares from servers in that country without fear of liability. Working through international treaties or organizations dealing with copyright, such as the World Trade Organization, could possibly provide some leverage for copyright holders

in the future. However, Dutch attorneys say no international treaty provides for direct, automatic enforcements of U.S. civil judgments in the Netherlands.⁴⁸ This decision could also set a precedent for Internet Radio stations to broadcast from a "safe haven" and avoid the royalty payments required in the United States.

The initial challenge to government administrators and regulators in the United States is to define borders on the Internet. Without a clear definition of where a source of content on the Internet physically exists, it makes it difficult to establish appropriate jurisdiction. However, even after establishing proper jurisdiction if "safe havens" or countries which do not comply with United States, or even internationally recognized conventions, treaties, or laws, allow websites such as Internet Radio to broadcast content freely and without restriction, all of the above mentioned regulations become mute. Because people can receive content from these sites at will, the lack of enforcement will ensure the circumvention of any restrictions.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

Conclusions Relevant to Research

The rapid emergence of Internet Radio has pointed out that the traditional domestic regulatory model of a mass communications medium cannot remain unchanged when that medium can suddenly has a global, cost-effective reach. Business practices and content that are accepted in other parts of the world are not necessarily acceptable in the United States. Our laws regulating business practices and content do not necessarily apply elsewhere. Our public administrative agencies must recognize, that while the Internet in general opened up the world to the average citizen, Internet Radio has forced the global issue of how to regulate and administer a new global communications medium that is at odds with a similar domestic communications medium. Enforcement and compliance efforts must now become international. While the goal of U.S. agencies should be to allow competition to flourish and communication to flow freely, they must also be sensitive to the unique needs of our citizens and our form of government. Domestic and international freedoms,

security, freedom of speech as well as property rights and consumer protection must all be carefully balanced with appropriate regulation for the good of both domestic and the new "international" societies.

The purpose of traditional radio regulations is to protect the rights of intellectual property owners, businesses, and the public at large. However, the American public is not afforded these protections with the advent of Internet Radio. Although the Library of Congress can protect the rights of musicians, songwriters, and publishers within the borders of the United States, the Copyright Office does not have jurisdiction to mandate the practices of other countries. In the past, American citizens remained protected by the isolation of the borders; however, the Internet has dissolved those protective borders. Internet Radio can operate outside the country, but maintain an online presence as if the broadcast was emanating from within the country. The Library of Congress must actively, and immediately pursue international cooperation to protect intellectual property rights around the world. As was noted with the Russian and Netherlands' case studies, some countries are choosing to enact copyright laws different than those of the U.S.

With cyberspace creating a world where country-borders no longer exist, citizens of the United States are losing rights to their property, on very large scales, with little recourse. International cooperation and consensus must be a priority for the Library of Congress in the next few years.

The FCC has the power to license and regulate traditional radio stations with regards to signal strength, content, and practices. These regulations have been developed to, among other things, provide citizens with emergency broadcast information, a level of "decency" for information that can be transmitted to people of all ages. The FCC also ensures proprietary use of specific signals to avoid overlap of stations. The FCC has not exercised any jurisdiction over Internet Radio Stations thus far. Therefore, content is not regulated, signal strengths for protocols such as 802.11 remain unregulated, and broadcasts originated from outside the United States are not being addressed. The FCC should develop a clear definition of an "Internet Radio Station" and begin taking the medium seriously by evaluating potential regulatory needs, and begin addressing the international issues that will arise.

The FTC has no definition of where a cyberspace business is "located." Therefore, companies operating on the Internet may mislead the American public with false advertising claims on Internet Radio Stations. Agencies are currently unable to impose laws governing a specific country on companies that operate solely in cyberspace. Attempts have been made to hold the Internet Service Provider (ISP) liable for the acts performed by their users. This has not proven to be successful, rather has fostered vigilante-type enforcement that has encroached upon freedoms, such as free speech. The FTC must also work with the international community, as well as other agencies in the United States to develop standards that will protect citizens around the world.

Future Research and Recommendations

Information uncovered during the course of this research indicates that the issues surrounding Internet Radio will eventually apply to all aspects of the Internet. Further research is needed to protect the rights and freedoms of American citizens by expanding the research beyond the boundaries of Internet Radio, to look

at the broader concept of the Internet as a worldwide communication's medium.

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